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IRON CURTAIN, IRON LUNGS:
GOVERNING POLIO IN COLD WAR HUNGARY 1952-1963

by

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ABSTRACT OF THE DISSERTATION

Iron Curtain, Iron Lungs: Governing Polio in Cold War Hungary 1952-1963

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Iron Curtain, Iron Lungs uses the series of polio epidemics in communist Hungary to study a global public health emergency in the midst of an international political crisis: the Cold War. Based on extensive, thus far unexplored archival material, medical and popular literature, newspapers, audiovisual sources, memoirs and oral history interviews, the dissertation argues that due to the particularities of polio, unique spaces of cooperation opened between antagonistic sides while Cold War concepts simultaneously influenced policies and practices of disease prevention and treatment. Polio became an issue that reached over Cold War divisions, due to four attributes of the disease: the new phenomenon of epidemic polio in the 20th century; the importance of children as the main age group of the disease; the debilitating effects of the virus; and that polio was a global disease.

The dissertation analyses the history of polio in Hungary at multiple registers. On an international level, it asks how Cold War divisions can be re-evaluated when viewed through the lens of a disease that disregarded borders and ideologies. On a national level, the dissertation investigates how post-war societies and nascent political systems dealt with an epidemic that worked against their modernist projects. On an individual level, it

raises questions about definitions of treatment, authority of care and investigates the boundary between professional and lay knowledge.

Iron Curtain, Iron Lungs presents a new approach both to Cold War history and to the history of medicine. The dissertation shifts attention from the two superpowers to an Eastern European state and by doing so, throws new light on Cold War interactions and the effect of international politics on personal experiences. The unique geopolitical situation of Hungary on the boundary of the Iron Curtain and the construction of a new communist regime makes the country the ideal ground to understand the influence of Cold War in forming global health responses to epidemic crises. With vaccine first arriving from the West, followed by a new serum from the East, the Hungarian story highlights issues of international politics, experimentation and standardization in epidemic prevention. Furthermore, a focus on Hungary allows linking the intimate world of families with national and international agendas through the care for disabled children with polio.

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Introduction

In early November 1956 Katalin Parádi emerged from the shelter beneath her house near Corvin Köz, Budapest. Surrounded by buildings peppered with bullet holes, the remainders of a barricade, a broken-down tank and dead bodies scattered on the ground, she was shocked by the scene. It was the location of one of the most notorious bloodbaths in the Hungarian Revolution of 1956. There, an alley once known for its lively cinema was now a battlefield. However, the 17-year-old Katalin was determined to make her way through the destruction. She had an appointment for post-operative physical therapy treatment at the nearby children's hospital, as she was recovering from polio.

Her ordeal with polio started one morning in the summer of 1945 in Budapest, when she, then ten years old, became feverish. Her parents suspected the flu, as their daughter became weaker and weaker. The next day, however, Katalin could not move one of her arms. It became likely to her parents that she had contracted polio. Her parents rushed her to the district pediatrician, who directed them to the nearby infectious disease hospital, where she spent a couple of weeks during the acute phase of her illness. Now, years later in August 1956, she was an outpatient in the pediatric hospital for physical therapy and orthopedic treatment, under the care of Dr. László Lukács, who operated on her disabled arm. However, her treatment was soon interrupted: The fighting connected with the revolution that broke out on October 23rd prevented her routine visits for medical treatment. Living in the very center of the armed conflict, Katalin spent weeks in the underground shelter of her house, along with her family and neighbors, while soldiers

and civilians fought a desperate battle with tanks, machine guns and Molotov cocktails. During this period, she tried to maintain a certain schedule and continued to perform exercises prescribed by her orthopedist. The conditions were definitely not optimal to manage a disease that debilitated muscles and required constant work to avoid atrophy. She did manage to progress in her “treatment,” though, when a nearby bomb explosion forced the cellar door and slammed her into the wall, setting her shoulders right and making up for lost physical therapy in the process.¹ Katalin’s treatment was not only an individual affair; it also embodied the urban and political reality of 1956 Budapest.

That November trip to the physical therapist in the wake of the revolution was the last time she visited the pediatric hospital ward. A few weeks later, after gunfire ceased to interrupt her days, Katalin became one of the first patients of the new Heine-Medin Post Treatment Hospital in the elegant and elite district of Rózsadomb. The hospital, created in the most turbulent days of 1956, was founded by direct orders of Imre Nagy, prime minister of the revolution.² Nagy would never see the result of his orders as he was soon imprisoned, then executed, as the leader of the “counter-revolution” by the communist government. In spite of Nagy’s ill fate, the hospital remained open and even flourished in the early 1960s as the Hungarian center for polio treatment.

However, Katalin’s experience with the disease was not over. As part of a national immunization plan, while a high school student, she received the Salk vaccine in 1957. This serum had been imported after much deliberation by the communist government in 1957 from the West. Shortly after the injection she contracted another strain of the polio

¹ Katalin Parádi, *Interview* (Budapest: 2010).

² László Lukács, "Feljegyzés a Fővárosi Heine-Medin Kórház És Rendelőintézet Alapításáról, Működéséről, Eredményeiről És Ezzel Kapcsolatos Tevékenységéről," (Budapest: Personal archives of Dr. Prof. Ferenc Péter, 1993).

virus that paralyzed her yet-untouched legs. It is unclear, if the disease was directly introduced by the vaccine (this had happened in the United States before, in the infamous Cutter incident³), or if the vaccine failed to provide the desired immunization.⁴ She was not the only one who came down with polio after the Salk vaccination program had been well in place. In fact, in just two years, in 1959 the new hospital's wards soon filled with new polio patients. That constituted the country's second largest epidemic of the disease.

Only in 1963 did the polio epidemic finally stop in Hungary. A new vaccine, the Sabin drops, from the East was introduced in Hungary. As the incidence of polio dwindled at the new hospital, which was now Katalin's workplace, the disease ceased to be an important issue in the eyes of the state. What the failure of a revolution did not manage to do, the success of a vaccine did – the hospital's polio-treatment center was closed down in 1963 and was transformed into a general children's hospital.

Katalin was one of thousands of children who contracted polio in the 1950s in Hungary. Her story is but one of many that this dissertation tells. Polio epidemics struck the country in 1952, 1954, 1956, 1957 and 1959 and became more and more severe as the decade progressed. By the 1960s every 500th person from the population of ten million became permanently disabled because of the disease. A rare documentary film from 1967

³ In April 1955 almost 200 patients in the United States (mostly children and family members) contracted paralytic polio from a faulty batch of Salk vaccine produced by Cutter Laboratories. Neal Nathanson and Alexander D. Langmuir, "The Cutter Incident Poliomyelitis Following Formaldehyde-Inactivated Poliovirus Vaccination in the United States During the Spring of 1955," *American Journal of Epidemiology* 78, no. 1 (1964). see also Paul A. Offit, *The Cutter Incident : How America's First Polio Vaccine Led to the Growing Vaccine Crisis* (New Haven: Yale University Press, 2005).

⁴ While in polio epidemics preceding 1957 the dominant strains were Type II and III, in 1957 Type I caused the most paralysis in children who contracted the virus. Therefore, the immunity acquired with illness caused by one type would not protect the body against another. This is why it is possible, although very rare for one person to become ill with polio several times. István Dömök, "A Hazai Járványügyi Helyzet Az Élő Poliovírus Vakcina Bevezetése Előtt," in *A Gyermekekbenélő Elleni Küzdelem. Beszámoló a Ma Már Múlttá Vált Betegség Ellen Folytatott Hősies Küzdelemről És Felszámolásának Lehetőségéről*, ed. Rezső Hargitai and Ákosné Kiss (Budapest: Literatura Medicina, 1994).p.42.

made this claim.⁵ As Katalin's story shows, children with polio not only dealt with the consequences of their disease but also with the challenges of a difficult decade, which included an overzealous, but in many ways inefficient, Stalinist regime; a violent revolution; bloody retributions; and gradual consolidation of the Kádár government. Their treatment was affected by and continued through tumultuous times and was shaped by the meager resources of a post-war society in a world divided by Cold War barriers.

Polio, in its worst decade, afflicted a relatively small number of people in Hungary, compared to other contemporary health issues. For example, in the year of the second largest epidemic in Hungary, nearly four times as many people fell ill with influenza and its complications, with a death toll 140 times larger than polio's.⁶ Polio is a disease that is rather difficult to diagnose in its early phases. Many children got through the disease without even knowing it, because its early symptoms resemble those of the common flu. Due to this diagnostic difficulty, paired with inaccurate registry and belated reporting,⁷ it is hard to tell how many children needed to be hospitalized, and if all registered cases were paralytic. However, one thing is quite clear: Polio became a priority in the eyes of the communist state, regardless of changing governments. Why was this disease a major concern in the 1950s? How did it become one of the most important public-health issues by the end of the decade?

This dissertation argues that polio symbolized a destructive threat to the communist and modernist projects. It affected children in a post-war society, leaving crippled bodies

⁵ "Minden Ötszázadik," (Hungary 1967). This film is unique in actually portraying disability. Children who lived with permanent paralysis due to the disease were otherwise invisible and were physically and socially secluded.

⁶ Központi Statisztikai Hivatal, "Egészségügyi Helyzet 1963," *Statisztikai időszaki közlemények*, no. 5 (1964). P. 86.

⁷ Dr. Tibor Bakács, "Poliomyelitis Betegek Védőoltására Vonatkozó Adatgyűjtés," in *Országos Közegészségi Intézet Járványügyi és Mikrobiológiai Főosztályának iratai* (Budapest: Magyar Országos Levéltár, 1959).

behind at a time of heightened industrial production and recuperation from the war. Epidemics hit Hungary in a time, when, together with most of Europe, the country was recovering from the shock of World War II. In the course of the war, Hungary, which fought on the side of Nazi Germany lost 40 percent of its national wealth and more than 10 percent of its population, or about one million people.⁸ A battle that lasted almost a year left Budapest, the capital, in ruins and claimed the lives of thousands. It took decades to rebuild houses, bridges, transportation systems and, for the new communist regime that grabbed absolute power in 1949, to build and consolidate a whole new administrative, social and economic system. It is in this scenario that polio made an entrance in 1952 and continued to place challenges for the government and society until the early 1960s.

To understand the significance of polio in Cold War Hungary, we must consider the social, economical and political history of the era in question. In a wider context, the looming threat of a nuclear war overshadowed the Cold War era. Military and strategic considerations contributed to the formation of Big Science and affected research funding structures and research practices all over the world.⁹ While the potential threat of destruction was pervasive, other results of the past war were equally important: the impact of WWII on the economy, on concepts of what citizens' roles are, on beliefs in

⁸ This number includes military and civil casualties, and the Jewish population that was deported to concentration camps and civilians and soldiers deported to Siberian work camps. Ignác Romsics, *Hungary in the Twentieth Century* (Budapest: Osiris, 1999). The loss of military troops was about 300,000; civilians killed in air raids and military campaigns 80-100,000; Jews destroyed in death camps, labor battalions and atrocities during the reign of the Arrow Cross Party 480,000 (200-210,000 for Trianon Hungary); and about 200-250,000 of people captured in battle or collected for forced labor perished in Gulags. Gábor, Kövér Gyáni, György; Valuch, Tibor, ed. *Social History of Hungary from the Reform Era to the End of the Twentieth Century*, Atlantic Studies on Society in Change (New York: Columbia University Press, 2004), pp. 522-523.

⁹ See for instance Naomi Oreskes and John Krige, eds., *Nation and Knowledge: Science and Technology in the Global Cold War* (Cambridge, Mass.: MIT Press, forthcoming), Paul Erickson, "The Politics of Game Theory: Mathematics and Cold War Culture" (University of Wisconsin, 2006).

progress in medicine and science, and on concerns over ethical issues in medicine. Moreover, this time saw the advent of new international agencies, such as the WHO; an era of decolonization; the establishment of new regimes; and the emergence of particular ideas about what modern societies should be. One of the key sites of new regimes that worked with particular ideas of modernity was Eastern Europe, where, in accordance with the Soviet Union, communist governments emerged to gain exclusive political control between 1945 and 1952. Hungary in the 1950s faced a decade that saw the establishment of a Stalinist dictatorship, reform, revolution and early consolidation. Four successive governments followed each other in a dynamically changing political, economic and social scene.

In terms of political control, after an initial attempt to restore parliamentary democracy between 1945 and 1947, the Hungarian Communist Party gained more and more power and started laying down the foundations for state socialism. The communist takeover, until recently presented as a uniform process in Eastern Europe controlled wholly by the Soviet Union, was rather a mix of failed negotiations, planned strategy and election fraud that was unique to Hungary.¹⁰ Regardless of historiographical interpretations, the merging of the Communist Party and the Social Democrat Party to form the Hungarian Workers' Party, HWP (*Magyar Dolgozók Pártja*, MDP), in 1948 marked the beginning of the one-party system that lasted until 1989.

What was different about the Hungarian political system was its dual structure. Every level of the state administration was paired with its counterpart in the party administration. The duality resulted in the creation of a network of hierarchies and

¹⁰ See e.g. Peter Kenez, "The Hungarian Communist Party and the Catholic Church 1945-1948," *The Journal of Modern History* 75, no. 4 (2003).

dependencies.¹¹ As Ivan T. Berend put it, “The monolithic party, in a paradoxical way, was itself an institution of a fragmentary pluralism.”¹² This does not mean that the political system was not oppressive—it was a dictatorship and, as the communist government’s grip on power became more entrenched, repression of the opposition intensified. Based on the foundations of anti-fascist retribution, the regime split society into “supporters” and “enemies.” The State Security Agency (ÁVO, later ÁVH) expanded with escalating speed from 1948 and former political allies were put on show trials to underline the image of the enemy within.¹³ The Catholic Church, whose head, Cardinal József Mindszenty, was an emblem of conservative criticism also found itself in a difficult situation. In fact, Mindszenty’s figure was a sensitive point in Cold War domestic and foreign politics for years to come.

In terms of economics, Hungary operated with a centralized, planned economy. Economic planning of this sort was not particular to Eastern Europe, nor was it unique to communist regimes, as Martha Lampland’s work points out.¹⁴ The first three-year plan was launched in 1947 and targeted economic reconstruction from the effects of the war. The first five-year plan followed in 1950, with the goals of industrialization and agricultural collectivization based on Stalinist policies.¹⁵ The darkest days of Hungarian communism followed, now termed Rákosi dictatorship after Mátyás Rákosi, the general

¹¹ Mária Csanádi, "Honnan Tovább? A Pártállam És Az Átalakulás," in *Magyarország Társadalomtörténete (1945-1989)*, ed. Nikosz Fokasz and Antal Örkény (Budapest: Új Mandátum, 1998).

¹² Ivan T. Berend, *Central and Eastern Europe, 1944-1993. Detour from the Periphery to the Periphery*, ed. Charles Feinstein, et al., Cambridge Studies in Modern Economic History (Cambridge: Cambridge University Press, 1996).p.54.

¹³ Mark Pittaway, *Eastern Europe 1939-2000*, ed. Jeremy Black, Brief Histories (London: Hodder Arnold, 2004).pp.51-55

¹⁴ Martha Lampland, "The Technopolitical Lineage of State Planning in Mid-Century Hungary (1930-1956)," in *Entangled Geographies. Empire and Technopolitics in the Global Cold War*, ed. Gabrielle Hecht (Cambridge, Mass: MIT Press, 2011).

¹⁵ Ivan T. Berend, "The First Phase of Economic Reform in Hungary: 1956-1957," in *Studies on Central and Eastern Europe in the Twentieth Century*, ed. György Ránki and Ivan T. Berend, *Studies in East-Central Europe* (Aldershot: Ashgate Variorum, 2002).

secretary of the HWP. In the process of collectivization, all produce found in random searches of peasants' homes were confiscated, including seeds intended for planting next year's crop (colloquially called sweeping the attics); about 13 000 people were banned from Budapest and forced to resettle in villages; rationing was introduced to combat the shortage of food.

Stalin's death in 1953 resulted in political change across the Eastern Bloc and Hungary was no exception: Rákosi was removed and Imre Nagy became prime minister. Reforms followed, mainly regarding the economic structure, victims of show trials were rehabilitated, the hated head of ÁVH, Gábor Péter, was imprisoned, and a thaw in cultural life permitted many writers and poets to publish again. However, taking advantage of a frost in international relations (West Germany joining the NATO and the foundation of the Warsaw Pact) and change in Soviet politics, Rákosi succeeded in removing Nagy in the spring of 1955 and regained control of Hungarian politics once more. The efforts of the Nagy government and the renewed thaw signaled by Khrushchev's famous speech was not in favor of strengthening Rákosi's position. In the summer of 1956 he emigrated to the Soviet Union, never to return. On October 23, 1956, a mass demonstration of university students turned into a desperate and bloody revolution, and soon a new government was set up with Nagy as prime minister and prominent politicians and intellectuals such as György Lukács. The revolution lasted little over two weeks. Soviet tanks rolled into the streets of Budapest on November 4 and in a few days broke all resistance. While the uprising was short-lived, it became a key moment in the Cold War. *TIME* magazine named the Hungarian freedom fighter as its "Man of the Year," and placed an illustration of the Hungarian everyman on its cover.

The events of October became significant in shaping international relations and domestic politics of the new regime of János Kádár for decades to come.

Overall, the successive communist regimes in the 1950s set out to establish a new society that posited itself against the pre-war bourgeois world. The proclaimed aim of socialism was to create a classless society and to do away with social inequality. One of the methods of achieving this goal was to offer widespread access to education. As a result, the number of children entering and finishing eight years of elementary schooling grew significantly compared to the pre-war era, as did the number of students entering secondary schools.¹⁶ However, inequalities based on social connections, prestige, urban and rural spaces and gender prevailed.

For the most part, inequalities of the pre-war era were replaced by new inequalities, based on political position and influence, or on hierarchy in work. Moreover, there was no clean break with the pre-war society--between 60 percent to 70 percent of professionals in 1956 occupied a similar position to what they had before the war.¹⁷ As the dissertation shows, one of these groups were physicians, who, in spite of being a predominantly conservative or even right-wing politically, retained their status and secured some political independence simply based on the acute need for doctors. Additionally, bourgeois families who were marginalized in the early 1950s gradually adapted and regained their social status.¹⁸

Inequalities in society showed up on the urban structure of the country as well. The emphasis on industrialization affected where and how people lived, what services and

¹⁶ Gyáni, ed. *Social History of Hungary from the Reform Era to the End of the Twentieth Century*.pp.572-573.

¹⁷ Pittaway, *Eastern Europe 1939-2000*.p.57.

¹⁸ Gyáni, ed. *Social History of Hungary from the Reform Era to the End of the Twentieth Century*.p.579.

resources they had access to. Budapest remained to be the oversized urban and administrative center of the country,¹⁹ but other industrial centers, like the new city of Sztálinváros founded in 1951, emerged. It was meant to be a model socialist settlement with model working-class citizens.²⁰ Hamlets were to be liquidated, since their inhabitants could not be closely monitored for the sake of collectivization. Development in villages that were not cooperative producer's centers was barred until the 1960s, also to encourage the peasantry to participate in collectives. The infrastructure of these settlements did not change much in the first decades of the communist regime, as most roads were not paved and houses were left without electricity and running water.²¹

Faced with the effects of the war, the economic goals and the ideals of the new era, the state enforced a strict pro-natalist policy in the early fifties in the hope of increasing live births and thereby the number of productive workers. However, the short increase was soon followed by the decrease in live births after the 1956 revolution, paired with a massive emigration of dissidents. Demography mattered to this nascent communist state as did able bodies.

The epidemic waves of polio came to Hungary at the time of this demographic shock and challenged the process of social, political and economic reorganization. The relatively new communist government, which positioned itself as the answer to a bright and productive future, had to deal with the traumatic effects of polio epidemics, which threatened communist ideals to their core. Therefore, in the course of the fifties, the state

¹⁹ This was partially the result of the Treaty of Trianon of 1920, when the boundaries of Hungary were redrawn, reducing the country's size to 1/3. Other large cities and administrative centers now fell outside the border, leaving Budapest to account for about 1/10 of the population.

²⁰ Sándor Horváth, "Everyday Life in the First Hungarian Socialist City," *International labor and working-class history* 68(2005).

²¹ Gyáni, ed. *Social History of Hungary from the Reform Era to the End of the Twentieth Century*. pp.537-539.

took numerous steps to fight the disease. Besides poliomyelitis research²² the government educated the public about prevention and the treatment of polio through propaganda films²³ and issued a weekly report during epidemics detailing the geographical spread of the disease and the number of people affected. To curb the disease's reach, regulations controlled public travel of children under 14 years old and required a medical examination before departure.²⁴

Despite education and restrictions on travel, many children contracted the virus and needed urgent care. Iron lungs were extremely important technologies in saving and treating children with polio in hospitals. A forerunner of the modern respirator and a cutting-edge and costly technology, the iron lung mechanically breathed for paralyzed children, who were unable to breathe for themselves. The first iron lung arrived to Hungary in 1948, with the cooperation of the American embassy. In the first half of the 1950s, iron lungs began to be produced in Czechoslovakia and the German Democratic Republic, East Germany, and finally, in the mid-fifties in Hungary as well.²⁵ A number of devices arrived during epidemic years within a lending system orchestrated by the Red Cross. By 1959, over 100 Hungarian iron lungs were in use in the country, a considerable amount if one takes into account the high cost and constant care that these machines required.

The effort against polio in Hungary reached over the borders in other ways as well—all of which appear to be surprisingly cooperative. Hungarian scientists were regular

²² The National Public Health Institute, which cooperated with the Epidemics Department of the Health Ministry led the research beginning in 1953 Tibor Dr. Bakács, *Az Országos Közegészségügyi Intézet Működése 1927-1957* (Budapest: Országos Közegészségügyi Intézet 1959). P.82

²³ "Bemutatták a Gyermekeparalízisről Készült Filmet," *Népszabadság*, August 9 1957; "Szülők, Vigyázzatok!," (Hungary: Health Ministry, 1957).

²⁴ A Magyar Forradalmi Munkás-Paraszt Kormány 1027/1958 (VIII. 3.) számú határozata a gyermekbénulás elleni védekezésről, (1958).

²⁵ Domokos Boda, *Sorsfordulók* (Budapest: Harmat, 2004). P. 60.

participants in Western conferences on polio. Experts in Hungary could keep an eye on global trends in virology and treatment, occasionally publishing in Western journals as well. The professional situation of hard sciences, especially medicine remained relatively autonomous, compared to humanities that were drawn into strict state control.²⁶

Iron lungs were not the only medical technology crossing the iron curtain: Vaccines also made their way through the seemingly impenetrable wall in numerous ways. Nationwide vaccination with the killed-virus vaccine developed by Jonas Salk began in Hungary in 1957 and continued with Albert Sabin's live-virus vaccine in 1959. Vaccines containing dead and live viruses also appeared as solutions to curb contagion. At the same time they held the potential to cause disease instead of fighting it, thus damaging the most innocent and pure members of society: children, the promise of the future. Therefore, questions about the vaccine's origin, manufacturers and distributors posed crucial political problems. Nonetheless, the fact that there was, indeed, cooperation between the two sides of the Iron Curtain implies that at the same time, vaccination was perceived as a goal above politics and Cold War tensions.

Effective vaccination in Hungary was reached only with the introduction of the live-virus Sabin vaccine on December 14, 1959, this time making its way from the Soviet Union. After 1963 the number of cases was reduced to 0-4 in the whole population. Since 1972, there have been no recorded cases.²⁷ Once free vaccination with the Sabin vaccine put an end to epidemics, it also put an end to the existence of specialized polio hospitals,

²⁶ For example in Poland, East Germany and the Czech Republic, see John Connelly, *Captive University. The Sovietization of East German, Czech and Polish Higher Education, 1945-1956* (Chapel Hill: University of North Carolina Press, 2000).

²⁷ Dömök, István: A kampányoltások időszaka (1959-1991). In: Rezső Hargitai and Ákosné Kiss, eds., *A Gyermekbénulás Elleni Küzdelem: Beszámoló Egy Ma Már Múlttá Váló Rettegett Betegség Ellen Folytatott Hősies Küzdelemről És Felszámolásának Lehetőségéről: A Szent László Kórház Centenáriumára Készült Összeállítás* (Budapest: Literatura Medica, 1994). P. 169.

although vaccination meant little difference to those already disabled by the disease. With the threat of the epidemics gone, the productive bodies of Hungary's future generation were no longer considered physically in danger of becoming disabled, therefore the state was no longer politically invested in polio. As the disease vanished entirely from public discourse and centers for polio treatment and care dispersed, disabled polio patients disappeared from the medical view as well.

While the "official" history of polio in Hungary ends with the eradication of the disease, the story of the people, knowledge and institutions affected by it does not. Certain professional and patient groups that became the center of social and political focus during the time of the epidemic disappeared along with lay and medical knowledge that was responsible for the prevention, and treatment as the "heroic struggle" came to an end. At the same time, other groups, such as disabled civil societies arose, beginning new stories of their own.

In this study, I look at three levels of analysis that move from global politics through governmental to institutional concerns, right to the patient-doctor level. On an international level, I ask how Cold War divisions can be reevaluated when viewed through a lens of a disease that disregarded borders and ideologies. On a national level, I investigate how post-war societies and nascent political systems dealt with an epidemic that worked against their modernist projects. On a personal level, I raise questions about definitions of treatment and authority of care and investigate the boundary between professional and lay knowledge.

On the international level of analysis, I particularly stress cooperation and exchange in the Cold War. Traditionally, Cold War scholarship has focused on high politics and security studies. Cold War relations between East and West have been analyzed through military, political and socioeconomic rivalries, as conflicts between socialism and capitalism. These considerations are no doubt crucial parts of the story, as the dissertation demonstrates. However, new dimensions of interaction between the two sides can be traced when looking at the Cold War from different perspectives,²⁸ in this case from the experience of polio in Hungary.

One of the approaches that argue for a broadening of geographical focus and scope of historical investigation comes from recent studies in the history of science and science and technology studies²⁹ *Iron Curtain, Iron Lungs* shifts attention from the two superpowers to an Eastern European state and focuses on the circulation of medical knowledge and technology rather than on a competition between the Soviet Union and the United States. Instead of Cold War intransigence, the case of polio in Hungary shows surprising flexibility in foreign and domestic policies and circumstances under which the Iron Curtain was drawn to let people, vaccines and practices through.

The unique geopolitical situation of Hungary on the boundary of the Iron Curtain and the construction of a new communist regime makes the country the ideal ground to

²⁸ See for instance approaches in Sari Autio-Sarasmo and Brendan Humphreys, eds., *Winter Kept Us Warm: Cold War Interactions Reconsidered*, Aleksanteri Cold War Series (Helsinki: University of Helsinki, 2010); Zuoyue Wang, "Transnational Science During the Cold War: The Case of Chinese/American Scientists," *Isis* 101, no. 2 (2010); Nikolai Krementsov, *The Cure. A Story of Cancer and Politics from the Annals of the Cold War* (Chicago and London: University of Chicago Press, 2002).

²⁹ See David A. Hounshell, "Rethinking the Cold War; Rethinking Science and Technology in the Cold War; Rethinking the Social Study of Science and Technology," *Social Studies of Science* 31, no. 2 (2001); Marcos Cueto, *Cold War, Deadly Fevers: Malaria Eradication in Mexico, 1955-1975* (Washington, D.C.; Baltimore: Woodrow Wilson Center Press; Johns Hopkins University Press, 2007); Gabrielle Hecht, ed. *Entangled Geographies: Empire and Technopolitics in the Global Cold War*, Inside Technology (Cambridge, MA: MIT Press, 2011). Hunter Heyck and David Keiser, "Focus: New Perspectives on Science and the Cold War. Introduction," *Isis* 101, no. 2 (2010).

understand the influence of Cold War in forming global-health responses to epidemic crises. With vaccine first arriving from the West, followed by a new serum from the East, the Hungarian story highlights issues of international politics, experimentation and standardization in epidemic prevention. Furthermore, focus on Hungary allows linking the intimate world of families to national and international agendas through the care for disabled children with polio.

Nevertheless, this history of medicine approach leaves as many important questions open as it answers. Critical historical work on health and medicine in Eastern Europe in the early Cold War era is scarce,³⁰ and none has been published on Hungary. Furthermore, although polio in the 1950s was a significant public-health issue on a global level, international cooperation in the fight against polio has been little investigated.³¹

On the national level of investigation, the dissertation takes a closer look at the relationship of the communist state and Hungarian society. Polio struck in the formative years of the communist government, when the new regime strived to establish a distinctive political, economic and social order. I investigate the limits and possibilities of the paternal state³² and the fluctuation of parental duties over the health of children as it fluctuated between state and parents.

³⁰ See for instance Lily M. Hoffman, "Professional Autonomy Reconsidered: The Case of Czech Medicine under State Socialism," *Comparative Studies in Society and History* 39, no. 2 (1997). Several non-historical studies can give an insight into Eastern European medicine in the 1950s and 1960s, see Richard E. Weinerman and Shirley B. Weinerman, *Social Medicine in Eastern Europe. The Organization of Health Services and the Education of Medical Personnel in Czechoslovakia, Hungary, and Poland* (Cambridge, Mass.: Harvard University Press, 1969); Zdenek Stich, *Czechoslovak Health Services* (Prague: Ministry of Health, Czechoslovak Socialist Republic, 1962).

³¹ Saul Benison, "International Medical Cooperation: Dr. Albert Sabin, Live Poliovirus Vaccine and the Soviets," *Bulletin of the history of medicine* 56, no. Winter (1982). and Chapter 14 in David M. Oshinsky, *Polio : An American Story* (Oxford ; New York: Oxford University Press, 2005). 237-254.

³² On the paternal state in Eastern Europe see Gail Kligman, *The Politics of Duplicity : Controlling Reproduction in Ceausescu's Romania* (Berkeley: University of California Press, 1998); Lynne Haney, *Inventing the Needy: Gender and the Politics of Welfare in Hungary* (Berkeley, Los Angeles and London: University of California Press, 2002); Catriona Kelly, *Children's World: Growing up in Russia 1890-1991*

Following new historical approaches that concentrate on features of communist regimes that are neglected by traditional analysis³³ and aim to deconstruct Cold War narratives, I focus on the involvement of society and questions of agency. I do not consider the state to be a monolithic entity,³⁴ nor communist Hungary to be totalitarian³⁵ in the sense that it is often portrayed in Hungarian historiography³⁶ and public-history collections.³⁷ The way in which efforts to control the reproductive rights of women failed in the early fifties, as detailed in Chapter 1, or the inefficiency of disease reporting and vaccination organization show in Chapter 3, Hungarian communism was a failed effort at totalitarianism at best.³⁸

(New Haven: Yale University Press, 2007); Katherine Verdery, "From Parent-State to Family Patriarchs: Gender and Nation in Contemporary Eastern Europe," *East European Politics and Societies* 8, no. 2 (1994).

³³ E.g. Katherine A. Lebow, "Public Works, Private Lives: Youth Brigades in Nowa Huta in the 1950s," *Contemporary European History* 10, no. 2 (2001); Gail Kligman and Katherine Verdery, "Social Dimensions of Collectivization: Fomenting Class Warfare in Transylvania," in *World Order after Leninism: Essays in Honor of Ken Jowitt*, ed. Vladimir Tismaneanu, Marc Morjé Howard, and Rudra Sil (Seattle: Herbert J. Ellison Center for Russian, East European, and Central Asian Studies, University of Washington, 2006). "Malgorzata Fidelis, "Equality through Protection: The Politics of Women's Employment in Postwar Poland, 1945-1956," *Slavic Review* 63, no. 2 (2004); Eagle Glassheim, "Ethnic Cleansing, Communism, and Environmental Devastation in Czechoslovakia's Borderlands, 1945-1989," *Journal of Modern History* 78, no. 1 (2006).

³⁴ On the fluidity and multiplicity of the Hungarian communist state, see Haney, *Inventing the Needy: Gender and the Politics of Welfare in Hungary*.

³⁵ On the historiography of totalitarianism, see Michael Geyer and Sheila Fitzpatrick, "After Totalitarianism - Stalinism and Nazism Compared," in *Beyond Totalitarianism: Stalinism and Nazism Compared*, ed. Michael Geyer and Sheila Fitzpatrick (New York: Cambridge University Press, 2008).

³⁶ the totalitarian approach to the communist state, as represented by Arendt and Brzezinski has seen a revival after 1989. As Claudia Koonz notes in her chapter *Between Memory and Oblivion* (1994), there was a shift in the appliance of the totalitarian concept after the Berlin wall fell. Previously, Western rhetoric presented Nazism and Communism as equal, while after the Wende, Eastern countries took on this view in order to get their suffering acknowledged. This shift is most apparent in commemorations. Claudia Koonz, "Between Memory and Oblivion: Concentration Camps in German Memory," in *Commemorations: The Politics of National Identity*, ed. John R. Gillis (Princeton: Princeton University Press, 1994). Hannah Arendt, *The Origins of Totalitarianism* (Orlando: Harcourt, 1973); Carl Friedrich and Zbigniew Brzezinski, *Totalitarian Dictatorship and Autocracy* (Cambridge, Mass.: Harvard University Press, 1965).

³⁷ The rigid, totalitarian and monolithic representation of the communist era in Hungary has been widely utilized in political discourse since the 1990s. One of the most striking examples of this view is the House of Terror museum in Budapest, which presents an undifferentiated image of the forty years and merges the Stalinist government of the early 1950s with Kádár's Hungary in the 1980s.

³⁸ on the critique of Central and Eastern regimes as 'totalitarian' see Mark Pittaway, "Introduction: Workers and Socialist States in Postwar Central and Eastern Europe," *International Labor and Working-Class History* 68, no. Fall (2005).

While I show inefficient bureaucratic structures, internal conflicts and wavering positions through the history of polio, in the majority of the study I address the respective government as “state.” The reason for this simplifying measure is that most of the actors in the story that unfolds through the prevention and treatment of the disease referred to and often perceived the complex system of governance as one unit. As the structure of the state and party were entwined in a complicated web of responsibilities and functions,³⁹ those two words were often used interchangeably in the vernacular use. Moreover, the government also invested significantly to appear as homogenous, organized and efficient in its communication. Therefore, in a study of perceived and performed roles and responsibilities of state and society, it remains a useful unit of analysis.

Looking at the personal experiences of polio in Hungary, the dissertation shifts attention to the interaction of medical staff, parents and children in the prevention and treatment of the disease. On one hand, I explore the particular social and political context of Hungary in the 1950s, in which patients, parents and physicians operated. My analysis is influenced by studies on the relationship of the party-state and factory workers.⁴⁰ As Mark Pittaway pointed out, “Working-class Eastern Europeans were not simply acted upon by the operation of dictatorial state power, but played a role in state formation.” He describes the complicated relationship of communist states and societies as “characterized by consent, accommodation and conflict that varied from locality to

³⁹ Csanádi, "Honnan Tovább? A Pártállam És Az Átalakulás."

⁴⁰ László Kürti, "'Red Csepel': Working Youth in a Socialist Firm," *East European Quarterly* 23, no. 4 (1990); Mária Schadt, *"Feltörekvő, Dolgozó Nő". Nők Az Ötvenes Években* (Budapest: Pannónia, 2005); Mark Pittaway, "The Reproduction of Hierarchy: Skill, Working-Class Culture and the State in Early Socialist Hungary," *Journal of Modern History* 74, no. 4 (2002). Eszter Zsófia Tóth, "The Memory of the State Award in the Narratives of Women Workers " in *Regimes and Transformations: Hungary in the Twentieth Century*, ed. István Feitl and Balázs Sipos (Budapest: Napvilág, 2005). Sándor Horváth, ed. *Mindennapok Rákosi És Kádár Korában: Új Utak a Szocialista Korszak Kutatásában* (Budapest: Nyitott Könyvműhely, 2008).

locality, state to state, period to period.”⁴¹ My aim is to probe this relationship through other segments of society, ones that were not the proclaimed center of the regime’s rhetoric and policies. This level of analysis also makes it possible to explore continuities and ruptures in medical professions⁴² processes that greatly influenced access to knowledge and treatment options for many children.

On the other hand, through the personal experiences of polio treatment in Hungary, I investigate post-war concepts of production and the able body. The ideal of the worker-citizen glaring at the everyday onlooker from murals, statues, magazines and posters had significant effect on setting goals for rehabilitation treatment, choosing educational options for polio patients and in how children who grew up to be disabled adults thought about their place in society. Disability historians, like Catherine Kudlick, have argued for the use of disability “as a key defining social category on a par with race, class and gender,”⁴³ and I use this lens to analyze meaning of production and how they were paired with the relegation of disabled bodies to seclusion both physically and socially. Furthermore, I look at the way in which the obsession with production affected the changing meaning of polio itself. In this, I draw upon the work of a wide array of scholars, such as Susan Sontag, Charles Rosenberg, Emily Martin and Daniel Wilson, who have shown how metaphors, names and meanings used in conceptualizing illness

⁴¹ Pittaway, "Introduction: Workers and Socialist States in Postwar Central and Eastern Europe."p.1.

⁴² Mária Kovács, *Liberal Professions and Illiberal Politics: Hungary from the Habsburgs to the Holocaust* (Washington: Woodrow Wilson Center Press, 1994); Hoffman, "Professional Autonomy Reconsidered: The Case of Czech Medicine under State Socialism."

⁴³ Catherine J. Kudlick, "Disability History: Why We Need Another "Other"," *American Historical Review* 108, no. 3 (2003).

and its effect on the body shaped medical treatment, the experience of disease, and the patient's place in society.⁴⁴

Scientists, parents and children worked within and challenged the political, social and medical systems that their lives were integrated in. Virologists and physicians drew on their transnational relations and personal network to be participants in international conferences and study trips and to gain knowledge of cutting-edge research and technology. Parents smuggled vaccines, if they were needed, children openly resisted medical procedures, and both crossed the Iron Curtain in hope of better treatment options. They obtained skills in operating intricate respiratory machines and reinterpreted childhood games to include all levels of mobility. When the state became disinterested in polio, parents became depositories of medical knowledge.

Polio shaped and overrode Cold War policies and forged unlikely alliances. Doctors and politicians watched the rising numbers of epidemic cases with growing concern, while parents feared the summer lest it should bring polio. Even today, more than two decades after the end of the Cold War, the memory of the fear that children might contract the disease in swimming pools and other summertime activities, is still very much alive, as it has been handed down to generations with no immediate experience with polio.

This dissertation explores the Cold War experience of polio from several perspectives. The research specifically focuses on epidemics in Hungary between the

⁴⁴ Susan Sontag, *Illness as Metaphor and Aids and Its Metaphors* (New York: Picador, 1990); Emily Martin, *Flexible Bodies : Tracking Immunity in American Culture-from the Days of Polio to the Age of Aids* (Boston: Beacon Press, 1994); Daniel J. Wilson, *Living with Polio : The Epidemic and Its Survivors* (Chicago: University of Chicago Press, 2005); Charles Rosenberg and Janet Golden, eds., *Framing Disease: Studies in Cultural History*, Second ed. (New Brunswick: Rutgers University Press, 1997).

years 1952 and 1963. During these years, the country saw a quickly growing incidence rate in polio, the arrival of a vaccine from the West, followed by one from the East, and the challenge of long-term care for disabled children. Meanwhile, this troubled decade of Hungarian history witnessed drastic changes in the number and composition of its population, the transformation of its industrial and agricultural production and one of the greatest political upheaval of the century. The year 1952 marks the first major epidemic of the century that initiated significant political and medical response, while 1963 brought the end of the state's involvement with the successful elimination of the disease and the closing down of the specialized treatment center.

The periodization of this study might be somewhat surprising for those whose eyes are trained to see Eastern European history of the early-communist era divided into clear and distinct eras: In Hungary's case, it included the communist takeover between 1945 and 1948; the Stalinist era from 1948 to 1956; the 1956 revolution and its aftermath until 1963; and the consolidation of the Kádár-era (with the introduction of the New Economic Mechanism, a major economic reform in 1968) that lasted until the late 1980s.⁴⁵

Polio challenges this periodization of history. The disease was very much present in the Stalinist era, in the days of the revolution and in the budding Kádár regime and in accordance, so was political and social concern of it. Polio's history thus, in many ways, disregards the watersheds that are traditionally held as dividing the early history of communist regimes in Eastern Europe, and more visibly it overrides decisive moments in Hungarian history.

⁴⁵ See for instance the periodization of Romsics, *Hungary in the Twentieth Century*; Pittaway, *Eastern Europe 1939-2000*.

I do not wish to claim that such periodizations are superfluous. One cannot minimize the effect of the 1956 revolution in the lives of those who were also touched by epidemic diseases. And, of course, a clear difference can be traced in political and social life in the Stalinist era and the later years. The way that polio does affect how we look at the history of the 1950s and early 1960s is that it directs attention to continuities and consistencies where traditionally we expect ruptures. The virus spread among children regardless of the current political stance on collectivization or counter-revolutionary actions and any initiated responses from society and government continuously. Moreover, the particularities of the disease offered many opportunities for individuals and governing bodies to look for cooperation when the usual course of action was animosity, and to deviate from their own proclaimed policies and ideologies if the need for disease prevention and treatment dictated.

Chapter 1, “The Power of Polio,” argues that polio became an issue that reached over Cold War divisions, due to four attributes of the disease. First, epidemic polio was a new phenomenon in the 20th century. Scientific uncertainty about the spread of the virus, prevention methods and effective treatment created a continuously fostered space of scientific exchange in knowledge, technologies and people from the early 20th century well into the 1960s. Second, polio mainly attacked a particular age group: children. Concepts of childhood innocence mixed with nationalistic population policies and ideological means were used to create a possibility of unprecedented Cold War cooperation. The debilitating effects of the virus explain the perceived threat it posed to societies focused on post-war recovery and industrial production. The prospect of permanent disability was key in giving this relatively rare disease widespread attention

and in triggering transnational answers to its challenges. Finally, polio was a global phenomenon. It was not seen in the West as a Red virus, nor was it perceived in the East as an imperialist cancer on society, but it was viewed as a disease to be contained. Instead, it brought about the perception of a noble enterprise in an age when millions of children on both sides of the Iron Curtain were threatened by the crippling disease. These four elements that made polio peculiar as a disease all played a part in bringing about unusual interactions and encounters on international, national and individual levels.

The following four chapters each place in focus one of the attributes discussed in Chapter 1. Considering the importance of polio as a child's disease, Chapter 2, "Parents Beware!: vaccination efforts and the politics of prevention in 1957" moves in the national level of analysis. In this chapter, I argue that claims for the responsibility over the bodies of children fluctuated between the communist state and the citizens, allowing for unlikely alliances between the government and dissidents and even the Catholic Church. As the number of polio cases were climbing, parents and the state alternatively took the lead in trying to curb the epidemic with various prophylactic methods, pushing and pulling the role of protector of children's health. This chapter uncovers efforts of domestic vaccine production, Western trips of virologists during the revolution, the role of dissident emigrants in providing vaccine and the multiple ways in which vials of the vaccine against the disease made it across the Iron Curtain. Thus, it shows the paternalistic state from within, the limits of a dictatorship in fulfilling the role it set for itself and the allowances it makes in the name of children to diverge from its own rhetoric and politics.

Chapter 3, "Needles and Tea: vaccine evaluation and the switch from Salk to Sabin," concentrates on scientific uncertainties surrounding the disease and the lack of standards

in prevention. This chapter investigates the Salk-vaccine controversy in Hungary and argues that the lack of standard procedures for vaccination and evaluation gave way to political considerations in scientific assessment and influenced changes in vaccine implementation. Two years after the introduction of the Salk vaccine and intensive national immunization campaigns a polio epidemic appeared with renewed strength. Public-health officials, politicians, scientists and parents were equally puzzled as they strived to place the blame for the new outbreak and the failure of the vaccination. Eventually the experience with the Salk vaccine and the conclusions of the 1959 epidemic greatly contributed to Hungary's choice in siding with the new Sabin vaccine that appeared on the scene in 1959, making Hungary the first country to introduce the vaccine nationally. This chapter puts the Hungarian experience with the Salk vaccine in an international context and explores the uncertainty and fluidity of vaccination methods and vaccine efficiency that ultimately played important roles in shaping vaccine choices in the East and West.

The next chapter looks at how the global presence of polio affected the Cold War politics of polio prevention in Hungary. Chapter 4, titled "Sabin Saves the Day," charts a pre-history to global disease-eradication programs by looking at the introduction of Sabin vaccine in Hungary, a model that was later utilized as a basis for worldwide vaccination campaigns. Sabin cooperated with Soviet virologist Chumakov to work out the final dosage and testing of his serum. The oral vaccine was simultaneously tested on a large scale in the Soviet Union and Czechoslovakia in 1959. Hungary soon followed suit and, before the end of the year, conducted a small-scale trial and within weeks started a national vaccination campaign to immunize the Hungarian population with the brand-new

vaccine. In the course of three years, polio practically vanished from the country, 10 years prior to the same achievement by the United States, where the vaccine was essentially developed.

In this chapter, I make the case that the mutual and rhetorically depoliticized goal of saving children from disability and death opened spaces in domestic and foreign policies on both sides that legitimized actions contradicting contemporary political attitudes and processes. While political agendas and Cold War divisions interwove the evaluation and implementation of live-polio vaccines, polio prevention on the whole overrode Cold War politics to unite and coordinate efforts.

The final part of the dissertation focuses on the debilitating consequences of the disease. Chapter 5, titled “Access to care: polio treatment in Hungary 1956-1963,” continues to investigate cooperation across the Iron Curtain, this time in access to knowledge and technologies. Iron lungs flew across the Iron Curtain, while hospital equipment and medical supplies arrived on various avenues to meet the demands of polio care in the wake of epidemic outbreaks. At the same time, meager resources and lack of access to adequate technologies sparked innovation in medical care.

Through the story of the Heine Medin hospital in Hungary, based on analysis of medical literature, oral-history interviews and governmental and hospital documents, this chapter claims that polio treatment in Hungary and the interactions it triggered, revolved around questions of access to certain technologies, knowledge, decisions and care itself.

The issues explored in this dissertation have wide-ranging and long-term effects. Many parts of Katalin’s current life, like those of other Hungarians living with polio, are

influenced by the formative years of polio prevention and treatment in the 1950s and early 1960s. Problems of accessibility that affect polio patients and other physically disabled people's everyday lives, and the lack of meaningful public discourse on disability in general can be explained with the seclusion of disabled bodies in an ideology and political system that was obsessed with physical production. Many people living with polio lament the diminishing benefits and financial assistance in the purchase of orthopedic equipment and feel utterly disappointed in a state that has failed to fulfill its role of providing for them.

Not all consequences are negative. Some people continued to build on the international network established in the 1950s and acquire modern mobility equipment in the 1980s.⁴⁶ Others have taken on the task to introduce the medical concept of post-polio syndrome to physicians and to educate former polio patients about their current condition and options.⁴⁷ One of the country's first civil associations in the post-war era was born when young people living with polio founded the Hungarian Organization of Disabled Associations in 1981, the most important group today that promotes and protects the rights of mentally and physically disabled people in the country.

The history of polio in Hungary matters. It shows another face of the Cold War, a new angle in our view of communist societies and marks an important moment in the history of medicine—both of which have repercussions today. More importantly, it links personal, national and institutional stories to meet a global challenge in an increasingly divided world. That story is all too familiar to today's reader.

⁴⁶ Ákosné Dr. Kiss, "Tartós Gépi Lélegeztetéssel Életben Tartott Postpoliós Légzésbénultak Sorsa" (Simmelweis University, 1989).

⁴⁷ National Heine-Medin Convention of the Hungarian Organization of Disabled Associations (Meosz), November 6 2010.

Chapter 1: The power of polio

The year 1952 was a tumultuous one. It saw the Cold War gain full speed: The United States detonated its first hydrogen bomb, while the United Kingdom announced that it was now in the possession of an atomic bomb. East Germany started forming the National People's Army, and the B-52 aircraft, a long-range heavy bomber, flew for the first time. As the division of the world between East and West deepened, another crisis was unfolding as the summer arrived: A severe polio-epidemic wave swept over the world, leaving tens of thousands of children disabled and thousands more dead. It was the worst epidemic outbreak in the history of the United States and Denmark, and 1952 marked a turning point in the history of the disease. The severity of the epidemic boosted vaccine research in the former and prompted innovation in respiratory technology in the latter country, making Denmark the European center of polio research.

The epidemic wave also hit Hungary, a small Eastern European country whose society was still struggling in the aftermath of a destructive war and whose communist government was grappling with the task of laying down the political foundations for a new era. The epidemic started with an outbreak in northeastern Hungary,¹ a region that continued to show the highest incident rates of polio throughout the decade. Cases of poliomyelitis started rising in June and peaked in August and September, paralyzing

¹ Gábor Debrődi, "A Mesterséges Lélegeztetés És Az Újraélesztési Eljárások Története Magyarországon," Országos Mentőszolgálat.

nearly five hundred patients and leaving twenty-nine dead² out of a total population of roughly 9.5 million..³ This was the first major epidemic since 1948, and while the numbers may not seem to be particularly high, especially compared to over 21,000 cases in the United States⁴ or the 3000 cases in Copenhagen alone,⁵ this was the first instance in which the healthcare system of the new People's Republic of Hungary had faced with such an epidemic crisis.

Following general guidelines of contagious diseases, polio patients needed to be quarantined for four weeks, preferably in one of the six infectious disease wards in the country, but if the paralysis was not too severe, home care was also possible. At the time there were two iron lungs operating in Hungary, both in the László hospital in Budapest, therefore all respiratory cases needed to be directed to the capital.⁶

It soon became clear that an epidemic of this size challenged the meager resources of post-war Hungary. In a meeting prompted by the rising epidemic, leading epidemiologists and hospital directors of Budapest agreed that infectious disease and post-treatment facilities were badly needed for the rehabilitation of polio patients. The absence of four hundred beds in the infectious-disease hospital that had been destroyed in a World War II bombing was acutely felt and resulted in crowded conditions in time of

² Károly Nagy, *Medical Microbiology* (Budapest: Institute of Medical Microbiology, Semmelweis University, 2008).

³ The population of Hungary in 1952 was 9 453 000 according to the figures of the Hungarian Central Statistical Office. Központi Statisztikai Hivatal, "Népesség, Népmozgalom (1949-)," (Budapest: Központi Statisztikai Hivatal, 2012).

⁴ *Poliomyelitis*, vol. 74, Health Information Series (Washington D.C.: U.S. Department of Health, Education and Welfare. Public Health Service., 1963).

⁵ H.C.A. Lassen, "The Epidemic of Poliomyelitis in Copenhagen, 1952," *Proceedings of the Royal Society of Medicine* 47, no. Section of Epidemiology and Preventive Medicine (1953).

⁶ "Járványos Gyermekbénulás Elleni Védekezés," in *Fővárosi Tanács Egészségügyi Osztálya* (Budapest: Budapest City Archives, 1952).

epidemics.⁷ As a report of the Health Ministry pointed out in 1953, “In the war the [Hungarian] healthcare network collapsed.”⁸ An epidemiological network was put into place in 1951, and the number of doctors was constantly increasing, but hospital buildings had not been renovated since the 1930s and shortages in beds, medical equipment, food and heating were everyday concerns for most of the medical institutions.⁹

In those days Hungary, along with other Eastern European countries, not only faced the challenges of recuperating from a devastating war, but was also undergoing a major transformation that ranged from the political system to the social makeup. Eastern Europe was the most hard-hit area of World War II: millions of its population were killed in concentration camps and as a result of vigorous ethnic-cleansing campaigns, its cities and bridges had been bombed and its infrastructure was destroyed. The rebuilding of the country coincided with the construction of a new political and social structure. The “communist takeover” in 1949¹⁰ marked the beginning of a new era, as the Cold War unfolded and the Hungarian Stalinist regime headed by Mátyás Rákosi set out to build the communist People’s Republic. Forced collectivization, show trials and empty shelves accompanied the construction of the new “classless” society.

⁷ "Jegyzőkönyv a Folyó Évi Október 24-én Pénteken Délután 3 Órakkor Megtartott Járványügyi Ankéton Elhangzott Felszólalásokról," in *Fővárosi Tanács Egészségügyi Osztálya* (Budapest: Budapest City Archives, 1952).

⁸ Antal Greiner, "Magyarország Egészségügyi Helyzete 1953. Évi Adatok Alapján," in *Simonovits István iratai, Egészségügyi Minisztérium* (Budapest: Hungarian National Archives, 1953).

⁹ Ibid.

¹⁰ On recent critical histories of the communist takeover that argue against the seeming inevitability, uniformity and strictly oppressive nature of the communist regime changes see Kenez, "The Hungarian Communist Party and the Catholic Church 1945-1948."; Mark Pittaway, "The Politics of Legitimacy and Hungary’s Postwar Transition," *Contemporary European History* 13, no. 4 (2004); Katherine Lebow, "Public Works, Private Lives: Youth Brigades in Nowa Huta in the 1950s" *Contemporary European History* 10, no. 2 (2001); Benjamin Frommer, "Retribution as Legitimation: The Uses of Political Justice in Postwar Czechoslovakia" *Contemporary European History* 13, no. 477-492 (2004).

Polio might seem to be a trivial matter against this backdrop—especially since, in terms of number of people infected, it was not a major health threat. Even at the climax of an epidemic, the increased incidence numbers were not particularly high when compared to the morbidity and mortality of other diseases of the era. For example, in the year of the second largest polio epidemic in Hungary, 1959, ten times more people were diagnosed with hepatitis and twice as many patients died of that illness than did those with polio. In the same year, nearly four times as many people fell ill with influenza and its complications, with a death toll 140 times larger than polio's.¹¹ Moreover, among the varied causes of death, infectious diseases on the whole represented a small proportion of deaths. In 1960 they were responsible for over four percent of total deaths in the Hungarian population, while cancer claimed seventeen percent and approximately forty percent died due to cardiovascular diseases.¹²

Despite polio's low impact on the death toll, the Hungarian government invested significant resources towards the disease. While Hungary came to see much worse polio epidemics than the one it faced in 1952, this year marked the beginning of growing attention from the state concerning the prevention and treatment of the disease--an attention which culminated in the latter half of the decade.

Throughout the 1950's vaccines, iron lungs and people crossed the Iron Curtain back and forth in a mutual effort to prevent and treat the disease. The importance of polio overarched regime changes, revolutions and retributions. Moreover, by the end of the decade, the Hungarian communist government sidestepped conventional domestic and

¹¹ Központi Statisztikai Hivatal, "Egészségügyi Helyzet 1963." P. 86.

¹² András Klinger, "Magyarország Népesedése Az Elmúlt Negyven Évben," in *Magyarország Társadalomtörténete Iii. (1945-1989)*, ed. Nikosz Fokasz and Antal Örkény (Budapest: Új Mandátum, 1999).p.65.

foreign policies in order to curb the disease. This seemingly paradoxical response to a disease lies at the center of this chapter.

What critical factors imbued the disease with the power to meddle with Cold War politics, foster international cooperations, and disperse the responsibilities of care for victims across family, medical staff and state spheres? How did a disease whose affect was never great in numbers garner so much attention from the scientific community, governments, and international organizations? What was so special about this particular disease?

In what follows I seek to answer these questions by addressing four important aspects of poliomyelitis: Its' status as a relatively new disease; its' presence across the globe; its' affects on children; and the disability it caused. I argue that the polio epidemic received especially heightened attention in the 1950s from actors ranging from scientists to bureaucrats, in Hungary and elsewhere because the particularities of the disease amalgamated with ideals, anxieties, and goals peculiar to the post-war era. Polio challenged the demographic dreams of a new state, ideas of modern production, medical theories and practices. It intersected with post-war confidence in technological and scientific progress and paralleled a renewed obsession with children in propaganda and humanitarian work.

The four factors (novelty, scope, children, and disability) were pivotal in forming the Hungarian and international response to polio. To understand the significance of the disease in the 1950s and early 1960s and its Cold War history in Hungary, we need to take a broader look at the attributes of polio that created spaces of cooperation and brought together unlikely allies.

A 20th-century disease: new challenges unite

Poliomyelitis was a relatively new disease in the mid-20th century. Severe and widespread epidemic waves had started appearing quite recently, most notably in Sweden in the late nineteenth and in the United States in the early twentieth centuries. The rising number of cases fostered an increase in scientific interest, as virologists and physicians tried to understand the virus and to figure out efficient ways to prevent and treat the disease.

The following section gives an overview of the scientific uncertainties, theories and debates that marked the spread of the new epidemic threat of polio. Although polio is usually considered a success story with the disease eradicated from most countries of the world, this story unfolded rather slowly. As historian Naomi Rogers argues in her book *Dirt and Disease: Polio Before FDR*, “Polio epidemics highlighted tensions between old and new medical theories and practices as physicians, scientists, and the lay public debated the increasing authority of scientific medicine.”¹³

For almost half a century, the virus’ point of entry into the human body was debated. Treatment of paralysis caused by polio did not have a standardized practice until well into the 1950s and even then, different schools of thought and concepts about what counted as an efficient cure were hotly debated. Arguments about vaccine efficiency and safety, first with Salk’s killed-virus vaccine, followed by several live-virus vaccines were widespread. There were also differences of opinion on the right dosage, method of injection, and age groups to be vaccinated.

¹³ Naomi Rogers, *Dirt and Disease. Polio before Fdr*, ed. Judith Walzer Leavitt and Morris Vogel, Health and Medicine in American Society (New Brunswick: Rutgers University Press, 1990).p.3.

These continuous, ongoing conversations (some more heated than others), the constant uncertainty about the best way to prevent and treat this virus, and the new high-tech equipment and specialized knowledge that polio research and treatment inspired and required all played a part in creating a space of intensive scientific interaction. As subsequent chapters of the dissertation show, this space was perceived as standing above Cold War divisions and, moreover, it was a space that was, to a certain extent, open to actors outside the medical profession as well.

Scientific Uncertainties

Marking two crucial turning points in the identification of the disease, the term Heine-Medin's disease, compiled by the names of two physicians, became commonly used for polio throughout the first half of the 20th century. The first, Jakob von Heine was a German orthopaedist who published a groundbreaking work on the disease in 1840.¹⁴ While British physicians understood the paralysis of the lower extremities in children as a separate disease already in the late eighteenth and early nineteenth centuries,¹⁵ Heine identified this particular type of paralysis as an entity and termed it spinal infantile paralysis (*Spinale Kinderlähmung*).¹⁶

The second physician of whom polio was named after was the Swedish Karl-Oskar Medin, who first described polio as an infectious disease in 1890 at an international conference in Berlin. Provincial doctor Nils August Bergenholtz identified the first epidemics of infantile paralysis in Sweden in 1881, and the Scandinavian country

¹⁴ Jakob von Heine, *Spinale Kinderlähmung. Monographie* (Stuttgart: J. G. Cotta'scher Verlag, 1860).

¹⁵ J.M.S. Pearce, "Poliomyelitis (Heine-Medin Disease)," *Journal of Neurology Neurosurgery and Psychiatry*, no. 76 (2005).

¹⁶ Jakob von Heine, *Beobachtungen Über Lähmungszustände Der Untern Extremitäten Und Deren Behandlung: Mit 7 Steindrucktafeln* (Stuttgart: Köhler, 1840).

experienced several waves of the epidemic before the turn of the century. Medin based his findings on an epidemic in 1887 and concluded that polio was an acute infectious disease, but not a contagious one. While considering it to be an epidemic disease, “Medin thought of polio as caused by miasmatic conditions.”¹⁷

It was in 1908 that Austrian physicians Karl Landsteiner and Erwin Popper identified the poliovirus as the cause of poliomyelitis.¹⁸ Acting upon the news of the virus' isolation, Simon Flexner, director of the Rockefeller Institute for Medical Research, began experimenting on the disease. In 1908, he inoculated monkeys with human tissue containing poliovirus and was able to pass polio from monkey to monkey as well.¹⁹ Moving the study of the disease to the laboratory would be a characteristic of polio research over the next 50 to 60 years—so too would the problem of applying findings to epidemics that played out in various populations.

In the early twentieth century, polio epidemics became particularly severe in the United States. In 1916, Americans were faced with what was then the world's worst outbreak, counting twenty-seven thousand cases, with almost nine thousand in New York City alone.²⁰ This severe epidemic marked the beginning of the American history of polio, which soon became associated with Franklin D. Roosevelt, whose person determined the image of polio victims in pre-World War II United States.²¹ Despite hiding his disability in his public appearances, Roosevelt played an important part in

¹⁷ Per Axelsson, "Do Not Eat Those Apples; They've Been on the Ground!": Polio Epidemics and Preventive Measures, Sweden 1880s-1940s," *Asclepio. Revista de Historia de la Medicina y la Ciencia* 61, no. 1 (2009).p.30.

¹⁸ John R. Paul, *A History of Poliomyelitis*, Yale Studies in the History of Science and Medicine (New Haven: Yale University Press, 1971).p.98.

¹⁹ Saul Benison, "Speculation and Experimentation in Early Poliomyelitis Research," *Clio Medica* 10, no. 1 (1975).

²⁰ Rogers, *Dirt and Disease. Polio before Fdr*.pp.10-11.

²¹ Daniel J. Wilson, "A Crippling Fear: Experiencing Polio in the Era of Fdr," *Bulletin of the history of medicine* 72, no. 3 (1998).

forming American polio research and treatment. He founded a major treatment center in Warm Springs, Georgia and the National Foundation for Infantile Paralysis, which provided financial means for vaccine research and treatment through the March of Dimes.²² Moreover, the national myth of FDR's success in conquering polio was so pervasive that it greatly influenced polio patients' thinking of their own disease and disability; whether by aligning with the American president's myth or by challenging it.²³

In this sense, the history of polio in the United States was peculiar when compared to its history internationally. The personal involvement of a highly esteemed political leader was unique, and in some ways so was the funding of scientific research and medical treatment for polio. As Chapter 5 will demonstrate, for instance, there was no poster child in Hungary to urge people to donate to the cause and vaccinate their children. Furthermore, in societies where free healthcare was provided by the state discussions about the health of children were accordingly framed through paternalism and American-style fundraising and individual donation were entirely missing from the fight against polio. This does not mean, of course, that citizens were not called upon in one way or another to participate in the effort to curb the disease, as will be discussed in detail in Chapter 2. Rather, the differences and similarities between the various experiences of the disease comprised overlapping and constantly moving maps of what polio meant and how it was approached by politics, society, and science.

Polio cases had been recorded in Hungary from the end of the nineteenth century, and epidemics had been observed beginning in 1911. Starting in 1912, polio became a reportable disease in the country and the Health Minister ordered patients diagnosed with

²² Oshinsky, *Polio : An American Story*.

²³ Amy L. Fairchild, "The Polio Narratives: Dialogues with Fdr," *The Bulletin of the History of Medicine* 75(2001).

polio to be quarantined for three weeks, along with children in the patient's household. After the three weeks of seclusion, the patient's immediate environment was to be disinfected.²⁴ The regulation shows that polio was already perceived as a public health threat in Hungary in the early twentieth century and furthermore, that attempts of prevention followed the usual protocol of contagious diseases. How the virus spread, though, would not be agreed upon for quite a while after the introduction of these early prophylactic strategies.

The virus's entry point into the body was debated for over half a century. Flexner was an early proponent of the theory that the disease infected through nasal mucus.²⁵ Coming from a microbiological approach, Flexner based his theory on an animal model. He succeeded in infecting monkeys by wiping their nasal passages with infected material in 1910.²⁶ The conclusion, that this was the mode of infection among humans as well, prompted a field trial in 1936 in Alabama, in which a nose spray designed to chemically block the entrance of the virus to the body via nasal mucosa was tested. However, the trial inconclusive and was closed in 1937. Meanwhile, in the same year, on pressure from the public in an unfolding epidemic, the Ontario government in Canada conducted yet another trial to test the nasal spray that was already in use by many private physicians, with similar results.²⁷ The enthusiasm that initially surrounded this prevention technique did not spread further and the method was not tested or used again elsewhere. Following

²⁴ Rezső Hargitai and Kiss, eds., *A Gyermekbénulás Elleni Küzdelem: Beszámoló Egy Ma Már Múlttá Váló Rettegett Betegség Ellen Folytatott Hősies Küzdelemről És Felszámolásának Lehetőségéről: A Szent László Kórház Centenáriumára Készült Összeállítás*

²⁵ Margaret L. Grimshaw, "Scientific Specialization and the Poliovirus Controversy in the Years before World War II," *Bulletin of the history of medicine* 69, no. 1 (1995).pp.46-47.

²⁶ Paul, *A History of Poliomyelitis*.p.243.

²⁷ Christopher J. Ruddy, "The Middle Class Plague: Epidemic Polio and the Canadian State, 1936-37," *Canadian Bulletin of Medical History* 13, no. 2 (1996).pp. 291-295.

the unsuccessful trials and the lack of evidence for the nasal route infection, the theory was highly contested in the late 1930s and abandoned by the early 1940s.²⁸

Other theories were more persistent. Arising from the relatively new germ theory (and its concomitant obsession about cleanliness)²⁹ researchers as well as the lay public looked to that profound connection between filth and disease for answers about polio. Even though as early as 1916 an outbreak in New York gave epidemiological evidence, which suggested that polio preferred healthy, well-nourished children in affluent homes with good sanitation to impoverished households and filthy neighborhoods, the idea of dirt leading to disease was hard to shake..³⁰ Even as experience seemed to contradict the theory and new epidemiological thinking gained momentum, ridding households of flies, washing fruit and emphasizing the cleanliness of the home continued to be a major part of prevention efforts well into the 1950s in many parts of the world.

Early twentieth century researchers were puzzled by the fact that polio spread through a relatively wide geographical area with considerable speed, but did not produce very many cases. The conclusion was that there had to be “abortive cases” of polio, meaning that the disease did not cause paralysis in everyone who contracted it. Based on observations of the 1905 Scandinavian epidemic, Ivar Wickman (a student of Medin) claimed that there were many more nonparalytic cases than paralytic ones and that these “abortive” cases played a key part in spreading the disease.³¹

²⁸ Grimshaw, "Scientific Specialization and the Poliovirus Controversy in the Years before World War Ii."

²⁹ Nancy Tomes, *The Gospel of Germs : Men, Women, and the Microbe in American Life* (Cambridge, Mass.: Harvard University Press, 1998).

³⁰ Naomi Rogers, *Dirt and Disease : Polio before Fdr* (New Brunswick N.J.: Rutgers University Press, 1992).pp. 161-163

³¹ Tony Gould, *A Summer Plague : Polio and Its Survivors* (New Haven: Yale University Press, 1995).pp. 112-13.

Equally puzzling was the seasonal nature of the epidemics. Polio usually struck recurrently at a particular time of year. This attribute added to the unknown or debated aspects of the disease. An analysis of the 1939 epidemic in the Eastern Hungarian city of Debrecen,³² published in a public health journal in 1941, gives an overview of possible etiologies, although it concluded that none of them could serve as the sole explanation for the pattern. Infection by insects, gastrointestinal infection, the presence of dust in the dry summer weather, the amount of precipitation and dampness, even the general direction of wind were all raised and discarded. The author concluded that there was definitely a link between climate patterns and polio epidemics, but no single factor provided a sufficient explanation for the spread of the disease. Moreover, the author felt the need to remark that “the practice of meteoropathology is tiresome and the results obtained do not reflect the amount of work invested in the process.”³³ In other words, finding a plausible explanation could be useful in developing adequate prevention measures, but the results acquired in this kind of climate research were simply not worth the effort.

³² László Mecsek, "Meteorológiai Vonatkozások a Heine-Medin-Kór Epidemiológiájában," *Népegészségügy*, no. 14 (1941).

³³ *Ibid.* p.9.



Figure 1 "Wash fruit! Unwashed fruit spreads infectious diseases!" Health-education poster from 1951. Csonka, Mária, ed. *Az Egészségnevelési Plakátok Üzenete*. Budapest: Budapest Főváros XVII. ker. Önkormányzat Egészségügyi Szolgálat Egészségnevelése, 2004.

In the meantime, scientific uncertainty that surrounded the recurrent spread of the disease trickled down to the public perception of environmental threats that could cause polio. Children were warned against over-exhaustion when playing outside, public swimming pools were to be avoided in the heat (a major intervention in a society known for its bath, swimming, and hydro-healing culture), fruit was to be thoroughly washed and homes were to be kept meticulously clean. A theory in New Zealand blamed the scant clothing children wore during the summer, arguing that the sudden changes in temperature taxed children's bodies, when they were clad in short socks and short

trousers or skirts, leaving their legs exposed to the elements.³⁴ Polio did not come in the summer months in every corner of the world, though. In Sweden, it was during the autumn months that incidences of polio peaked, thus giving polio its popular nickname the “autumn ghost.”³⁵ As a result, those in Sweden avoided falling leaves and rotting fruit because they thought doing so would prevent contracting the disease.³⁶

Vaccine development

The scientific uncertainties surrounding polio continued well into the post-war era. Just as one issue seemed to be resolved and a consensus of scientific explanation achieved, three others jumped into its place. Even the development and availability of vaccines in the 1950’s did little to stabilize the knowledge about polio.

One of the key questions that remained to be answered was how many strains of poliovirus existed. Australian and American researchers identified two strains of the virus and concluded with animal experiments that surviving polio of one strain did not provide immunity to another. Confirming and identifying the number of strains was crucial, therefore, in developing an effective vaccine. This tedious and repetitive work was conducted in individual American laboratories in 1948 with funds from the National Foundation for Infantile Paralysis (NFIP.)³⁷

Another important step in providing the conditions for vaccine research in the 1950’s was the breakthrough of virus culturing. In 1949 John Enders and his colleagues at Harvard University succeeded in culturing poliovirus *in vitro*, that is, in a test tube.

³⁴ Jean C. Ross, "A History of Poliomyelitis in New Zealand" (MA thesis, University of Canterbury, 1993).

³⁵ Per Axelsson, *Höstens Spöke. De Svenska Polioepidemiernas Historia* (Stockholm: Carlssons, 2004).

³⁶ Axelsson, "'Do Not Eat Those Apples; They've Been on the Ground!': Polio Epidemics and Preventive Measures, Sweden 1880s-1940s."p.37.

³⁷ Daniel J. Wilson, *Polio*, Biographies of Disease (Portsmouth: Greenwood Publishing Group, 2009).

Growing poliovirus under laboratory conditions had been possible for decades. However, scientists had only been successful in culturing the virus in the nerve tissue of monkeys, a potentially life-threatening procedure for humans, and therefore not an option for vaccine production. The intervention Enders and his colleagues made was to use tissues in culturing (e.g., kidney), a process that enabled safe testing on humans. This feat earned Enders and his team a Nobel Prize in medicine in 1954 "for their discovery of the ability of poliomyelitis viruses to grow in cultures of various types of tissue."³⁸

As the incidence of polio appeared with more frequency and with higher and higher rates around the world, vaccine development became especially pressing and therefore had priority in securing research funds. In the United States, where both the killed-virus vaccine (by Jonas Salk) and the three live-virus vaccines (by Hilary Koprowsky, Albert Sabin and H.R. Cox) were developed, the majority of the funding came from the NFIP. The first vaccine to be widely produced and distributed was the Salk vaccine that induced immunity to the disease with the help of inactivated or killed poliovirus.

Developing the vaccine was one important step. Establishing its efficiency was quite another. American authorities moved quickly when it came to approving and licensing the Salk vaccine,³⁹ it took them merely two hours after Thomas Francis, director of the University of Michigan Poliomyelitis Vaccine Evaluation Center officially announced the results of the field trial involving 1.8 million schoolchildren on April 12, 1954.⁴⁰

However, in the following years, based on varying experience with the vaccine around

³⁸ The Nobel Foundation, "The Nobel Prize in Physiology or Medicine 1954. John F. Enders, Thomas H. Weller, Fredeick C. Robbins," http://www.nobelprize.org/nobel_prizes/medicine/laureates/1954/

³⁹ The Secretary of Health, Education and Welfare was responsible for giving license, acting on the recommendation of the Surgeon General. The latter was advised by the National Institute of Health and the Division of Biological Standards. Subcommittee on Health and Safety of the Committee on Interstate and Foreign Commerce, *Polio Vaccines*, First session on developments with respect to the manufacture of live virus polio vaccine and results of utilization of killed virus polio vaccine, March 16 1961. pp.3-4

⁴⁰ Oshinsky, *Polio : An American Story*.p.203.

the world, the efficacy of the Salk vaccine would be debated on the pages of medical journals well into the 1960s.

Live poliovirus vaccines fared even worse in creating consensus in vaccine efficiency, and more importantly, safety. Fears that vaccines made with attenuated live viruses could cause or spread polio instead of curbing the disease were persistent throughout the development and the live vaccines in the 1950s and the early 1960s by Albert Sabin, Hilary Koprowski and H.R. Cox. The vaccine trials of the three vaccines spanning five continents aimed to soothe reservations about safety and efficiency, but as Chapter 4 will show, the trials were far from being successful in bringing about consensus in the scientific community.

Questions about vaccine evaluation kept popping up with every trial and after every outbreak of polio. New answers to a new disease created yet another set of uncertainties. How would one translate laboratory results into effects on whole populations of a disease that came haphazardly and with varying force? How could one establish the length of the vaccines' protective power when such a short time elapsed between the development, trial and widespread use of the serum? On the pages of medical journals, at international polio conferences and personal laboratory visits, virologists, pediatricians and public health officials exchanged experiences, crunched numbers and debated results as they attempted to establish the proper prophylactic and treatment strategies for their respective countries and ultimately aim for a consensus in curbing the disease worldwide.

The increasing preoccupation with polio prompted the application of new scientific methods, like, in the case of Wickman statistical analysis or, in Flexner's case, the use of

the animal model to construct knowledge about the virus. The conflicting theories and scientific uncertainty that enveloped the disease opened yet new arenas of cooperation between virologists, therapists and physicians in a world already densely interwoven with an international scientific network,⁴¹ it kept those networks in place as the Cold War unfolded.

In order to plan and execute prevention methods, develop vaccines and provide state-of-the-art treatment for a new epidemiological phenomenon, scientific communities needed to be in touch constantly with each other, share new experiences and knowledge and cooperate in figuring out the next step. The lack of widely accepted standard procedures and the presence of intense debates in the fields of virology, medicine and public health ensured that a space for exchange and cooperation existed continuously, and it was one that ignored barriers erected after World War II between the East and West.

While scientific uncertainties were, in some ways ever-present throughout the first half of the century, the meaning of polio changed over time. From its beginnings as a rhapsodically appearing and puzzling disease in the early twentieth century, it became a major threat to future populations by the early 1950s. By the early 1960s the disease changed meaning yet again and became synonymous with scientific triumph over nature and a symbol for international cooperation.

⁴¹ see for instance Anne Marie Moulin, "The Pasteur Institute's International Network: Scientific Innovations and French Tropisms," in *Transnational Intellectual Networks. Forms of Academic Knowledge and the Search for Cultural Identities*, ed. Christophe Charle et al. (Frankfurt: Campus, 2004); Clifford Rosenberg, "The International Politics of Vaccine Testing in Interwar Algiers," *American Historical Review* 117, no. 3 (2012); Joao Rangel de Almeida, "The 1851 International Sanitary Conference and the Construction of an International Sphere of Public Health" (PhD dissertation, University of Edinburgh, 2012).

A global issue

The polio epidemic not only increased in its severity in the first half of the twentieth century, but also in its geographical scope. Apart from Europe and North America, where polio outbreaks began to be registered in the late nineteenth and early twentieth century, the disease took hold on a large scale in Africa, Asia, Latin America and Oceania starting in the 1920s.⁴²

Research cooperation

While global cooperation in polio research, prevention and treatment reached its climax in the 1950s, an international exchange of knowledge and specimens was present from the outset. For instance, when asked for poliovirus samples to facilitate European research, Flexner sent specimens to Dr. Arnold Netter, a French clinician he knew through personal contacts.⁴³ Hungarian publications on polio, published between the world wars, demonstrate an extensive knowledge of contemporary epidemiological research, and place findings in the context of up-to-date data and theories published by German, French, Romanian, Swedish, American and British colleagues.⁴⁴

With the creation of the United Nations and the World Health Organization (WHO), international scientific cooperation received new impetus. The WHO expressed interest in international research on polio from the very beginning of its existence. Based on the proposal of the French delegation, which emphasized that polio should be studied in

⁴² Matthew Smallman-Raynor, *Poliomyelitis : Emergence to Eradication*, Oxford Geographical and Environmental Studies (Oxford ; New York: Oxford University Press, 2006).p.192.

⁴³ Benison, "Speculation and Experimentation in Early Poliomyelitis Research."p.4.

⁴⁴ Jenő Barla-Szabó, "A Heine-Medin-Kór Kezelése Lyssa Ellenes Oltásokkal," *Orvosi Hetilap*, no. 504 (1933); Elemér Hainiss, "A Heine-Medin-Betegség Kóreredete És Kezdeti Szakaszának Jelentősége," *Orvostudományok*, no. 2 (1936); Ferenc Székely, "A Poliomyelitis Anterior Acuta (Heine-Medin) Serumtherapiájáról," *Gyógyászat* 82, no. 32 (1942).

international collaboration of virologists, epidemiologists and clinical experts, the First World Health Assembly passed a resolution to investigate the disease and base its report on international conferences.⁴⁵

In the same year, when the WHO held its founding meeting, virologists and public-health delegates from twenty-eight countries came together to discuss the crippling disease. The 1948 First International Poliomyelitis Conference in New York was funded by the NFIP, which was celebrating its 10th anniversary.⁴⁶ The conference covered a wide range of subjects related to polio, among them global concerns about the disease. The papers and discussions emphasized the presence of polio across the continents and the severe problems it raised in medical care, economy and social stability.

Some papers followed arguments much along the lines articulated a century before at the 1851 International Sanitary Conferences, the first of many international public-health meetings. They investigated the economic reverberations of an epidemic, the feasibility of quarantine from the perspective of cost and effects on trade, and the question if one should forsake political rights and independence for epidemic control in the name of efficiency.⁴⁷ The latter gained a specific twentieth century spin in 1948. The latter gained a twentieth century spin in 1948, as leading British orthopaedist Herbert J. Seddon reflected on the status of polio in the progressing Cold War: "At the present time there is more than enough dictatorship in the world and we do not want to add to it. Yet there is no doubt that the cheapest and best way of dealing with poliomyelitis is to have organizations in readiness headed by men of acknowledged competence, who, for a

⁴⁵ María Isabel Porras, María José Báguena, and Rosa Ballester, "Spain and the International Scientific Conferences on Polio," *Dynamis* 30(2010).

⁴⁶ Ibid.p.102.

⁴⁷ Rangel de Almeida, "The 1851 International Sanitary Conference and the Construction of an International Sphere of Public Health".

limited time, are permitted a very large measure of authority.”⁴⁸ The merit of certain autocratic measures in successfully preventing or treating disease and the frustrations this perception caused in Cold War perceptions of democracy and autocratic rule became a recurring issue in the history of polio. It was an problem that most prominently came to the fore in the trials and evaluations of the Sabin vaccine, as detailed in Chapter 4.

Soon a specifically European organization followed the footsteps of the International Congress, and the European Association against Poliomyelitis was formed in 1951. Its first symposium in 1953 was in Copenhagen,⁴⁹ a year after one of the world’s most severe polio outbreaks pushed Denmark to the forefront of European polio research and treatment.

Both the International Conferences and the Symposia of the European Association for Poliomyelitis became regularly occurring events. The former met every three years until 1960 and all of its meetings were funded by the NFIP. At first glance, it would seem that polio occupied a similar space in the Cold War politics of the United States as malaria control, in line with historian Marcos Cueto’s argument. Based on the analysis of malaria eradication efforts in the 1950’s in Latin America, Cueto contends that malaria prevention turned into a political tool of the Cold War in the hands of international agencies, the Rockefeller Foundation, and the U.S. government, on both rhetorical and practical levels.⁵⁰ However, polio did not follow the same pattern. While it is clear that the NFIP did not fund a string of gigantic international events out of pure philanthropy, the Cold War rhetoric of polio worked in ways that were the opposite of those of malarial

⁴⁸ Herbert J. Seddon, "Economic Aspects of the Management of Poliomyelitis," in *First International Poliomyelitis Conference* (New York: Lippincott, 1948).p.35.

⁴⁹ Rosa Ballester and María Isabel Porras, "La Lucha Europea Contra La Presencia Epidémica De La Poliomielitis: Una Reflexión Histórica," *Dynamis* 32, no. 2 (2012).

⁵⁰ Cueto, *Cold War, Deadly Fevers : Malaria Eradication in Mexico, 1955-1975*.

control. Emphasis continuously lay on international cooperation and on standing above the politics of the Cold War itself. Moreover, the conferences gave opportunity for intensive cooperation between researchers across the globe and for the exchange of information and experience with a disease whose laboratory research was hardly affordable for countries with weaker economies.

I argue that this marked difference in how these two diseases were handled in the Cold War politics of medicine and public health was at least partly due to the global presence of polio. While malaria affected areas of the world with warm and tropical climate (and which areas coincided with geopolitical interests of both the East and West), polio was present on both sides of the Iron Curtain and thus acted as an equalizer in scientific exchange and international public-health interventions.

Still, national agendas and local politics of science and economy intertwined with transnational goals of disease control: the severe post-war epidemics caught many countries in transformative moments. For instance, the location chosen for the 1954 meeting of the International Poliomyelitis Congress in Rome indicated the opening of Italy's medical and professional community after the Fascist era and aimed to display the country's economic recuperation through the Marshall Plan.⁵¹ Spain, which was not a member of the WHO until 1958, used its participation in the European Symposium from 1954 onward to promote its unpopular dictatorship in the European public health scene.⁵²

It would be a mistake to overevaluate the universality of the WHO's and Poliomyelitis Conferences' proclaimed goals as neutral and interest-free. The WHO was

⁵¹ Bernardino Fantini, "Polio in Italy," *Dynamis* 32, no. 2 (2012).

⁵² María Isabel Porras, María José Báguena, and Rosa Ballester, "Spain and the International Scientific Conferences on Polio," *ibid.* 30 (2010).

itself a venue where the Cold War was fought,⁵³ and decisions of aid and public health assistance were infused with geopolitical and economical interests.⁵⁴ It would equally be a mistake to undervalue the opportunities that the global presence of the disease created. Individual scientists, who were in many ways hindered by the foreign policies of their governments, could connect or keep existing networks alive in international meetings. Delegates from countries of little geopolitical influence could voice concerns and contribute to a discussion that affected all parties in roughly an equal manner. Based on fresh statistics and detailed information presented at the conferences, iron lung machines were flown across the globe as they were grouped and regrouped in epidemic locales, undoubtedly saving many lives.

A critical assessment of these areas of cooperation can show us a more nuanced, and perhaps a different side of Cold War interactions and the role that polio played in forming them. The global presence of the disease, together with the lack of effective treatment of it, created room in the international public health arena for an elaborate dance of national agendas and scientific cooperation.

Epidemic reporting

The WHO played a central role in epidemiological data collection and management. This task was one of the most powerful tools of the WHO: it included a comprehensive classification system that would have an effect on trade, travel regulations, aid distribution, markers of progress, national agendas and medical practices. The WHO was

⁵³ Theodore M. Brown, Marcos Cueto, and Elizabeth Fee, "The World Health Organization and the Transition from 'International' to 'Global' Health," in *Medicine at the Border. Disease, Globalization and Security, 1850 to the Present*, ed. Alison Bashford (Basingstoke: Palgrave Macmillan, 2006).

⁵⁴ Randall Packard, "'No Other Logical Choice': Global Malaria Eradication and the Politics of International Health in the Post-War Era," *Parassitologia* 40, no. 1-2 (1998).

not the first to exercise the power of collecting, producing and analyzing public health data, as international health organizations prior to the founding of the WHO had longstanding involvement with international statistics organizations. For instance, the International Statistical Institute compiled the International List of Causes of Death in 1891, which was revised every 10 years. During the interwar era, the League of Nations developed the lists further (in cooperation with the Statistical Institute).

The devastating effects on populations of World War I and the forced and voluntary migrations in its wake with their traditional traveling companions—typhus and cholera—prompted the nascent health committee of the League of Nations to organize a more effective way of data exchange about the epidemic. To this end, the *Annual Epidemiological Report and Corrected Statistics of Notifiable Diseases* was founded, with polio among the regularly reported morbidity and mortality rates.⁵⁵

Epidemic reporting and statistical data management really took off after World War II, when the list of causes of diseases and death became one of the top priorities of WHO, which formally adopted the *International Statistical Classification of Diseases, Injuries and Causes of Death* at the First World Health Assembly in 1948.⁵⁶ The WHO not only worked out the system in which diseases and causes of death should be viewed, but also intervened directly into the data-collection process. Regulation No. 1 of the WHO (also ratified in the First Assembly) set the requirements for individual countries for the death-certification process, and from 1952, WHO consultants traveled to member states to give “advice on the institution or improvement of local statistical systems.”⁵⁷ From the

⁵⁵ Smallman-Raynor, *Poliomyelitis : Emergence to Eradication*.p.194.

⁵⁶ *The First Ten Years of the World Health Organization*, (Geneva: World Health Organization, 1958).p.278.

⁵⁷ *Ibid*.p.280.

information gathered by member states and national public health offices, the WHO published a monthly and annual *Epidemic and Vital Statistics Report*, in which it included articles⁵⁸, statistical tables on communicable diseases⁵⁹ and later, vaccination statistics.⁶⁰

How epidemiological reporting worked in reality was a different matter. WHO data relied on the collection and management system of national statistics, which could operate at various levels of rigor. Moreover, collecting data on polio was a tricky issue, as the case of Hungary demonstrates. Although polio was considered to be significant problem in the 1950s, the analysis of data compilation of polio incidences in Hungary reveals a puzzling picture. Currently, we cannot be sure of the exact number of people who fell sick with polio some 60 years ago, partly because of the peculiarities of polio, partly because of organizational problems. Polio is a disease that is rather difficult to diagnose in its early phases. Many children got through the disease without even knowing they had it, because its relatively innocuous-seeming flulike symptoms. Do these numbers in the Hungarian indices only refer to the children who needed to be hospitalized? Were the registered cases all paralytic? Were all paralytic cases registered? The novelty of the disease, the lack of standards in the diagnostic process and the costly and time-consuming method of virological identification all contributed to uncertainty in reporting. As historian Saul Benison argues, “Physicians at the time, like physicians

⁵⁸ M.J. Freyche, "The Incidence of Poliomyelitis in the World, 1947-1949," *Epidemiological and Vital Statistics Report* 4, no. 1 (1951).

⁵⁹ "Morbidity Statistics Acute Poliomyelitis," *Epidemiological and Vital Statistics Report* 14(1961).

⁶⁰ "Number of Persons Immunized against Poliomyelitis," *Epidemiological and Vital Statistics Report* 11(1958).

everywhere, [...] from the point of view of reporting, paid no attention to nonparalytic cases.”⁶¹

The problem of polio reporting as a widespread phenomenon is also addressed in the WHO report “Poliomyelitis” from 1955. Polio-data compilation, in general, the report remarks,

"In certain countries, only cases of the acute paralytic form of the complaint are registered under the heading of 'poliomyelitis,' in addition, even in the most carefully compiled series, diagnostic errors of the order of 14 percent have been found. Elsewhere, notifications also cover a varying proportion of febrile states with signs of meningeal irritation, without symptoms of spinal or bulbar paralysis, and perhaps abortive forms without manifestations, which can be ascribed to involvement of the central nervous system. In such cases, a clinical diagnosis can only be one of probability, even when it refers to patients who have been in close contact with a confirmed case of poliomyelitis and the possibility of error is very large.”⁶²

Inaccurate registration and belated reporting further complicated the compilation of statistics in Hungary. Epidemic reporting on polio began in Hungary in 1926, when an outbreak prompted János Bókay renowned pediatrician, to persuade the minister for welfare and labor to designate polio as a reportable disease.⁶³ This reporting, however, was not always up to expectations and was a cause for frustration as epidemics became more frequent and more severe. Ottó Rudnai of the National Public Health Institution pointed out the deficiencies in the reporting process in 1952.⁶⁴

The problems, mainly concerning thoroughness of local physicians in their paperwork, their responsibility overlapping with hospitals and the lack of follow-up from

⁶¹ Benison, "International Medical Cooperation: Dr. Albert Sabin, Live Poliovirus Vaccine and the Soviets." p 461.

⁶² Matthieu-Jean Freyche and Johannes Nielsen, "Incidence of Poliomyelitis since 1920," in *Poliomyelitis*, ed. Robert Debré (Geneva: World Health Organization, 1955). p. 59

⁶³ János Bókay, *Az 1926. Évi Heine-Medin-Járvány Csonka-Magyarországban* (Budapest: Pest könyvnyomda részvénytársaság, 1927).

⁶⁴ Ottó Rudnai, "Járványügyi Munkánk Néhány Hiányosságáról," (Budapest: Országos Közegészségügyi Intézet járványügyi osztálya, 1952).

the part of the health ministry seemed persistent throughout the decade. As late as 1959, records indicate the urgent necessity of revising the questionnaire about the incidence of polio.⁶⁵ As a result of diagnosing difficulties and lack of rigor in reporting, a political system (which appeared to be efficient in organizing and enforcing regular reports on individuals for its secret service) was unable for a whole decade to overcome the chaotic and disorderly reporting practices of a recurring epidemic that threatened its population.

In whatever way public health officials interpreted epidemiological data and regardless of the problems with the statistics that we may raise today, polio epidemics were definitely gaining momentum throughout the 1950s in Europe, and in many parts of the world even after that. Whether the numbers were accurate or not, they were without a doubt growing consistently, and more importantly, the threat of polio was perceived by parents, the scientific community, and the state to be rapidly escalating.

Access to epidemic data across the globe made the expansion of the scope of polio research possible. Analysis of incidence rates from Cairo to Tokyo to Greenland gave medical and public health workers an opportunity to corroborate theories that were based on the study of a limited geographical area. The observation that paralytic polio was at its worst in social groups that were relatively well-off, instead of the expected poor in cramped neighborhoods, where most other epidemic diseases flourished, could now be extended to a global scale. Middle-class families became First World countries, while slums became equivalent with post-colonial and “backward” societies.

One of the conclusions drawn about why polio rapidly emerged and the difference in the ways in which it attacked various populations was that polio turned epidemic and highly paralytic because of changes in sanitation and life-style. Improved sanitary

⁶⁵ Bakács, "Poliomyelitis Betegek Védőoltására Vonatkozó Adatgyűjtés."

conditions and better personal hygiene reduced the fecal-oral route of infection, so the population was less exposed to the disease in early infancy. This meant that a latent immunization could not develop in the majority of the society, leaving children and adults unprotected against the disease.⁶⁶

By the midcentury, polio became a disease of civilization. As Albert Sabin put it: “The poorer the population, its standard of living and sanitation, the more extensively is poliomyelitis virus disseminated among them and the lower is the incidence of paralytic poliomyelitis when virulent strains of virus come their way.”⁶⁷ If your country had epidemic polio, then it was one of the civilized nations. Thus, high levels of polio infection were first a marker of civilization and societal progress but, as vaccination became widely used the complete *lack* of polio became the new signifier of civilization.

Infantile paralysis: children as catalysts for Cold War cooperation

While scientific uncertainties and the global scale of the disease can serve as sufficient explanation to why polio could create such an international cooperation and exchange by the early Cold War era, it is important to reiterate that the incidence rate and the death toll of polio was far from reaching the scale of many other infectious diseases of the time, such as influenza or tuberculosis. The fact that it was a relatively rare disease demands a look into other traits of polio. One of the most important explanations for the exceptional status of polio in the Cold War era was that it attacked children.

⁶⁶ M.R. Smallman-Raynor et al., *Poliomyelitis. A World Geography: Emergence to Eradication* (New York: Oxford University Press, 2006).p.127.

⁶⁷ Albert B. Sabin, "Paralytic Consequences of Poliomyelitis Infection in Different Parts of the World and in Different Population Groups," *American journal of Public Health* 41, no. October (1951).p.1229.

“Is there a greater joy for the parent than his child, and is there a greater worry?” begins the popular Hungarian handbook from 1957 “The Healthy and the Sick Child.”⁶⁸ Indeed, concern over the health of children lay at the heart of many parents' fears of the summer months, and they found a partner in their concern in the state—the self-proclaimed champion of freedom and the pioneer of international communism.

Polio was one of the severe diseases threatening the health of children. Reflecting this, in many parts of the world it was labelled infantile paralysis, as the virus attacked mostly the bodies of children. While in some countries, such as in the United States, the age distribution of the disease changed with time to older age groups⁶⁹ (and thus changed the widespread use of its name from infantile paralysis to polio), in many other states the childhood nature of the disease remained. In Hungary, for instance, between 1952 and 1957 the age group most affected by polio was between 1 and 2 years old. In 1959, the largest group to fall sick with the disease was under 1 year of age.⁷⁰

Polio's most widely known attribute was that it was most prevalent among children. In an era of post-war recuperation, at a time when competing ideologies claimed to have the exclusive answer to a bright future, the fledglings of a new generation received heightened attention. Seen as key subjects of national security and economy, children of the 1950s were considered to be particularly precious to states on both sides of the Iron Curtain.

Cold War concepts of the role of children in the new world order paired with longstanding ideas of children as symbols of innocence. The figure of the universal and

⁶⁸ Alfréd Berndorfer et al., *Egészséges És Beteg Gyermekek* (Budapest: Gondolat Kiadó, 1957).

⁶⁹ Albert Sabin, "Epidemiologic Patterns of Poliomyelitis in Different Parts of the World," in *International Poliomyelitis Congress* (New York: Lippincott, 1948).

⁷⁰ O.; Barsy Rudnai, G., *The Results of Salk Vaccination in Hungary as Measured on the 1959 Poliomyelitis Epidemic*, *Acta Microbiologica* (Akadémiai Kiadó, 1961).

untainted child was used for opposing means: Cold War cooperation and the reinforcement of nationalist and antagonist agendas.

The Innocent Child

One of the most striking features of polio as a disease was that it threatened what was perceived as the most vulnerable segment of society: children. Moreover, the victims of the disease were considered to be faultless in contracting the debilitating virus. There was no blame attached to their condition, no moral considerations to isolate polio patients, nor was it seen as a punishment for high risk or reprehensible actions or sins. Even parents were exempt from accusation of carelessness in the pre-vaccination years.

This does not mean however, that polio was without powerful symbolic weight. Cold War interactions over polio utilized military metaphors extensively, and polio treatment was imbued with military and industrial metaphors in the 1950s. Moral considerations, however, played little or no part in the understanding of the disease, which, together with the fact that polio did not affect the face or skin, led Susan Sontag to consider polio as “unmetaphorical.”⁷¹ I argue against the latter portrayal of the disease and, like Marc Shell in his book *Polio and Its Aftermath*,⁷² I also argue against the conclusion Sontag drew from it. As detailed in the following section, polio was laden with ideas of production and masculinity, and its prevention and treatment more often than not operated with a militaristic language.

However, the lack of moral issues that so much permeated sexually transmitted or contagious diseases connected to a particular social class or poverty is a crucial feature of

⁷¹ Sontag, *Illness as Metaphor and Aids and Its Metaphors*.p.127.

⁷² Marc Shell, *Polio and Its Aftermath : The Paralysis of Culture* (Cambridge, Mass.: Harvard University Press, 2005). pp.186-189.

polio. It opened a neutral moral space by putting forth an image that could be universally appropriated: a disease that unfairly attacked the ultimate innocents of post-war Hungary—children.

The innocence of children, by no means a new concept, gained additional momentum in the post-war era. Ideas of childhood that had become prevalent a few centuries back resurfaced in new ways after World War II. Preoccupation with innocence, parent-child relations and the rights of children significantly affected the way in which polio was talked about and acted upon in the 1950s.

The foundational, and still one of the most influential works on the history of childhood, Philippe Ariès's *Centuries of Childhood* (published in 1960, translated into English in 1962) argues that children were perceived as imperfect adults, emotional attachment between parents and children were not strong (mostly due to the high infant-mortality rate) and that the concept of the innocent child is profoundly modern and appeared sometime in the 17th century.⁷³

Ariès's view has since been intensely disputed. Some have warned against the anachronistic use of modern childhood concepts in historical analysis and have argued for the existence of childhood as a distinct developmental age.⁷⁴ In Hungarian historiography, Ariès's concept had been refuted by early-Modern historian Katalin Péter⁷⁵ and education historian Katalin Kéri,⁷⁶ who, based on personal documents aristocrats and an analysis of laws and regulations have argued that, although children

⁷³ Philippe Ariès, *Centuries of Childhood* (London: Random House, 1996).

⁷⁴ Shulamit Shahar, *Childhood in the Middle Ages* (London: Routledge, 1990).

⁷⁵ Katalin Péter, *Beloved Children: History of Aristocratic Childhood in Hungary in the Early Modern Age* (Budapest, New York: Central European University Press, 2001); Katalin Péter, "Gyermek a Történetírásban," *História*, no. 1 (1996).

⁷⁶ Katalin Kéri, "A Felnőttek Nagyított Gyermek?, " *Pedagógusképzés* (1998).

were perhaps much more integrated into the life of adults in the past, it does not mean that they were seen and treated as adults. Péter especially argues for the existence of strong emotional ties between family members and shows the public perception of the child in 16th-century laws that protect children as separate entities. A recent collection on childhood in the Middle Ages and the Renaissance goes further and demonstrates that the perception of childhood innocence can already be traced in 13th-century literary sources.⁷⁷

The visual representation of innocent childhood, however, is a modern phenomenon. It first appeared in the works of eighteenth century British portrait painters diffused into popular consciousness during the nineteenth century. Anne Higonnet explains the pervasiveness of these images: “Childhood innocence was considered an attribute of the child’s body, both because the child’s body was supposed to be naturally innocent of adult sexuality and because the child’s mind was supposed to begin blank.”⁷⁸

At this point, the popular perception of children and their innocence diverged slightly from scientific views. In fact, child sexuality has been a focus of psychiatric literature predating Sigmund Freud’s work.⁷⁹ While Freud himself stated that no one before him recognized the sexual instinct in children, this literature was definitely present in the nineteenth century—just not where Freud looked. Instead of the field of psychology, childhood sexuality came into the fore in medical literature. Furthermore, Freud did

⁷⁷ Albrecht Classen, ed. *Childhood in the Middle Ages and the Renaissance* (Berlin: Walter de Gruyter, 2005), pp. 3-8.

⁷⁸ Anne Higonnet, *Pictures of Innocence. A History and Crisis of Ideal Childhood*. (London: Thames and Hudson, 1998).

⁷⁹ Sally Shuttleworth, *The Mind of the Child: Child Development in Literature, Science and Medicine, 1840-1900* (New York: Oxford University Press, 2010).

acknowledge the presence of such cases, but argued that those only pointed to exceptional events.⁸⁰

Nevertheless, the image of the innocent child was not easy to escape in a scientific context and continued to inform ideas of childhood development. While doctors, such as Braxton Hicks, openly acknowledged the sexual feelings of children and downplayed the significance of puberty, others were more indecisive in their assessment. William Acton, for instance, when writing about childhood masturbation, vacillated between the innocence of children and the corruption of that innocence. He thought it was the duty of adults to protect children from such “corruption”—even with physical restraints..⁸¹

The idea of children’s innocence played a large role in forming children to be universal and politically neutral citizens in the early twentieth century. During and following World War I children were the primary publicity tool and main recipients of relief efforts, since their innocence protected them from being seen as enemies. Moreover, representing children as universal played an essential part in establishing the neutrality of humanitarian aid in the early years of the war.⁸²

International medical relief for children became an important component in foreign diplomacy from World War I, with the participation of international organizations, such as the Red Cross⁸³ and the Save the Children Fund.⁸⁴ The Declaration of the Rights of the

⁸⁰ Ibid.p.190.

⁸¹ Ibid.p.192.

⁸² Dominique Marshall, "Children's Rights and Children's Action in International Relief and Domestic Welfare: The Work of Herbert Hoover between 1914 and 1950," *The Journal of the History of Childhood and Youth* 1, no. 3 (2008).p.362.

⁸³ Julia Irwin, "Sauvons Les Bébés: Child Health and U.S. Humanitarian Aid in the First World War Era," *Bulletin of the History of Medicine* 86, no. 1 (2012).

⁸⁴ Friederike Kind-Kovacs, "Child Transports across and Beyond the Empire: World War I and the Relocation of Needy Children from Central Europe," *Journal of the History of Irregular Childhood*, no. Special issue: Displaced childhoods: forced migrations and youth welfare policies of the 19th and 20th centuries (Forthcoming).

Child, adopted by the League of Nations in 1924, a document not binding by international law, but rather perceived as guidelines, proclaimed rights specific for children for the first time and established adults' responsibility toward children.⁸⁵ The first, legally binding legislation to secure right of the children transnationally was the document of the same name, adopted by the General Assembly of the United Nations in 1959. It proclaimed the rights of children to medical care and to special education and treatment in case they were handicapped.⁸⁶ As shown in the section below, concern over the physical, mental and social developments of children at once became a unifying pursuit, but also created a battleground for ideological clashes in the Cold War era. Both of the declarations worked with a fluid concept of what a child was, as neither set any limit of age or any other criteria to define where childhood begins and ends.

The abstract idea of the child, a flexible term that could be added to give weight to a multitude of arguments has become so naturalized over the course of two centuries that it became a concept that is rarely questioned. Robin Bernstein argues that since the nineteenth century, childhood has been used to justify various, often opposing political positions.⁸⁷ While Bernstein analyzes American racial projects (and terms this dynamic *racial innocence*), her observation is valid in a wider context. In scientific and political reasoning, on national and international levels, the image of the innocent child was called upon to rationalize policies, voice concerns or promote cooperation. The innocent child

⁸⁵ "Geneva Declaration of the Rights of the Child of 1924," in *O.J. Spec. Supp.* 21, ed. League of Nations (Geneva 1924).

⁸⁶ United Nations General Assembly, "Declaration of the Rights of the Child," in *Resolution 1386(XIV)* (Geneva 1959).

⁸⁷ Robin Bernstein, *Racial Innocence. Performing American Childhood from Slavery to Civil Rights* (New York: New York University Press, 2011).

was a universal concept used on both side of the global divide, often with opposing ends: either going against or reinforcing Cold War antagonisms.

The Imagery of the Child in 1950's Eastern Europe

Throughout the Cold War, children were used extensively as symbols of the communist and democratic future and as innocent victims of the other's political system. Images of children were especially used during the Vietnam War to justify the political and military aims of all sides.⁸⁸ As Karen Dubinsky remarked in a recent piece: "While children rarely achieve political citizenship, the world's political posters provide an extensive visual argument that children are political subjects."⁸⁹

In the case of polio, the concept of innocent children was used to elevate the scientific, economic and political effort of curbing the disease above the global conflict. The innocence of children turned scientific work into a noble enterprise. The pursuit of a vaccine, developing treatment options and providing access to medical technology was furthered by the concept of protecting the universal child on both sides of the Iron Curtain. Meanwhile, this set of imagery was highly politicized and, as the next two sections show, connected to the physical reality of children and their place in society in the post-war era.

In her book, *The Lost Children: Reconstructing Europe's Families After World War II*, Tara Zahra argues that the post-war era was a time when "basic ideals of family and

⁸⁸ Margaret Peacock, "Broadcasting Benevolence: Images of the Child in American, Soviet and Nfl Propaganda in Vietnam 1964-1973," *Journal of the History of Childhood and Youth* 3, no. 1 (2010).

⁸⁹ Karen Dubinsky, "Children, Ideology and Iconography: How Babies Rule the World," *ibid.* 5(2012).p.33.

childhood were reinvented.”⁹⁰ Children were increasingly seen as a form of national property, as the European population was reshuffled in displaced persons camps, forced resettlement and mass migration. Exhibiting universally perceived values (and at the same time following an East-West divide, discussed in the section below), the figure of the child and its importance in the biological and political future of the nation became a central issue in reconstruction policies and emerging state systems. After a world war that permeated all areas of life and left basically the whole of European civilian population compromised in one way or another, children seemed to have remained the only innocent victims of the destruction.⁹¹ It was from this innocence that communist propaganda drew its powerful images.

On a national level, the representation of the child in communist societies was part of a complicated and layered perception of family. The patriarchal state thus acted like a parent to the child-citizens forming one national family. Within this superstructure nested the domestic family. Resources, tasks and responsibilities were shared among the members. The state—at least on a rhetorical level, much less in reality—provided healthcare, childcare, mass dining for the workers, who in return were expected to pay with their loyalty, their production and, most importantly, their reproduction.⁹²

On the one hand, the figure of the child was used as a model for adults and children alike. In Russia, visual and literary depictions of children in the Stalinist era showed children as “the ultimate model citizens of the Soviet state, more perfectly grateful than

⁹⁰ Tara Zahra, *The Lost Children. Reconstructing Europe's Families after World War II* (Cambridge, Mass.: Harvard University Press, 2011). p.x.

⁹¹ Ibid. pp.241-242.

⁹² Joanna Goven, "Gender and Modernism in a Stalinist State," *Social Politics* 9, no. 1 (2002).

any adult could be,” and their portrayal indicated expectations of citizenship.⁹³ We can see this strategy at work in Hungarian imagery as well, which looked to the Soviet example in much of the propaganda issues.

On the other hand, the child, happy and healthy, represented the bright future of the nation. Communist propaganda was one of promise: There might be hard times now, but we are all striving to build the ideal world in which our children will be living. “The chiming laughter of our children is carried far by the wind the people’s struggle is not in vain, they want to see their children laughing” captured the message of a poem published in the Hungarian women’s magazine *Nők Lapja* in 1952.⁹⁴

Children as the future of Hungary, based on Soviet practice,⁹⁵ were often contrasted with children of the past or contemporary children suffering in imperialist countries. Comparing the social benefits of childcare and the support of communism with the poverty and high infant mortality of the interwar era was a powerful way to communicate the superiority of the new regime. Furthermore, depictions of children fallen victim to racism and imperialist exploitation were invariably portrayed as unwashed, hair uncombed, ragged and emaciated—directly opposed to the round, pink, healthy and well-groomed young pioneers of the Eastern Bloc.⁹⁶

While the innocence and malleability of children was used to reinforce Cold War divides in the national rhetoric, the universal child served as a symbol of cooperation and key to world peace on the international scene. This symbol was, to a large extent,

⁹³ Kelly, *Children's World: Growing up in Russia 1890-1991* pp.110-111.

⁹⁴ Uj Rezső, “Kacagjanak a gyermekek” *Nők Lapja*, április 10, 1952. Citen in Katalin Kéri, “Gyermekeképünk Az Ötvenes Évek Első Felében ” *Iskolakultúra*, no. 3 (2002).

⁹⁵ Dina Fainberg, “The Future Generation of the Rival Superpower: Youth in Cold War Media Discourse,” in *9th Annual Aleksanteri Conference: Cold War Interactions Reconsidered* (Helsinki2009).

⁹⁶ Kéri, “Gyermekeképünk Az Ötvenes Évek Első Felében ”.

thoroughly politicized in Cold War interactions. Catriona Kelly argues that “in the peculiar circumstances of the Cold War, children’s rights, like other areas of international diplomacy, became an arena in which key points of political difference (the extent to which state control over the family was ideologically desirable, the importance or otherwise of explicit political indoctrination) could be brandished, and where set positions of hostility or rapprochement could be adopted. Significantly, it was not until the Cold War was coming to an end that a broader agreement about international standards of children’s welfare began to emerge.”⁹⁷

However, if we look at polio from the Hungarian angle, another story unfolds. In scientific and political exchanges over the disease, the fact that the virus attacked children created a common ground, a cause to unite efforts and disregard Cold War politics. The argument that “the Russians love their children, too,” as captured by the well-known song by Sting in 1985⁹⁸ was drawn upon when dismantling Cold War stereotypes in the evaluation of scientific results of vaccine testing.⁹⁹ Furthermore, as the following chapters show, governments on both sides of the Iron Curtain were ready to step over the boundaries of their own international and domestic politics in the name of children. In short, the rhetoric of protecting innocent children from polio played an important part in creating a safe haven on the troubled sea of Cold War politics.

The role of childhood and importance of the child in Cold War rhetoric often did not match everyday experiences in the 1950s. The ways in which the rhetoric used by the Hungarian communist state in social issues played out in governmental actions and in the

⁹⁷ Catriona Kelly, "Defending Children's Rights, "in Defense of Peace". Children and Soviet Cultural Policy," *Kritika: Explorations in Russian and Eurasian History* 9, no. 4 (2008).

⁹⁸ Sting and Sergei Prokofjev, *Russians* (Santa Monica: A&M, 1985), Single.

⁹⁹ See Chapter 4

experiences of women, families and children have been explored by feminist scholars,¹⁰⁰ and some aspects of it are covered in this dissertation. The distance between representation and experience does not mean, however, that they did not significantly influence policies. Professional organizations, governments and individuals drew on rhetorical elements to justify their policies, aims or support their claims and needs. . Children, therefore, played a role in creating a neutral place in the international and national politics of polio. The image of the innocent child, the role of scientists, governments and international organizations in protecting them from the harm of the debilitating disease offered the opportunity to transcend boundaries and political limitations.

Demographic Context and Pro-Natalism in Hungary

Children became the focus of the Hungarian government not only from a propagandistic view, but also from a demographic one. Between the years 1949 and 1960, 24.9 percent to 25.4 percent of Hungary's population was under fifteen years old.¹⁰¹ This means that in the 1950s, the most endangered age group that polio threatened constituted a quarter of the country's inhabitants. Following the demographic shock of World War II, the specter of such destruction elevated the significance of the disease and placed it front and center in the state's attention as polio epidemics became more frequent and more powerful throughout the decade.

¹⁰⁰ see Éva Bicskei, "'Our Greatest Treasure, the Child': The Politics of Child Care in Hungary, 1945-1956," *Social Politics* 13, no. 2 (2006); Goven, "Gender and Modernism in a Stalinist State."

¹⁰¹ Gyula Benda, "Budapest Társadalma 1945-1970," in *Magyarország Társadalomtörténete Iii. (1945-1989)*, ed. Nikosz Fokasz and Antal Örkény (Budapest: Új Mandátum, 1999).p.22.

As in many post-war societies, population politics became increasingly important in the wake of long years of devastating and bloody battles, deportations, genocide and starvation. In the course of the war, Hungary lost forty percent of its national wealth and over ten percent of its population, about one million people.¹⁰² A severely damaged infrastructure and housing shortage posed challenges for the post-war governments, and demographic problems were further exacerbated by the reorganization of industry and labor in the early years of the Communist takeover.

While the number of live births increased in the years following the war and between 1947 and 1950, the population increase stabilized at a rate higher than preceding the war (2.1 percent),¹⁰³ a more significant growth in the future labor force was needed to make up for the lack of resources and to fulfill the industrial goals of the new communist state. To further boost population increase, in 1952 the Hungarian government enforced a strict pro-natalist policy. The Hungarian government was not alone in introducing the policy, other Eastern European peoples' democracies also decided to ban the termination of pregnancies at this time.¹⁰⁴ While Hungary's method was nowhere near as extreme as the infamous abortion ban of Ceaucescu's Romania that was instituted over a decade later, the general idea and goal undergirding such pro-natalist policies was a shared attribute in the Eastern Bloc. As historian Gail Kligman put it, "Mobilization and control of the population were of critical strategic importance for the maximization of development potential, and attention to demographic phenomena was essential to securing long-term

¹⁰² Ignác Romsics, *Magyarország Története a XX. Században* (Budapest: Osiris Kiadó, 2001).

¹⁰³ Kéri, "Gyermekeképünk Az Ötvenes Évek Első Felében".

¹⁰⁴ Andrea Pető, "Women's Rights in Stalinist Hungary: The Abortion Trials of 1952-1953," *Hungarian Studies Review* XXIX, no. 1-2 (2002).

interests. In order to meet the relatively high labor needs of such economies, reproduction of the labor force became a priority planning item.”¹⁰⁵

The Decree on the Further Development of Mother and Child Protection was a short-lived regulation, with significant effects; in the years between 1953 and 1955, the population increase more than doubled, to 5.1 percent.¹⁰⁶ This jump was achieved by limiting access to contraceptive methods, by financial incentives and propaganda. Women were severely punished for undergoing abortions as were doctors who performed them. Public show trials of abortionist doctors and midwives began in the autumn of 1952 and concluded with exceptionally severe sentences.¹⁰⁷ All pregnant women were required to register at state offices and the state imposed a special tax on childless citizens over twenty years of age. If they had no children, women between twenty and forty-five and men between twenty and fifty years had to pay a tax equaling to four percent of their salary. Both women and men were exempt from the tax until the age of twenty-four if they were students.¹⁰⁸ Propaganda efforts went as far as to urge childbearing for both among married couples and those out of wedlock, emphasized by the slogan of the movement: “To give birth is a duty for wives, and glory for maidens.”¹⁰⁹

¹⁰⁵ Kligman, *The Politics of Duplicity : Controlling Reproduction in Ceausescu's Romania*. p.19.

¹⁰⁶ Kéri, "Gyermekeképünk Az Ötvenes Évek Első Felében ".

¹⁰⁷ Pető, "Women's Rights in Stalinist Hungary: The Abortion Trials of 1952-1953."p.53.

¹⁰⁸ *Határozat Az Anya- És Gyermekevédelem Továbbfejlesztéséről.*

¹⁰⁹ Pirooska Kocsis, "A Szövöszéktől a Miniszteri Bársonyszékig," *Archívnet* 6, no. 4 (2006).



Figure 2 The national bus-manufacturing company Ikarus started producing strollers in 1954 to meet the demand of the rising number of infants. Image from Féner, Tamás. *Kor-Kép 1948-1955*. Budapest: Magyar Távirati Iroda, 2007. p.269.

The pro-natalist policy was connected to the name of Anna Ratkó, Hungary's welfare minister and later health minister, and the only female member of government in her time. The population policies of the early fifties were soon labelled *Ratkó-era* policies and the members of the baby boomer generation, born between 1952 and 1956 are until today called the Ratkó children. However, according to the research of librarian? Piroska Kocsis, Ratkó had little to do with the development and implementation of the policy herself.¹¹⁰ A textile worker with a long history of activism in the communist movement, Ratkó, in her own words, “had nothing to do with health issues . . . Rákosi comrade told

¹¹⁰ Ibid.

me that I could not choose what I wanted to do. I had to do what the Party wished.”¹¹¹

Her career as a government member ended in April 1953, but her name forever became one with the exceptional period in Hungarian history of population policy.

From the beginning, the harsh anti-abortion decree met significant resistance from the citizens as well as from the state administration itself. Historian Andrea Pető has shown that those who did not want to have children found a way to have abortions independent of regulations.¹¹² The decree was enacted on February 8, 1953, and less than a month later, Joseph Stalin died on March 5. The new Imre Nagy government was not keen on enforcing the criminalization aspect of the decree, and certain parts of the regulation began to be revoked in the fall of the same year. From January 1, 1954, the government permitted abortions due to social considerations. The decree was finally fully revoked in 1956 to Soviet pressure.¹¹³

The brief period of increase in live births was soon followed by a sharp decline, after abortions became available and the childless tax was withdrawn. Statistics show that families simply rescheduled having children. There was no major increase in the number of children per families. Instead parents had the same number of children they would have had anyway, crammed into the few years while the decree was in effect.¹¹⁴ All this did lead to more children: by the mid- and late-1950s, there was a particularly large number of young children. This was also the time when polio epidemics began claiming more lives and affected the health of more children.

¹¹¹ Gyuláné Králl: Ratkó Anna visszaemlékezése életútjáról. (Interjú, 1979 január. Politikatörténeti és Szakszervezeti Levéltár). Cited in *ibid*.

¹¹² Pető, "Women's Rights in Stalinist Hungary: The Abortion Trials of 1952-1953."p.52.

¹¹³ Kocsis, "A Szövösztől a Miniszteri Bársonyszékig."

¹¹⁴ Klinger, "Magyarország Népesedése Az Elmúlt Negyven Évben."p.47.

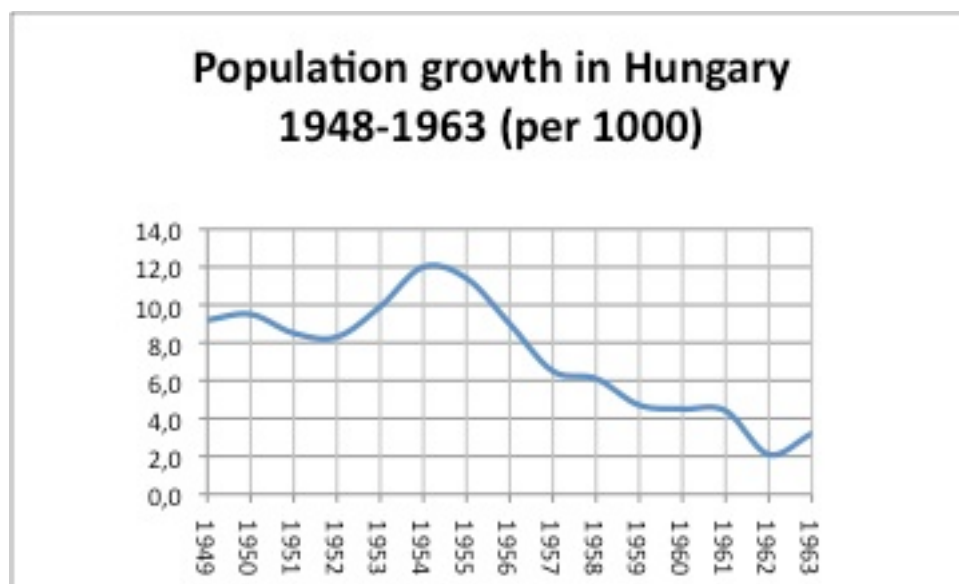


Figure 3 Population growth in Hungary between 1949 and 1963. Based on data provided by the Central Statistical Office. Központi Statisztikai Hivatal. "Népesség, Népmozgalom (1949-)." Budapest: Központi Statisztikai Hivatal, 2012.

Moreover, the state's concern with population growth was renewed with the lives lost in the 1956 revolution, coupled with a massive emigration of dissidents. More than 200,000 out of a total population of nine million citizens left when the revolution was suppressed, about forty percent of them industrial workers. According to Austrian official sources, between late October 1956 and the end of April 1957 over 180,288 people crossed the border from Hungary, most of them in November 1956. An additional 34,000 exited the country through Yugoslavia, after the Austro-Hungarian border was closed down. Between 8,000 and 10,000 of the emigrants returned during this time frame.¹¹⁵ About a quarter of the emigrants returned in the early summer in 1957, after the post-

¹¹⁵ Ernő Deák, "Adatok Az 1956-Os Menekülthullámról," in *Magyarország Társadalomtörténete Iii. (1945-1989)*, ed. Nikosz Fokasz and Antal Örkény (Budapest: Új Mandátum, 1999).p.72.

revolutionary Kádár government offered amnesty to emigrants who were not affiliated with revolutionary actions.¹¹⁶

The modernist communist state was highly invested in matters of demography. Its goals in industrial production rested on the sufficient workforce available, and for that it needed healthy and physically able children who grew up to be productive miners and steel workers.

Disabled bodies and post-war production

The modernist communist state was highly invested in matters of demography. Its goals in industrial production rested on the sufficient workforce available, and for that it needed healthy and physically able children who grew up to be productive miners and steel workers. Having gained insight into the significance of the disease in the scientific community and in the eyes of the state and the public, one more important aspect needs to be investigated to understand the particular space created by polio that is explored in more detail in the next four chapters. Polio was a debilitating disease that worked against modern ideas of production, in which able bodies were needed to do the work. In Hungary the disease made an entrance into the economic and political challenges of the post-war era paired with pervasive communist imagery that greatly affected how disability caused by polio was thought about and how treatment was conceptualized.

Changes in economic structure and production in the nineteenth and twentieth centuries placed physically disabled children in a new position. As part of a family unit and living in relatively small communities, disabled children were often integrated into

¹¹⁶ Romsics, *Magyarország Története a XX. Században*.

the family economy. However, an emerging market economy, the spread of wage labor and industrialization made it more and more difficult for disabled people to find employment¹¹⁷ Their disability became increasingly divided from the productive capacity of their able peers, and many became marginalized, especially in urban areas.

In parallel with physically disabled work falling out of the concept of production, philanthropic organizations became more and more involved in the care for the disabled, especially for children. Institutions for crippled children started cropping up in the late-nineteenth and early twentieth century that often functioned as homes, vocational schools and sites of medical treatment.¹¹⁸

The first such institution in Hungary, the Home for Crippled Children (*Nyomorék Gyermek Otthona*) was established in 1903 by the Ferenc Deák Masonry Lodge. As a charitable organization typical of its time, the leadership included barons and counts among its ranks.¹¹⁹ The association established to raise funds and manage the institution set forth as a goal “to establish asylums in Hungary for physically crippled (with the exception of blind, deaf-mute, moron) children and in these institutions to train crippled children of both sexes, without regard to religion or ethnicity in body and in mind, and provide them with medical treatment and education, and perhaps vocational training.”¹²⁰ The goal of the institution was primarily training future adults who can care for themselves, while medical care took a backseat.

¹¹⁷ Brad Byrom, "The Progressive Movement and the Child with Physical Disabilities," in *Children with Disabilities in America. A Historical Handbook and Guide*, ed. Philip L. Safford and Elizabeth J. Safford (London: Greenwood Press, 2006).

¹¹⁸ see for instance Seth Koven, "Remembering Dismemberment: Crippled Children, Wounded Soldiers, and the Great War in Great Britain," *American Historical Review* 99, no. 4 (1994).

¹¹⁹ Béla Kun, *A Fiatalokért Támogatásra Hivatott Jótékonycéllú Intézmények Magyarországon* (Budapest: Wodianer F. és fiai könyvnyomdai műintézete, 1911).p.146.

¹²⁰ *Nyomorék Gyermek Menhelye Alapszabálya 1903*. P.20. cited in Éva Bán et al., eds., *Száz Esztendő a Mozgáskorlátozott Gyermek Szolgálatában* (Budapest: Nádas Pál,2003).p.14.

The concept of children seen in policy-making as future workers has been present for centuries. As Colin Heywood points out, in the nineteenth century, “Campaigners against child labor in the factories liked to appeal to the self-interest of manufacturers, by suggesting that abuses risked compromising the future quality of the industrial workforce,” and, on a more patriotic note, also sought to protect them as future soldiers.¹²¹ Modern ideas of production soon became entwined with modern warfare that on the one hand requested the physical ability of a previously unseen number of citizens, and on the other hand turned out disabled bodies by the thousands. War-related disability in such large proportions presented the medical profession with new challenges (e.g., the production and design of prosthetic devices) and highlighted concerns over welfare systems from the mid-19th century onward¹²² War-veterans' disability often became entwined with children's disability, either in forming each other's perception and treatment,¹²³ or by playing a part in making disability invisible.

Hungarian sources do not reveal much about war disability after World War II. Veterans whose bodies were permanently distorted or mutilated on the battleground had been fighting for the bad cause. In fact, they were the enemy. The new Hungarian state was under the Soviet Union's political and military control, while its citizens a few years beforehand had been involved in armed conflict against that power on the side of Nazi Germany. The disability of war veterans thus raised an uncomfortable issue—the implication of the Hungarian population and their past relationship with Nazi Germany in the context of a new communist government. Silencing and erasure was the answer to

¹²¹ Colin Heywood, *A History of Childhood* (Cambridge: Polity Press, 2001), p.145.

¹²² Beth Linker, *War's Waste: Rehabilitation in World War I America* (Chicago: University of Chicago Press, 2011).

¹²³ Koven, "Remembering Dismemberment: Crippled Children, Wounded Soldiers, and the Great War in Great Britain."

this vexing problem, as veteran disability associations were discouraged and then outright forbidden, and disabled adults were pushed to the peripheries of the paternalistic state care.

Innocent children were a whole other matter. They were not tainted with the history of their forefathers and therefore were “safe” to openly address. Moreover, since their disability threatened the progress that the communist government had promised and strived for, the prevention and treatment of polio became highly important in the 1950’s. This does not mean, however, that disabled children were visible. Concepts of production and the individual’s role in society did not permit the visual contrast to the ideal that bodies ridden with polio represented.

Industrial production and the productive body became a focus of attention in the post-war era in many countries, albeit due to different reasons and with different attributes. Historian David Serlin has shown in the American context that “with the excitement of industrial production from a military economy still fresh, using one’s body remained one of the primary ways that citizens ... forged identities and affiliations with industrial economies.”¹²⁴

Key issues forming the prevention and treatment policies of the communist state were ideological conceptions of the body and particular visions of the role of individual in society. In this sense, the state expected and supported the construction of perfect productive bodies capable of performing physical labor, the base of the idealized worker-citizen. The muscular and healthy socialist body became a reference point, which, in the case of children, meant rosy cheeks and a plump figure. One hardly needed to look for

¹²⁴ David Serlin, "The Other Arms Race," in *The Disability Studies Reader*, ed. Lennard J. Davis (New York: Routledge, 2006).p.49.

signs of the healthy socialist body, as it was ever-present in public statues, book illustrations, murals and propaganda imagery.



Figure 4 Cover of women's magazine, *Nők Lapja*, from December 13, 1952

The pages of *Nők Lapja*, for instance, were filled with pictures of mothers and children bursting with health and happiness. This women's magazine was controlled by the Communist Party management and was an established medium to communicate the party's ideals to workers and peasant women. The editors made a point of presenting success stories about ideal socialist, productive women on a regular basis, in order to give the impression that the number of ideal women is constantly growing in reality and thereby to convince their readers to follow the example.¹²⁵ Since the magazine was illustrated with photographs as well as sketches, it gave an opportunity to the editors to display the ideal bodies to accompany the texts. Children were often represented on these photographs, for the task assigned by party ideology for the socialist woman was also to

¹²⁵ Schadt, "Feltörekvő, Dolgozó Nő". *Nők Az Ötvenes Években* P. 98.

maintain the ideological and bodily health of her children. Even if the theme was healthcare or women in the medical profession, the photos showed smiling, young women examining healthy-looking, round babies.

The bodies of children with polio deviated from these idealized forms. Spines distorted by muscle spasms, disfigured arms and immobile legs failed to meet the requirements of production and health demanded by communist ideology. Therefore, it became a central issue in polio care to return the diseased bodies of children to the normal and productive. However, as David T. Mitchell and Sharon L. Snyder argue, “The judgment that a mechanism is faulty is always already profoundly social. The need to restore a disabled body to some semblance of original wholeness is the key to a false recognition: that disabilities extract one from a social norm or average of bodies and their corresponding (social) expectations.”¹²⁶ The original wholeness to which polio children’s bodies were to be restored was one capable of becoming a productive member of the socialist society. The discourse surrounding the treatment of polio patients in newspapers embraced the struggle to reach the idealized body.

Children, whose bodies did not conform to the ideal and whose appearance threatened the early communist project were often hid from view. Magazines, newspaper articles and propaganda films showed healthy-looking, completely recovered, cheerful children,¹²⁷ while the disability of polio patients was secluded in polio hospitals and wards. Paradoxically, the same reasons which brought polio into the center of attention (preoccupation with ideal images of the socialist, productive body) also made its reality

¹²⁶ David T. Mitchell and Sharon L. Snyder, *Narrative Prosthesis. Disability and the Dependencies of Discourse* (Ann Arbor: University of Michigan Press, 2000). P. 6.

¹²⁷ "A Heine-Medines Mozgászavarok Utókezeléséről," (Hungary 1957). Gábor Vajda, "Visszaadják Őket Az Életnek," *Népszava*, March 26. 1961.

invisible. This ambivalent perception of polio, its publicly acknowledged importance and simultaneous invisibility and marginality, created a unique space in the society and politics of communist Hungary. Polio hospitals and wards became the terrain of contesting bodies of production and disability.

In a report about the Heine-Medin Post Treatment Hospital, the largest daily newspaper, *Népszabadság* wrote in a bright and affectionate tone that, “The community of the little patients lives in total isolation. They are not broken in soul like those who are teased by their healthy peers because they are temporarily crippled.”¹²⁸ The obvious solution was thought to be removing disabled children from society. Polio did not fit with the ideal socialist body, therefore the distorted and disabled bodies of the victims were undesirable to sight. The reminders of the disease could have compromised the image of the hard, but successful, struggle against polio that eventually led to victory.

Discussion about children with polio rarely appeared on the pages of newspapers and their images even less so.¹²⁹ Whenever they were depicted, their disability was undetectable. It could be a little boy standing still, a girl reading on a bed, really any child from the neighborhood. Disabled children were rarely talked about, let alone pictured. This was even true for the Heine Medin Hospital’s own internal magazine. In an article reporting about orphan- and state-ward polio patients being patronized by two factories, a sketch shows two industrial buildings with open arms and perfectly healthy, round little babies in diapers hurrying to them on their hands and knees.¹³⁰

¹²⁸ András Faludi, "Az Élet Nevében. Látogatás a Heine-Medin Utókezelő Kórházban," *Népszabadság*, March 7. 1958.

¹²⁹ Photographs and illustrations often appeared in medical literature, however, in this section I focus exclusively on representations of the socialist body and polio children in the popular press.

¹³⁰ "Heine Medin Híradó," (Budapest: Heine Medin Utókezelő Kórház, 1959-1963).

When stories did appear about the children with polio, they always depicted success. The children presented in them would invariably gain almost full recovery—disabled children remained to be invisible in spite of the visibility of polio: “[Treatments and surgeries] give more and more paralytic patients their health back, who can grow up to be productive adults.”¹³¹ Children with polio appeared only as future healthy children, rendering their disability invisible. One of the articles from 1957, which described the Heine Medin Hospital as a beautiful wonderland for children, quite bluntly gives an explanation why the work of the institution is so important: “A large number of the children are totally or partially recovered and are not a burden on society.”¹³² The function of the Heine Medin Hospital, therefore, was not perceived as an institution for disabled children, but one whose goal was to rehabilitate them to become a useful member of society by making their bodies productive, thereby rendering them *un-disabled*.

The scientific and political discourse on polio in Hungary fitted into a larger Cold War strategy—evasion. Severe public health problems concerning adults and the issue of war disability could be pushed to the background or even made invisible by concentrating on the health of children. Questions of inequalities in access to medical technologies (partly because of Cold War embargoes) could be escaped by the celebration of scientific cooperation. Finally, the common fight against polio rechanneled conversations on hostility: participation in a war on disease, instead of a Cold War on each other.

However, these mostly rhetorical evasions did create concrete opportunities for cooperation. The universal concept of the innocent child paved the way for international

¹³¹ Rózsa Fehér, "A Gyógyító Torna," *Magyar Nemzet*, January 24, 1956.

¹³² Rózsa Fehér, "Ötszáznyolcvan Újabb Ágy a Heine-Medin-Kórban Megbetegedettek Utókezelésére," *Magyar Nemzet*, September 10 1957.

conferences and budding international organizations to provide actual knowledge transfer and transnational assistance in times of polio epidemics. Scientific cooperation did lead to the development and trial of a vaccine that is still used today in global polio eradication efforts.

The four crucial attributes of polio discussed above all played an important part in shaping Cold War interactions between scientists, governments and citizens, with far-reaching ramifications. Medical communities, patients and public health regimes grappling with scientific uncertainties reached over international political divides in the name of children. The global nature of the disease facilitated research and kept the stakes of the disease high. The constant reminder of disability caused by polio contributed to the priority of the disease in comparison to other ailments and public health challenges.

The characteristics of polio were in constant flux. Some uncertainties became confirmed and stabilized knowledge, causing other uncertainties in the process. Meanings of the disease changed in space and time, reacting to and interacting with social, political and cultural changes on both sides of the Iron Curtain. The next chapters explore moments in the Hungarian history of polio in which the constantly changing and flexible disease mapped onto an equally fluctuating and shifting Cold War. In these flashpoints the various attributes of polio come to the foreground to highlight underlying problems or to be used by actors to achieve political or professional goals.

Chapter 2: “Parents, beware!” Vaccination efforts and the politics of prevention

The first heat wave of the summer came early in 1957. Newspapers reported on the unusually high temperatures, the crowded outdoor baths, and several articles assured the public that the industry was prepared and the beer production of the country will be indeed sufficient for the summer.¹ Later on, the heat got even worse, breaking records and turning the country into an oven. For relief, people stood in line for ice, crowded the banks of the Danube and flocked to the swimming pools as the temperature rose to 45°C (113°F).² The rise of temperature, however, caused much more to worry about than a place for one's towel by the public pool or the access to a cold alcoholic beverage: It also meant an increase in the infectious diseases of the summer,³ among them one of the most dreaded: polio.

Like the heat, the waves of polio came earlier than usual, adding to the concern. In the past, whenever polio epidemics hit Hungary, they came mostly in July, peaking in August and September.⁴ This time, however, numbers were climbing already in May⁵ and

¹ The availability of beer in the summer seemed to be a central issue throughout the years – an article on the first hot Sunday of 1959 (the year of the second largest polio epidemic) recounts of 1 600 000 glasses of beer sold in the country in one day. "Rekordforgalom Az Első Meleg Nyári Vasárnapon. A Villamosok Másfél Milliő Embert Szállítottak, 37 000 Fürdőző a Strandokon - 1 600 000 Pohár Sör," *Népszava*, June 9 1959.

² *37 Fok Árnyékban*, (Budapest: 1957), News coverage.

³ "Budapest Vezető Főorvosának Felhívása a Háziasszonyokhoz," *Népakarat*, June 13 1957.

⁴ The number of cases reported to the Health Ministry show the peak of the epidemic to be in August and September in the epidemic years 1954 and 1955 (with a high number of cases in July as well), and in September and October in 1956). Egészségügyi Minisztérium, "Bejelentett Heveny Fertőző Betegségek Magyarországon 1954-1959 Június Hóban," *Népegészségügy* 40, no. 8 (1959); Egészségügyi Minisztérium, "Bejelentett Heveny Fertőző Betegségek Magyarországon 1954-1959 Július Hóban," *Népegészségügy* 40, no. 9 (1959); Egészségügyi Minisztérium, "Bejelentett Heveny Fertőző Betegségek Magyarországon 1954-1959. Augusztus Hóban," *Népegészségügy* 40, no. 10 (1959).

were staggeringly high in June.⁶ While in a nonepidemic year, the annual cases averaged around 350, the health minister revealed that 599 cases had been already reported by late June. As the days passed, worry over the spreading disease was soon transformed into a growing fear, as more and more cases of polio were reported from various parts of the country. Parents in yet-untouched areas, like Budapest, started calling newspapers to find out more about the spread of the disease and preventive measures they might take.⁷ It was clearly an epidemic—a conclusion announced by the health minister in all major newspapers on June 27.⁸

In this chapter, I argue that the 1957 epidemic wave of polio, the most severe in the country's history, raised questions about who was responsible for children's health and for securing protection against the crippling disease. Polio at its worst tested the boundaries of the paternal state and its ability to maintain the wise, providing father role that it had set for itself. Responsibilities for polio prevention fluctuated between the head of the nation-family and the nuclear families.

Polio, primarily a disease of children in Hungary, raised the stakes for the state's provider role in public health. While healthcare was consistently low among spending priorities of spending and always took a backseat to the development of heavy industry in rebuilding the country from the war, it was also one of the key elements of the communist state that set the East apart from the West. Free access to healthcare for workers provided by the paternalistic state was a fundamental idea of how the system

⁵ Egészségügyi Minisztérium, "Az Egészségügyi Minisztérium Tájékoztatója Az Ország 1957. Évi Május Havi Járványügyi Helyzetéről," *Népegészségügy* 38, no. 6 (1957).

⁶ Egészségügyi Minisztérium, "Az Egészségügyi Minisztérium Tájékoztatója Az Ország 1957. Évi Június Havi Járványügyi Helyzetéről," *Népegészségügy* 38, no. 7 (1957).

⁷ "Budapestben Nincsen Gyermekebénulási Járvány," *Népakarat*, June 28 1957.

⁸ "Tájékoztató a Gyermekebénulások Megbetegedésekről," *Népszabadság*, June 27 1957; "Az Egészségügyi Minisztérium Tájékoztatója a Gyermekebénulások Megbetegedésekről És a Védekezés Módjáról," *Népakarat*, June 27 1957; *ibid*; *ibid*; *ibid*.

worked, or at least was supposed to work. Polio, with its debilitating effects and its patients' need for long-term treatment, visibly challenged this provider role and brought to light its faults and deficits. More importantly, the fact that polio affected children made it imperative to meet its challenge successfully. Central figures in communist propaganda, children were not only the symbols of a bright and productive future, but were also subject to the authority and responsibility of families that nested in the superstructure of the nation-family in which the government claimed a paternal role. Failing to preserve the health of children would undermine the basis on which the communist state forced the restructuring of economic, social and cultural reorganization.

Therefore, children's health, because of the crippling disease polio, broadened the space for cooperation and unlikely solutions in a Cold War environment. Striving for the health of children was a cause that created a safe space for the paternalist state and its citizens to negotiate responsibility and the distribution of tasks in providing for and preserving the health of the nation. Polio allowed the communist government to temporarily override and contradict its own political agenda in the name of children and worrying mothers and to overstep its conventional anti-Western rhetoric and reach out to dissidents of the 1956 revolution and to the Catholic Church. The space created by polio as a children's disease also gave opportunities to individuals to reach over or even to cross the Iron Curtain, or to resist the government in ways that would not otherwise be visible to the historian. The unlikely alliances formed through polio prevention were not imaginable in other circumstances, but were presented (and received) as unproblematic in the case of children threatened by polio.

Epidemics between 1952 and 1957

The epidemic wave of 1957 was not the first one to cause alarm in the country. Since 1952, polio epidemics had been on the rise and were becoming more frequent, with outbreaks in 1952, 1954 and 1956. The growing concern coupled with the escalating number of polio victims brought to the fore the particular demands of the disease and how those challenges spoke to the shortcomings of the Stalinist era. Moreover, the revolution in 1956 highlighted the importance of health and healthcare in maintaining the political and social order. At the same time, the continuous presence of the epidemic and preoccupation with preventing and treating the disease held sway over the rapidly changing governments. Looking through the lens of the disease, the years up to 1957 seem more homogenous than the political history of the era allows us to presume.

Each epidemic elicited response from a different government and the disease challenged each of them in slightly different ways. The outbreak of 1952 tested the new Stalinist government led by Mátyás Rákosi. In a time of forced collectivization, show trials, and a turn to heavy industry, the iron-fisted government was faced with a disease that worked against its propaganda and nationalistic goals. The second epidemic came in 1954, when Imre Nagy was leading the country for the first time and was turning away from the black years of heavy-handed rule following Stalin's death. This epidemic highlighted the faults of the healthcare system and the lack of resources available to meet the demand of specialized polio care for hundreds of children. The third epidemic came during the revolution of October 1956. In a country that came to a full stop in an uprising against the newly hardened communist regime, the epidemic crisis prompted innovative ways of battling a disease without transportation, communication and basic supplies.

Throughout the decade, two issues were constant. First, the waves of polio kept coming and the incident rate kept rising, no matter what government was in power. Second, the healthcare system was in a dire state. Hungarian governments had placed emphasis on industrial production, mining and agriculture, with health-related issues forced into the background in decisions about development. Therefore, it took a particularly long time for Hungarian medical and health facilities to reach their pre-World War II state and meet the challenges of universal healthcare in the 1950s.

Challenges

Post-war reports on local public-health facilities from 1946 paint a bleak picture. Buildings were heavily damaged, furniture destroyed and medical equipment scarce. In some towns and villages the medical offices had been bombed or appropriated by other organizations, like the police or military “who would not move out despite repeated requests.”⁹ Doctors were also hard to come by: Some of them “fled in 1944 and had not returned,” others had been “deported,” or “returned from Russian POW camp, but [were] unable to work.”¹⁰

The lack of physicians remained a key element in public health planning throughout the 1950s, as did the infrastructure of healthcare. The number of people with state health insurance grew from 1.2 million in 1938 to 6.4 million in 1956. By 1960, 84 percent of the population was fully insured by the Hungarian state,¹¹ however, the number of

⁹ László Pesta, "Jelentés Nógrád Vm. Területén Végzett Kiszállásról," in *Egészségügyi Minisztérium Iratai* (Budapest: Hungarian National Archives, 1946).

¹⁰ József Karossa-Pfeiffer, "Beszámoló Jelentés. Dr. Karossa-Pfeiffer József Közegészségügyi Felügyelő Által Bács-Bodrog Vármegye És Baja Thj. Város Területén Teljesített Felügyeleti Vizsgálatról," *ibid.*

¹¹ Anna Forgács, "Egészségügyi Rendszerek Mai Hatékonyságának Történeti Gyökerei" (Doctoral Dissertation, Péter Pázmány Catholic University Humanities Faculty, 2004).p.160.

healthcare facilities did not keep pace with the rapid increase in the number of potential patients.

The revolution of 1956 opened discussions about what was not working in the communist healthcare system. It was a rare instance when fundamental critiques and the admission of failure on several fronts were openly verbalized and gained publicity. The double-speak that permeates the archival materials of the time was lifted for a brief moment in professional meetings and newspaper reports that proceeded the days before the revolution.¹² In a meeting with leaders of health institutes on October 19, 1956, Health Minister József Román admitted that contrary to the first five-year plan, no new hospitals had been built. He pointed out that the growing demand for health services was met with the further overcrowding of extant facilities or the appropriation of facilities that were not originally intended for healthcare use.¹³ The minister also conceded that the areas of public health and epidemiology had been particularly neglected in the past years.¹⁴ The simultaneous outbreak of a revolution and an epidemic further exacerbated these conditions. Some hospitals and clinics were badly damaged during street battles, especially in Budapest¹⁵ By December, even basic hygienic supplies, such as soap, were hard to find.¹⁶

¹² One report written by the executive party committee of Budapest heavily criticized the Health Ministry for its excessive bureaucratization, its centralization and ineffective management of healthcare on over 30 pages. "Beszámoló," in *Vilmon Gyula iratai, Egészségügyi Minisztérium* (Budapest: Hungarian National Archives, 1956).

¹³ "Román József Egészségügyi Miniszter Egészségügyünk Problémáiról," *Népszava*, October 21 1956.

¹⁴ "Az Egészségügy Legégetőbb Problémái És Az Egészségügyi Dolgozók Rehabilitációja," *Népszava*, October 23 1956.

¹⁵ The teaching hospitals, which served as main healthcare providers were particularly hard hit in Budapest – Dermatology, Internal Medicine, Surgery, Ophthalmology, Gynaecology. The Bókay children's Hospital was also injured in a fire. "Van Építőanyag a Kórházak Helyreállításához, Vöröskereszt Táborikonyhák Létesülnek, Szappant, Mosóport, Ddt-T Kapnak a Kerületek," *Népakarat*, November 21 1956.

¹⁶ "Lesz Szappan," *Népakarat*, December 7 1956.

The revision of healthcare policies and the admission of shortcomings continued in the months following the uprising. The lessons of the revolution (soon to be termed by the regime as *counter-revolution*) were learned and the mistakes of the pre-revolutionary era openly admitted with the promise of change. The precarious state of healthcare and the discontent of doctors, a group with strong social support, clearly had a role in bringing the events of 1956 forth, as the new government was now particularly intent in demonstrating change and power in this arena. A polio outbreak with previously unseen force in the summer of 1957, however, challenged this goal in profound ways.

Prevention

Before mass vaccination became available in Hungary, the use of gamma globulin was seen as the most effective, although imperfect, prophylactic technology. Gamma globulin is a part of the human blood that is rich in antibodies and therefore can be used to boost a person's immune system. In the 1950s, it was used in the form of injections derived from blood plasma, to build passive immunity against a number of diseases. This serum was not readily available and its efficiency was debated in Hungary. The Health Ministry considered it to be an efficient way to curb both poliomyelitis and the measles,¹⁷ and since 1954 had used the serum to provide protection in nurseries and kindergartens in which they registered polio.¹⁸ In the early weeks of the outbreak of 1957, the

¹⁷ Egészségügyi Minisztérium, "Jelentés a Politikai Bizottsághoz Az Ország Közegészségügyi És Járványügyi Helyzetéről," (Budapest: Magyar Országos Levéltár, 1954). and Miklós Dr. Drexler, "Gyermekebénulás Elleni Védekezés," in *Drexler Miklós egészségügyi miniszter iratai* (Budapest: Magyar Országos Levéltár, August 18, 1956).

¹⁸ Dr. Drexler, "Gyermekebénulás Elleni Védekezés."

International Committee of the Red Cross transferred to the Hungarian Red Cross “a quantity of gamma globulin’ to help curb the disease.”¹⁹

A report of the Medical Research Council (Egészségügyi Tudományos Tanács)²⁰ in 1956, however, pointed out that according to its recommendation, gamma globulin was ineffective against polio and should be used only in measles and hepatitis prevention.²¹ Indeed, contemporary international medical literature argued²² that gamma globulin gave protection for a limited time only and needed to have been administered just days or weeks before exposure to poliovirus. This was, given the difficulties in polio diagnosis, impossible to do on a large scale. In any case, the quantity of available gamma globulin was limited, since it was produced from human blood. For this reason, it was not seen as a solution, especially since it had to be divided among measles and hepatitis prevention.²³

Prevention strategies involving technologies, such as the gamma-globulin serum, reveal conflicting evaluations among the medical community and the political leadership. While the serum did not promise an effective protection against polio, its risks were not

¹⁹ "Poliomyelitis. Papers Presented at the Fourth International Poliomyelitis Conference", (paper presented at the Fourth International Poliomyelitis Conference, Geneva, 1957). p.6.

²⁰ The Medical Research Council was established in 1951 by the Ministerial Council, as a consulting body to the Health Ministry. Its task was to recommend or provide an opinion on issues of medical theory and practice. The Medical Research Council, comprised of 20 members, also directed medical research in Hungary (it shared this responsibility with the National Academy of Sciences). György Dr. Gál, László Dr. Medve, and Dr. Rák Kálmán, "Az Ett Története," Egészségügyi Tudományos Tanács.

²¹ "Házi Feljegyzés," in *Zsoldos Sándor egészségügyi miniszter iratai* (Budapest: Magyar Országos Levéltár, July 6, 1956).

²² Since scientists commissioned by the Health Ministry took part in international conferences regularly and had access to major international journals, they presumably had knowledge of major research findings on gamma globulin, such as W.McD. Hammon, L.L. Corlell, and P.F. Wehrle, "Evaluation of Red Cross Gamma Globulin as a Prophylactic Agent for Poliomyelitis. Iv. Final Report of Results Based on Clinical Diagnoses.," *JAMA* 151, no. April 11 (1953).

²³ To achieve protection against polio for 3 weeks, 0.3ml per kg in bodyweight had to be administered – which would mean about 3-6 ml per child in a crèche (bölcsőde). According to a report from 1956, the widespread application of the serum is not possible because the total amount of available gamma globulin per month is 8000 ml, and has to be divided among measles and hepatitis as well. József Román, "Gyermekekbenulás Elleni Védekezés," (Budapest: Egészségügyi Minisztérium, 1956). Even if the government spent all the available serum on polio immunization, it still would have been only enough to provide 1300-2600 children with it on a monthly basis, with each dose not even covering a full month.

considered to be substantial. However, the use of the serum could compromise prophylaxis against other diseases. This shows a prioritization from the state, in which it considers the potential, limited effect of this particular technology in the prevention of polio to be standing above other, also common, childhood diseases. Thus, despite the conflicting views on efficiency and the limited availability of the serum, gamma globulin was officially considered to be one of several prophylactic tools that the state employed to protect its children from polio.²⁴

However, it seems that the limited availability of the serum was sometimes paired with confused perceptions of its usage.

“Soon after my son was diagnosed with polio in 1954, a big black car stopped in front of our house. Suddenly chills ran down my spine. The big black car usually meant that the political police was coming to take someone away. They knocked on our door and we opened it, trying to be as calm as possible. Two *ávós*²⁵ came in. They said that they heard that our son got polio, so they brought gamma globulin for him, hoping that it might help. This was very difficult to get at the time, but I guess they had special reserves. We thanked them and gave Gyuri the serum, but, of course, it was already too late for that. We wondered how they knew that our son was sick and why they wanted to help. My husband was a quite influential figure. He was the district vet in a rural area, but he was by no means favored by the system. They already took and nationalized his car by that time, for instance. Many years later he found out that his brother-in-law was an agent back then.”²⁶

While the confusion of treatment and prevention methods in this story highlight the uncertainties and lack of clear-cut ideas in the perception of the disease, the secret police’s involvement in such a way is telling of how access to goods, especially medical

²⁴ Passive immunization practice in the United States was similar, after the gamma globulin field trials in 1951. See “The Distribution and Use of Gamma Globulin: A Statement Issued April 20, 1953, by the Division of Medical Sciences of the National Research Council,” *Public Health Reports* 68, no. 7 (1953). Gamma globulin was used up to July 1957 in polio prevention, as new shipments were imported even in the days preceding vaccination with the Salk vaccine. “A Minisztertanács Intézkedései a Gyermekeparalízis Megelőzése És a Betegellátás Érdekében,” *Népkarat*, July 5 1957.

²⁵ Members of the political police. Although the political police was reorganized and renamed from Államvédelmi Osztály (ÁVO) to Államvédelmi Hatóság (ÁVH), the former name for its members continued to be used in the vernacular.

²⁶ Irén Dr. Vargha Jánosné Lázok, *Interview* (Debrecen: 2008).

supplies and care, worked at the time. In a still recovering post-war Hungary, resources for the average citizen were quite scarce. “I don’t think there’s a point in talking about poverty. After war displacement, the fronts moving about, we hardly had anything left, but as far as I remember, almost everyone was poor then,” recalled a polio patient.²⁷ Political networks, connections and even key professions could facilitate the access to certain goods or services, contributing to an informal economy of favors and exchange. In some occasions, it was these informal avenues of exchange and procurement that gained prevalence, with the blessing of authorities. These private and unofficial ways came forth and were supported by the state when a problem of fulfilling responsibilities, in this case, toward the health of children, arose.

In the mid-fifties, a more efficient technology became available: an inactivated vaccine developed by Jonas Salk in the United States, released to the market in 1955. The vaccine contained dead viruses that help the immune system of the body to develop defense against the poliomyelitis virus. Salk finished work on the vaccine in 1952 at the University of Pittsburgh, but years of trials were needed until the vaccine could be marketed to the population.

On April 25, 1955, a child previously inoculated with the Salk vaccine was admitted to the hospital with signs of polio. The following day, five similar cases were reported. All of these patients received vaccine produced by the Cutter Laboratories, and on April 27, the Surgeon General requested that Cutter recall all its vaccines. In the course of the next two months, 94 vaccinated patients, 126 family contacts and 40 community contacts

²⁷ Éva Paksáné Szentgyörgyi, *Email Interview* (Budapest: 2010).

were diagnosed with poliomyelitis²⁸ in what would be termed the *Cutter incident*. This situation had tremendous impact: It shook public trust in the vaccine, changed vaccine regulation and control in the United States and ultimately affected the story of another, live-polio vaccine developed by Albert Sabin.²⁹

Hungarian newspapers could not let the opportunity of the Cutter incident go by without using it as yet another example of the West's disregard for the well-being and safety of its citizens. In May 1955, the newspaper *Szabad Nép* accused the United States of rushing into the vaccination process without proper testing due to negligence, thereby making children guinea pigs of the free-market economy. Incidentally, the Cutter fiasco had the opposite effect in the U.S. and sparked contradicting criticisms: The American Medical Association (AMA) viewed the mass trials as paving the way for mass vaccinations, which raised fear of the Red Menace in the form of socialized medicine.

Sentiments softened toward the Salk vaccine in Hungary (though not in the U.S. necessarily) when renowned Russian virologist Mikhail Chumakov issued a favorable statement of the serum, published in Hungary in April 1956.³⁰ In subsequent years, use of the Salk vaccination spread widely throughout Europe with Denmark, leading the way in immunizing by 1957 the entire endangered population through free vaccination.³¹ The Netherlands started nationwide mass vaccination in 1957 along with Italy,³² while Britain

²⁸ Nathanson and Langmuir, "The Cutter Incident Poliomyelitis Following Formaldehyde-Inactivated Poliovirus Vaccination in the United States During the Spring of 1955."

²⁹ Oshinsky, *Polio : An American Story*., Offit, *The Cutter Incident : How America's First Polio Vaccine Led to the Growing Vaccine Crisis*. and James Colgrove, *State of Immunity. The Politics of Vaccination in Twentieth-Century America* (Berkeley: University of California Press, 2006).

³⁰ Cited in Radio Free Europe, "Polio in Hungary. Background Report," in *RFE News & Information Service - Evaluation & Research Section* (Budapest: Open Society Archives, 1957).

³¹ Dr. E. Juel Henningsen, "Poliovaccination in Denmark" (paper presented at the VIth Symposium of the European Association of Poliomyelitis, Munich, September 7-9 1959).

³² Pietro Crovari, "History of Polio Vaccination in Italy," *Italian Journal of Public Health* 7, no. 3 (2010).

organized immunization with the Salk vaccine a year later.³³ Of the Eastern European countries, in 1957 Czechoslovakia and Poland began using the Salk vaccination with domestically produced vaccine.³⁴

Plans to produce the Salk vaccine in Hungary started to form in June 1956, a year after it was introduced in the United States. In a report to the Ministerial Council, the Health Ministry deemed the production of the Salk vaccine “extremely complicated and expensive.”³⁵ Among the problems, the report pointed out, were inadequate laboratories. The virus department of the National Public Health Institute (NPHI) shared a building that had recently kept animals and the Humán vaccine production company was housed in a desolate space that did not permit expansion beyond the production of typhus and smallpox vaccines. Furthermore, a staff of 20 would have to be trained, to handle such duties as caring for the laboratory primates, and to serve as lab technicians and scientists.³⁶

A loan from the International Committee of the Red Cross was to be used for the developments needed for vaccine production, which included the establishment and building of a new institution in the NPHI. The Health Ministry wished to speed up the decision-making process, since even with the loan, it would take three years to build the required facilities.³⁷

³³ Ulrike Lindner and Stuart Blume, "Vaccine Innovation and Adoption: Polio Vaccines in the UK, the Netherlands and West Germany, 1955-1965," *Medical History* 50, no. 4 (2006).

³⁴ "Poliomyelitis. Papers Presented at the Fourth International Poliomyelitis Conference," *Fourth International Poliomyelitis Conference* (1957).

³⁵ József Román, "Gyermekbénulás Elleni Védekezés," in *Az Egészségügyi Minisztérium Iratai* (Budapest: Magyar Országos Levéltár, 1956).

³⁶ Román, "Gyermekbénulás Elleni Védekezés."

³⁷ Aladár Kátay, "Polio-Vaccina Termelése," in *Dr. Vilmon Gyula Egészségügyi Miniszter Iratai* (Budapest: Magyar Országos Levéltár, 1957).

However, before the Health Ministry would take a stand in the question of polio vaccine production, they stressed the urgent need for a study trip abroad to explore the details and to get sufficient training in the process.³⁸ The destination would be Denmark, a European center for polio research. Apart from sending two virologists (Dr. Elek Farkas and Dr. Sándor Koch) to Copenhagen, the ministry also recommended sending the director of NPHI to gain experience in organizing the logistics of production and two directors from Humán to study the control procedures.

It is not clear why the Health Ministry assigned such importance to the research trip when it was already apparent from the outset that few of the necessary conditions for the production of the Salk vaccine could be fulfilled without significant investment. Of course, pushing for a larger scientific envoy could have originated from personal reasons—a chance to enjoy “the West,” and to build professional and personal connections. But there is also the chance that the Health Ministry perceived that such a huge investment was indeed a realistic option for the government, to curb the crippling disease and dependency on the West at the same time.

In the end, only one person joined the scientists: Dr. Gábor Veres, director of the Human Vaccine Production and Research Institute. The three delegates spent over a month in Denmark,³⁹ studying vaccine production, and the process of vaccination. They

³⁸ Román, "Gyermekbénulás Elleni Védekezés."

³⁹ It is not easy to see how the scientific innovation and travels of Hungarian doctors fits into an overall view of Eastern European Cold War interactions, for literature on Eastern European history of medicine and health is scarce. Lily M. Hoffman's article, Hoffman, "Professional Autonomy Reconsidered: The Case of Czech Medicine under State Socialism.", tells us that Czechoslovak doctors' opportunities were much more limited than their Hungarian colleagues in this respect, which may as well be, but at the same time, Czechoslovakia was one of the very first countries in the world to conduct mass polio vaccination with the Sabin vaccine in the late 1950s. Taking into account the Hungarian case, together with the much-debated cooperation of the USA and the USSR in polio prevention, it is safe to say that the debilitating child disease did create a space that sometimes overrode political rhetoric and action. The fight against polio, in a

also presented their own virus research work and reported intensive interest from Danish scientists, who requested their written papers as well.⁴⁰

The delegation decided to head back to Hungary earlier than they originally planned, but were hindered in Vienna for a week and arrived back to Budapest after the military victory of the Soviet Union, on November 14.⁴¹ It is possible that they waited in Austria to see how the revolution was unfolding before reentering the country. Not surprisingly, reasons for an almost two-week trip back from Denmark were not detailed in the official documents submitted to the ministry.

The question, of course, arises: why did scientists come back to Hungary at all? A significant number of medical professionals left the country during the revolution, creating an obvious deficiency in doctors. A year later, the Health Ministry publicly called on them to return without any retaliation and offered them help finding work again.⁴² In an interview from 2006, Koch says that he thought a Hungarian's place was in Hungary. "The truth is that if you wanted to work, you could, even in that political system. Of course, there was not as much money and recognition as abroad. So I worked, I published a lot in journals abroad, I sometimes traveled and was okay I was at home"⁴³ This experience is similar to what the pediatrician Domokos Boda remembers. After a Swiss conference and study trip he took in 1954, he recounted feeling "that there was a point in all the work. What's more, you were could conduct successful research on

schizophrenic way, was also an avenue in which individual nationalist agendas and Cold War aspirations could be played out.

⁴⁰ Sándor Koch, Gábor Veres, and Elek Farkas, "Jelentés a Koppenhágai Tanulmányútunkról," in *Egészségügyi Minisztérium iratai* (Budapest: MOL 1957).p.1.

⁴¹ Ibid. p. 2.

⁴² "Két Érdekes Előadással Kezdődött Meg a Balatonfüredi Orvostkongresszus," *Népakarat*, September 27 1957. There is another explanation, though, for this open call – this was a strategy of the state to lure home and incarcerate revolutionaries.

⁴³ Károly Mezei, "...Isten Van, Az Ember Történi." *Koch Sándor Virologussal Beszélget Mezei Károly, Miért Hiszek?* (Budapest: Kairosz Kiadó, 2006).

an international level among the circumstances at home.”⁴⁴ Apart from the Danish trip, Koch had several occasions to revisit his commitment to staying in Hungary. Koch was, thus, not alone in remaining and working in Hungary as a more or less free choice. In 1961, he worked for a year with Nobel laureate André Lwoff in Paris at the Pasteur Institute.⁴⁵

The revolution, as in so many areas of life, had its effects on the polio epidemic in Hungary as well. While in the middle of the fight, surprisingly, a window opened that facilitated polio treatment with the establishment of a polio hospital by Imre Nagy. At the same time, it significantly hindered polio prevention. Plans of Hungarian vaccine production were stopped short in October 1956, only to regain some momentum in January 1957. However, the introduction of the Hungarian Salk vaccine would face one obstacle after the other. A detailed look at the eventual failure of Salk vaccine production shows that while the revolution did indeed affect the way the history of polio unfolded in Hungary, there is something inherent to the communist governmental practice that played a much bigger role. The story of the Salk vaccine provides yet another example of the fragmented way in which the state operated in the communist era; of the ways that ineffective ministries could not achieve action from multiple key actors in the process; and how whole policies and important developments could be buried in bureaucratic labyrinths.

First of all, obtaining the report about the Copenhagen experiences ran into serious problems. What seemed to be a crucial element in the plan for vaccine production in June 1956 turned out to be a major hindrance in the spring of 1957. In February, the document

⁴⁴ Boda, *Sorsfordulók*. p.57.

⁴⁵ Mezei, "...Isten van, az ember történik." Koch Sándor virológussal beszélget Mezei Károly.,

was still not prepared.⁴⁶ Nearly four months had passed since the research and study trip and the Health Ministry was growing impatient. Following several requests, the report finally arrived at the ministry on March 27, 1957, signed by the three members of the delegation. The 20-page document gave a brief account of the trip and detailed the steps necessary to start the vaccine production. At the time of the report submission, there was disagreement among the three authors about the buildings needed to house the laboratories, and Veres promised a separate report due in April to detail his opinion. In May, the ministry was still waiting for the document,⁴⁷ unable to move forward, stranded in the planning process that now spanned a whole year without any concrete results.

After nearly a year, plans for producing a polio vaccine eventually got lost in an attempt to fuse the virus department of NPHI with Human and thereby centralize virus research and vaccine production. “Domestic production of the Salk-vaccine is not possible yet, since there are no facilities that would meet the requirements for production and testing,” said the Health Minister in a newspaper article in late June.⁴⁸ The Health Ministry’s endeavor to merge the two institutions led to a tense power struggle, leaving a complicated paper trail of complaints infused with vitriolic comments.⁴⁹

The struggle between NPHI, Human and the Health Ministry points to the larger issue of a dispersed vaccine production and control, a structure that was inherited from the pre-war era and did not quite fit into the centralized notion of a communist healthcare

⁴⁶ Aladár Kátay, "A Humán Intézet Vírus Osztályának Átköltözése Az Oki-Ba," in *Egészségügyi Minisztérium iratai* (Budapest: MOL, 1957).

⁴⁷ Aladár Kátay, "Koppenhágai Tanulmányútról Jelentés," in *Egészségügyi Minisztérium iratai* (Budapest: MOL, 1957).

⁴⁸ "Az Egészségügyi Minisztérium Tájékoztatója a Gyermekebénulások Megbetegedésekről És a Védekezés Módjairól," *Népakarat*, June 27 1957.

⁴⁹ Kátay, "A Humán Intézet Vírus Osztályának Átköltözése Az Oki-Ba." And Benyó, "A Humán Vírus-Osztály Átvétele. Feljegyzés Dr. Vilmon Miniszterhelyettes Elvtárs Részére," in *Egészségügyi Minisztérium iratai* (Budapest: Hungarian National Archives, 1957).

organization.⁵⁰ Human was initially a department of a private pharmaceutical company, Phylaxia Serum Production Co. Ltd., established in 1924. The company was nationalized in 1948 and smaller vaccine and serum companies were merged with it, creating Phylaxia National Serum Production Institute under the auspices of the Ministry of Agriculture. The National Public Health Institute was established in 1927 with the support of the Rockefeller Foundation. Vaccine production was divided between these two institutions after the war, with Human producing diphtheria-tetanus-pertussis and smallpox vaccines and NPHI producing BCG, rabies and influenza vaccines.⁵¹ The production of this important, new vaccine sparked a rivalry among the two, and the Health Ministry was caught in a power struggle that ultimately hindered the introduction of domestic polio-vaccine production.

It would take two more years to achieve Salk vaccine production in Hungary. NPHI finally won the battle, and the laboratory was completed in August 1958. The 250 liters of the first batch of vaccine produced would be used in July 1959 as the fourth, a booster shot for children who had received all compulsory shots before that time. The NPHI planned to produce the maximum of 400 liters per year after that. However, Hungarian production would still not be able to cover the whole population's needs, as yet another import from the Soviet Union was needed to complement the domestic stock.⁵²

In early 1957 the state was still struggling to find an effective way of preventing polio in Hungary. Gamma-globulin prevention was costly and its effectiveness was not convincing to the medical community and the public-health administration. Domestic

⁵⁰ Sándor Koch, "Present Status of Specific Poliomyelitis Prophylaxis in Hungary" (paper presented at the VIth Symposium of the European Association of Poliomyelitis, Munich, September 7-9 1959).

⁵¹ Lajos dr. Hegedűs, *The History of Human* (Budapest: HUMAN Pharmaceutical Works Co. Ltd., 2003).

⁵² Aladár Kátay, "Vaccination against Poliomyelitis in Hungary" (paper presented at the Eighth European Symposium on Poliomyelitis, Prague, 23-26 September 1962). p.45

vaccine production was stalling, partly because of the long-term effects of October 1956 and partly because the structure of the public-health system had not yet crystallized. As the country was recovering from the upheaval of the revolution, concerns of polio remained in the background, until a new and powerful epidemic brought change in the summer of 1957.

The unfolding of the 1957 epidemic

As a matter of fact, the number of cases was higher than average already since the beginning of 1957, not just since the beginning of the summer. Why did then the health minister wait until the end of June to announce an epidemic? A closer look at the beginning of what became the most severe polio epidemic in the history of Hungary can inform us about what constituted an epidemic for the communist state.

From January on, the reported polio cases were mostly double, occasionally triple, as compared to the previous, epidemic year, and were up to 10 times that of other epidemic years' numbers.⁵³ Since the statistics of infectious diseases, among them polio, were routinely assembled by the Health Ministry and were published in a public-health journal every month, it is puzzling why the high number of polio cases throughout the year did not stir concern earlier and failed to prompt the government and health authorities to act on disease prevention. A look at a March epidemiology report explains this lack of concern with the assumption at the time that this increase could have been the aftermath of the late-autumn epidemic of 1956.⁵⁴ A year later, Dr. Otto Rudnai, an epidemiologist in the National Public Health Institute (Országos Közegészségügyi Intézet, NPHI), came

⁵³ For instance, according to data provided by the Health Ministry, while in March there were 4 reported cases in 1952, 6 in 1954 and 15 in 1956, 49 people were reported to have contracted polio in 1957. Egészségügyi Minisztérium, "Az Egészségügyi Minisztérium Tájékoztatója Az Ország 1957. Évi Március Havi Járványügyi Helyzetéről," *Népegészségügy* 38, no. 4 (1957).

⁵⁴ Ibid.

to the same conclusion.⁵⁵ On the other hand, it is equally rational to presume that the reason the government and public health authorities did not devote their full attention to the warning signs, had to do rather with the aftermath of the 1956 revolution.

Issues of public health, like epidemics, were, of course, much affected by the revolution. As were the ways in which numbers of epidemic cases were assessed and presented. While no records survive that reveal internal debates about polio epidemic cases, an example of how the infectious diseases report of February 1957 was edited by the Health Ministry before it made it to the public-health journal *Népegészségügy*, gives a general outlook on the process in which current politics interacted with scientific observations of epidemics. While during and after the revolution, polio cases rose to epidemic proportions, the number of measles cases plummeted. It was the lack of an epidemic, in this sense, that caused concern.

The original report included an explanation for this unusual decrease: Schools and kindergartens were closed for a significant time in the autumn and early winter.⁵⁶ The school year was disrupted by the revolution, many buildings were damaged or destroyed in armed conflicts, and many, among them teachers and students, fled the country, while others died in shootings or were incarcerated after the revolution was suppressed. This underlying knowledge was, however, cut from the published version by order of the health minister.⁵⁷ So thorough was the silencing around those October events, that such a seemingly harmless, epidemiological observation could not be widely spread. The case of

⁵⁵ "Tájékoztató a Gyermekbénulások Megbetegedésekről."; Otto Rudnai, "Az 1957. Évi Poliomyelitis Járvány. Közlemény Az Országos Közegészségügyi Intézet (Főigazgató: Bakács Tibor Dr.) Járványügyi Osztályáról (Osztályvezető: Petrilla Aladár Dr.)," *Népegészségügy* 39, no. 5-6 (1958).

⁵⁶ József Takó, "Az Országos Közegészségügyi Intézet Járványügyi Tájékoztatója 1957. Február Haváról," in *Állami közegészségügyi felügyeleti és járványvédelmi főosztály* (Budapest: Magyar Országos Levéltár, 1957).

⁵⁷ "Note to the Editor of *Népegészségügy*," in *Állami közegészségügyi felügyeleti és járványvédelmi főosztály* (Budapest: Magyar Országos Levéltár, 1957).

measles from this same period thus shows that political understandings of epidemics could form the way they were interpreted and that certain scientific explanations of their anomalies could be dismissed based on politically unacceptable reasoning.

Despite the problematic reporting and the initial hesitation to declare an epidemic, by the end of the June, it was obvious to all that this summer would be different. The health minister's polio report on the back page of the newspapers, planted among news of cinema, new inventions and accounts of enthusiastic workers, painted a bleaker and bleaker picture of the epidemic as the weeks passed. Since there was no known cure for polio, prevention became the primary focus in curbing the disease.

The responsibility of preserving children's health and keeping them from contracting polio was shared among the paternal state and the parents, usually mothers, being the primary figures of caretaking. Parents would contribute by keeping their household clean and preventing their children from over-exhausting themselves, while the state would impose bans and regulations to curb contagion and supply technologies of prevention.

The domains of responsibilities did not have clear boundaries and shifted back and forth between the state and the parents, between official and private spheres. As the responsibilities shifted in the fight against polio, they created a confusing web of expectations and blame from both parts. The communist state, which so often turned to tropes of family in its communication, positioning itself as the paterfamilias of the nation,⁵⁸ educated its citizens on disease prevention and called on them to join a mutual effort in curbing the epidemic.

In her article, "From Parent-State to Family Patriarchs: Gender and Nation in Contemporary Eastern Europe," Katherine Verdery, based on Romanian experience,

⁵⁸ see Kligman, *The Politics of Duplicity : Controlling Reproduction in Ceausescu's Romania*.

identified a familial relationship between the communist state and its subjects, which she termed as socialist paternalism. Verdery argued that the state “posited a moral tie linking subjects with the state through their right to share in the redistributed social product.”⁵⁹ In her observations, subjects are seen as grateful children in the eyes of the state, who appreciate every benefit that the state provides for them.

The Hungarian case follows this pattern, especially when it comes to welfare and healthcare issues. Myriads of newspaper and magazine articles, publications and even governmental documents employ the familial rhetoric, picturing the state as head of the family, the ultimate provider, and the happiness and gratefulness that is expected from the citizens, especially the mothers for organized childcare, workplace or public canteens, new healthcare networks and protection from polio in the forms of vaccines.

Looked through the lens of polio, the argument of the paternalist state articulated by Verdery can also include interaction between the parent-state (posed as a father) and the nuclear families (first of all represented in this national discourse as mothers and parents, but very rarely fathers). In some instances, such as ones analyzed below, the subjects—mothers, parents—moved from being the state’s children or wards to becoming partners in protecting and providing for the future generation.

This partnership was achieved in two ways. First, a quasi-partnership reminiscent of marital relations, based on a sexual division of labor, calling on women to adhere to their housekeeping duties and deliver hygienic conditions to curb the spread of the disease. At the same time, as the provider of the great family that was the nation, the state took on the responsibility to procure serums and vaccines against polio.

⁵⁹ Verdery, "From Parent-State to Family Patriarchs: Gender and Nation in Contemporary Eastern Europe." p. 228.

Though seemingly strong and unified, this nearly bankrupt communist state had difficulties in fulfilling the role it set for itself and did not fall short of transferring this responsibility to the parents in times of need or failure. In these exceptional occasions, private solutions came to the forefront to solve national problems, inverting the usual dynamics. In this second case, when the efforts to provide failed or were insufficient, a more complicated partnership was called upon, elevating subjects to be heads of the nation-family and giving the responsibility of children's health back to the parents, while the state stepped back as a mere facilitator.

Parents would follow the unfolding epidemic through the radio and newspapers in weekly reports that detailed the geographical spread of the disease and the number of people affected.⁶⁰ Mothers were called on take care to wash fruit and vegetables thoroughly and to make sure the children washed their hands before eating.⁶¹ Parents were also advised against letting children engage in excessive exercise like too much walking, intensive swimming, or spending too much time in the sun.⁶² Children under 3 years old would not be allowed to visit public baths and swimming pools,⁶³ a regulation that caused much suffering in the scorching summer heat. In order to preserve the cleanliness of baths and thereby curb the spread of infectious diseases, admittance into the baths and open-air pools was limited. Moreover, not only the number of people, but

⁶⁰ See for instance "Az Egészségügyi Minisztérium Tájékoztatója a Gyermekbénulások Megbetegedésekről És a Védekezés Módjairól." "Az Egészségügyi Minisztérium Heti Tájékoztatója a Gyermekbénulások Megbetegedésekről," *Népakarat*, July 4 1957. *ibid.*

⁶¹ "Budapest Vezető Főorvosának Felhívása a Háziasszonyokhoz," *Népakarat* June 13, 1957.

⁶² "Az Egészségügyi Minisztérium Tájékoztatója a Gyermekbénulások Megbetegedésekről És a Védekezés Módjairól."

⁶³ "Budapesten Nincsen Gyermekbénulási Járvány."

also the amount of time they spent at these facilities was capped, by issuing morning and afternoon tickets instead of full-day tickets.⁶⁴

At the onset of the epidemic, the Health Ministry released several films, with imposing titles, which were shown in cinemas across the country. Since television broadcasting started only a couple of months before⁶⁵ and its subscribers were scarce,⁶⁶ such propaganda films, shown in the news section in film houses were one of the most effective ways for the government to reach masses of people directly. The short film *Beware! (Vigyázz!)*⁶⁷ stressed the importance in polio prevention of personal hygiene and cleanliness of the home. Parents were advised not to let their children spend too much time in the sun, or swim or exercise excessively. For instance, a bicycle tour could expose the tired body to contagion. The film also instructed parents what to do if they noticed that their child has a bad appetite or if she is with fever. A doctor had to be summoned immediately, and if it was polio, ambulances were to take the sick child into hospital from any point in the country. The film also boasted that an airplane had recently been put into use to carry critical polio cases to hospital.

The state's preoccupation with cleanliness was not new. Silent propaganda films on contagious-disease prevention from the interwar period operated with identical imagery and conveyed the same message as its 1950s counterparts.⁶⁸ Health and hygiene had long been considered fundamental in preserving political stability. Foucault argues that

⁶⁴ "Budapesten Nincsen Gyermekbénulási Járvány - Mondja a Tisztifőorvos. Egészségügyi Okokból Korlátozzák a Fővárosi Strandok Látogatását," *Népakarat*, June 28 1957.

⁶⁵ Experimental broadcasting began on February 23 and broadcast available to the public began with the May Day celebrations on May 1, 1957. In: "A Magyar Televízió Története," In *Magyarország a XX. században*. (Szekszárd: Babits Kiadó, 1996-2000).

⁶⁶ According to 1958 figures, there were 16,038 television subscribers in the whole country a year after the broadcast started, while at the same time the total of 4,569 film theaters operated, reaching a much wider public for years to come. In: *ibid.*

⁶⁷ "Vigyázz!," (Hungary: Health Ministry, 1957).

⁶⁸ "Védekezzünk a Fertőző Betegségek Ellen," (Hungary 192?).

connecting physical and moral health with social order stemmed in the 17th century, as perception of death changed and power was increasingly “situated and exercised at the level of life, the species, the race, and the large-scale phenomena of population.”⁶⁹ Public-health practices and housing were (and are) tools through which populations were regulated. With the rise of germ theory and new directions in medicine developed in the 1870’s and 1880’s by scientists Louis Pasteur and Robert Koch, scientific approaches to power and population gained new momentum. Thus, by the 20th century, a germ-free, clean and organized home became central, both as a reality and a metaphor, to a strong and successful state.

Soviet ideals of hygiene followed the well-trodden path, arguing that clean living and working environments were crucial to preserving health. Tricia Starks argues that, “Soviet hygienists associated mental acuity, political orthodoxy, and modernity with lives lived according to the concepts of balance and reason. These presumed benefits from a regulated, hygienic lifestyle informed medical inquiry, education and state programs. Soviet hygienists believed that ordered lives produced healthy bodies and politically enlightened, productive and happy populations; strong bodies generated balanced minds that, in turn, choose the most rational, equitable, and inevitable of political, social and economic structures, namely, socialism.”⁷⁰ These ideals were transferred to Eastern European public-health perceptions,⁷¹ giving a new incentive to essentially the same hygienic goals as in the era preceding World War II.

⁶⁹ Michel Foucault, *The History of Sexuality. An Introduction.*, 1st Vintage Books ed. (New York: Vintage Books, 1980). P. 137

⁷⁰ Tricia Starks, *The Body Soviet: Propaganda, Hygiene and the Revolutionary State* (Madison: University of Wisconsin Press, 2008). p. 4.

⁷¹ As an explanation for such a continuity, Bradley Matthys Moore argues in his forthcoming dissertation that Czechoslovak public health officials and medical professionals were ready to take up the Soviet perception of hygiene without coercion, partly because celebrated Czech medical figures, such as Jan

It is easy to see, thus, why polio, an epidemic disease threatening the strong bodies of an ideal communist world would set the hygiene-propaganda machine in motion. The mechanism of poliovirus communication from person to person was surrounded by mystery at the time, and the medical profession had little more than hypotheses to work with. One of these theories emerged in the transitional moment of reconciling the “filth theory of disease,” Which sought to resolve epidemics with sanitary solutions, and the quite new, but less visible germ theory. The answer was that insects, similar to malaria, transmitted polio. The main culprit became the housefly.⁷² Dirt needed to be thoroughly purged in order to prevent germs from infecting the family.⁷³

In both pre- and post-WWII propaganda, maintaining a clean house, free of flies, and keeping an eye on the personal hygiene of children was the duty of mothers. As an example of how both controlling and maintaining the hygiene of spaces and people were feminine tasks, an article on polio prevention across the country informs readers that “women of the Red Cross are inspecting the baths and markets of Szolnok, and they are warning mothers to avoid busy areas with their children.”⁷⁴

Children thus needed to be protected from polio outside the home as well as within it, and special attention was to be paid to children’s communities. Summer was the time of organized vacations for children. City councils and the national and local organization of trade unions offered mass vacationing for schoolchildren at Lake Balaton, various

Purkyne, fit in easily within a broad understanding of Pavlovian physiology. Bradley Matthys Moore, "For the People's Health: Medical Authority and Marxist-Leninism in Communist Czechoslovakia, 1948-1956," in *American Association for the History of Medicine 2011 Annual Meeting* (Philadelphia2011).

⁷² Rogers, *Dirt and Disease. Polio before Fdr.* pp. 16-19

⁷³ Poverty and dirt were considered to be the hotbeds of the 1916 polio epidemic in New York City, which put the immigrant population living in tenements to the blame. See Oshinsky, *Polio : An American Story.*, Offit, *The Cutter Incident : How America's First Polio Vaccine Led to the Growing Vaccine Crisis.*

⁷⁴ "Országszerte Hathatós Intézkedésekkel Küzdenek a Gyermekebénulás További Terjedésének Megakadályozásáért," *Népakarat*, June 29 1957.

locations in hills, near thermal baths, and even in the capital. The pioneer movement also organized summer camps. The subsidized or free vacations lasted two weeks, providing care for over 200,000 children per summer.⁷⁵ These vacations were not only an opportunity for families of lesser means to secure a childcare and a summer experience for their children, they were also ideal grounds for any epidemic to spread quickly.

The same weekly newspaper reports that detailed the geographical spread of the disease and the number of people affected, gave notification of bans on public travel of children. The only way children could take part in summer camps, organized hikes and group vacations was if they carried a medical document proving that there were no reported cases of polio among their family members or in their immediate environment.⁷⁶ As the disease spread, the complete ban of organized travel for children under 14 years old to and from certain areas and cities, like the especially hard-hit Borsod, Abauj-Zemplén and Hajdu, the cities of Miskolc and Nyíregyháza, was imposed.⁷⁷ The geography of the banned areas kept changing over time, as it followed the disease.

Such regulations were not necessarily successful. Some children still traveled with their parents, which perhaps contributed to their contracting the disease,⁷⁸ while others remained in their isolated village and were the only ones coming down with polio in the community.⁷⁹ Many times the ban on travel was impossible to impose, and occasionally it was the ban itself that led to new cases when healthy children got trapped in epidemic centers. In late June 1957, Éva, then 6 years old, traveled from the westernmost part of

⁷⁵ V.M., "Harmincezer Iskolásgyermeket Üdültet a Szot, Kétszázezer Gyerek Megy Úttörőtáborba," *Népszava*, June 4 1959.

⁷⁶ "Az Ifjúság Csoportos Nyaraltatásának Egészségügyi Szabályai," *Népakarat*, July 2 1957. Also see *A Magyar Forradalmi Munkás-Paraszt Kormány 1027/1958 (Viii. 3.) Számú Határozata a Gyermekebénulás Elleni Védekezésről*, (1958).

⁷⁷ "Az Egészségügyi Minisztérium Heti Tájékoztatója a Gyermekebénulásos Megbetegedésekről."

⁷⁸ György Vargha, *Interview* (Debrecen: 2008), Interview.

⁷⁹ Erzsébet Szöllősiné Földesi, *Interview* (Budapest: 2010).

the country to the east with her parents for her grandparents' 40th-wedding anniversary. Only when they were already approaching Borsod County were they warned of a polio epidemic there and were advised by a fellow traveler to turn back immediately. It was too late, though, and upon arrival they were banned from leaving the county for two weeks. As her mother recounts:

“It was there that we learned that my niece's classmate died from paralysis in Miskolc. We also learned there that the initial symptoms of polio are like a simple cold. When we got home, my daughter got the cold. Next day she had a fever [...] At the children's hospital they performed a lumbar puncture, which confirmed the positive result. After that, my husband took her to the infectious disease ward, because she could not walk anymore. She was completely paralyzed, all her limbs from the neck down.”⁸⁰

The dissemination of information on the geographic spread of polio, travel bans and even on the nature of the disease itself apparently ran into certain problems. Éva's case was by no means unique.⁸¹ Many times parents only learned about the presence of an epidemic in their community when their child got ill.⁸² While parents could gather information on polio epidemics from the newspapers, radio, popular medical-advisory books,⁸³ this information was often disregarded unless there was an immediate threat.

The initial response to the unfolding epidemic threat of 1957 reached back to more broad and traditional concepts of disease prevention that put the responsibility of families, in this case parents in the center. Constraining the activities and movements of children were aided by guidelines issued by the Health Ministry, but was ultimately the tasks of parents, mostly mothers. Only when it became clear that the extent of this

⁸⁰ Ákosné Szentgyörgyi, *Email Interview* (Budapest: 2010).

⁸¹ see for example Vargha, *Interview*.

⁸² Dr. Vargha Jánosné Lázok, *Interview*.

⁸³ e.g. Andor Knoll, *Az Egészséges Gyermekek. Nevelési Tanácsok Szülők Részére* (Székesfehérvár: Magyar Vöröskereszt Egészségkultúrális Osztály, 1958).

particular epidemic was unprecedented and the hitherto practiced methods were no longer sufficient, did responsibilities toward the health of children begin to shift and fluctuate.

The West German hero

As the number of polio cases grew, it was more and more clear that something drastic needed to be done. The new government, busy with solidifying its power through imprisonment and executions, deemed it necessary to show its strength and ability to tackle public-health crises and protect the nation's children. Since domestic production was not possible, especially on such short notice, the government took several steps that, in light of how we usually think about Cold War politics and communist regimes, could seem surprising. The fact that the population group most at risk of polio was children opened avenues for contradicting actions and rhetorical twists. In a peculiar time of the Cold War, and in a post-revolutionary setting, the state found itself trying to curb the outbreak with the help of strange bedfellows.

Before the decision was made to import the Salk vaccine, the communist state had encouraged informal ways to ameliorate the unfolding epidemic. On June 27, 1957, Hungarians found the following announcement by the health minister and Dr. Aladár Kátay, head of the epidemiology department of the ministry in the weekly polio report of the party's daily newspaper: "We inform those who are attempting to acquire Salk-vaccine through their family members and acquaintances living abroad that the Health Ministry has contacted Customs and as a result, they will give priority to sending the packages that arrive from abroad and contain this medicine."⁸⁴

⁸⁴ Doleschall and Kátay, "Tájékoztató a Gyermekbénulósos Megbetegedésekről."

Policy regarding packages arriving from the West originated from the tumultuous months of the 1956 revolution and its aftermath. Access to vital goods such as medicine was as scarce as buildings and infrastructure were severely damaged, and as production and trade were recovering slowly after coming to a full stop. Additionally, a good portion of Hungary's population had left the country. In late November, to facilitate aid coming from private persons and—as a supplement to receiving help from international organizations such as the Red Cross—the Kádár government pronounced all packages containing food, clothing and medicine to be duty-free until July 1, 1957.⁸⁵

As the polio epidemic loomed on the horizon, the package policy was widened to include an expedited customs control in order to preserve the effectiveness of the delicate vaccines coming in personal packages.⁸⁶ Family members and friends had already started sending gift parcels⁸⁷ from abroad in March,⁸⁸ while some individuals chose to bring doses personally from official trips to the West to vaccinate their own children and neighbors.⁸⁹

What is remarkable in such a customs policy and the encouragement of personal aid from family members and friends living abroad is that through these announcements the state called on precisely the people it wanted to silence, punish or destroy: “dissidents,” who left the country at various occasions since WWII because of the communist regime. Most recently, 200,000 out of a total population of 9 million citizens left when the

⁸⁵ "Terjesszék Ki a Külföldi Ajándécsomagok Vámmentességét," *Népakarat*, December 5 1956.

⁸⁶ "Ügyészségi Intézkedés a Külföldről Érkező Salk-Szérumról," *Népakarat*, July 7 1957.

⁸⁷ Medical parcels coming from abroad were not isolated incidents peculiar to Hungary alone. A Czechoslovakian RFE report from 1954 writes in detail about foreign medicine parcels and remarks that the health ministry of Czechoslovakia must approve of them reaching their destination. Radio Free Europe, "Information from Czechoslovakia. How the State Gets Hold of Foreign Drugs," in *Bulletin #625* (Budapest: Open Dociety Archives, 1954).

⁸⁸ Radio Free Europe, "Polio in Hungary. Background Report.", 1.

⁸⁹ Erzsébet Kertesi, May 19 2009.

revolution was suppressed. Around 25 percent returned in the early summer of 1957, after the post-revolutionary Kádár government offered amnesty to emigrants who were not affiliated with revolutionary actions (some were incarcerated and/or executed anyway). However, most emigrants never returned and many spoke out ardently against the Hungarian Communist regime.

At the same time, the following was published in one of the major newspapers, *Népszabadság*, penned by the Health Minister Frigyes Doleschall, and the head of the epidemiology department, Aladár Kátay:

“As of now, the Hungarian production of the Salk-vaccine (the most effective vaccine against polio known today) is not possible. The Ministry tried last year and earlier this year to procure vaccine that would be enough to immunize five age groups. The hard currency needed for this was available, however, we did not succeed in importing a sufficient amount, since the Salk-vaccine is not in stock, and because its short expiration period, they only make it on order. Furthermore, it is a good drug and it is scarce all across the world. Negotiations are under way and it looks like it will be available early next year.”⁹⁰

In this statement, the ministry was clearly invested in explaining away its inability to deliver protection from polio for the population, something that could have been expected in the light of the role the state set for itself and the proclaimed universal healthcare it was theoretically providing. According to the above passage, the efforts were hindered only by outside forces—the specificity of the delicate serum's production and a market economy of shortage that Hungarians could easily relate to.

It is almost certain, however, that the Health Ministry alone could not have secured the hard currency and procured the vaccine: They needed the Ministerial Council's

⁹⁰ Dr. Frigyes Doleschall and dr. Aladár Kátay, "Tájékoztató a Gyermekbénulások Megbetegedésekről," *Népszabadság*, June 27 1957.

decision and approval for the intricate process that involved the allocation of credit, adjustment of economic plans and mobilizing foreign trade relations.

Nor was it true that the hard currency had been available for vaccine procurement. In a report submitted to the Ministerial Council, Frigyers Doleschall, the health minister, pointed out that, "The National Planning Bureau in 1956 was unable to fulfill the Health Ministry's hard currency need for importing Salk vaccine this year."⁹¹ Clearly, the Health Ministry alone was too weak to push its agenda through. Something drastic needed to be done, involving the highest level of decision-making, to succeed in importing the vaccine.

A week after notifying the public about the lack of Salk vaccine and the difficulties in securing a shipment, on July 4, 1957, at a meeting of the Ministerial Council on the polio epidemic, Jenő Bacsoni, deputy minister of foreign trade, revealed a plan to secure a shipment of the vaccine. He informed the council that they have found a way to import Salk vaccine originating from Canada through Denmark. This quantity would be enough to vaccinate 150,000 children. Furthermore, they received notice that Czechoslovakia had recently been recently able to import a larger amount of vaccine, from which they could borrow a portion that they could return once the Danish shipment arrives.⁹²

Now that the possibility of mass vaccination was becoming a reality, the Ministerial Council did not hesitate to quickly revoke the generous policy on personal packages containing vaccines, coming from the West.

⁹¹ Frigyes Doleschall, "A Járványos Gyermekbénulás Elleni Védekezés Időszerű Feladatai. Előterjesztés a Magyar Forradalmi Munkás-Paraszt Kormányhoz," ed. Minisztertanács (Budapest: Magyar Országos Levéltár, 1957).

⁹² "A Járványos Gyermekbénulás Elleni Védekezés Időszerű Feladatai. Vita. ," ed. Minisztertanács (Budapest 1957).

“... in order to curb hysterical phenomena, the public announcement [regarding polio issues] should include a statement that calls on the population to put a stop to their individual actions, in which they are trying to bring in vaccine through relatives and acquaintances living in Western countries, because the Government provides the sufficient quantity of the vaccine.”⁹³

Regaining provider status and setting the familial dynamics of the parent-state and child-citizens was so important for the government that even before the state was able to solve vaccination with certainty, the process of reinforcing the lines of responsibility over health protection started.

After a year of going back and forth on domestic vaccine production, the pace clearly quickened. Still the same day, the Ministerial Council issued a decree that put forth a comprehensive program of polio prevention.⁹⁴ The council ordered the health minister and the minister of foreign affairs to import sufficient vaccine for the immunization of children from 6 months to 5 years of age. The two ministers were also instructed to import gamma globulin as needed from Czechoslovakia and the GDR. This time, the ministry of finance and the National Planning Bureau received their orders from the highest ranks, in the form of the decree to secure sufficient funds and hard currency for vaccine procurement and to let the health minister have access to these monies without delay. In the decree, the government also included an official announcement that called on the public to refrain from procuring vaccine by private methods. A summary of the decree was already published in the newspapers the very next day,⁹⁵ assuring parents that the state, was indeed in control again.

⁹³ Ibid.

⁹⁴ "A Magyar Forradalmi Munkás-Paraszt Kormány Határozata a Járványos Gyermekbénulás Elleni Védekezés Időszerű Feladatairól," in *1062/1957/VII.6./Korm* (1957).

⁹⁵ "A Minisztertanács Indézkedései a Gyermekparalízis Megelőzése És a Betegellátás Érdekében," *Népakarat*, July 5 1957.

After these initial obstacles, the promise of a polio-free future arrived on a small airplane that appeared above the skies of Budapest around 8 p.m. on July 13, 1957. A quite prestigious group, including the vice-president of the Presidential Council of the People's Republic of Hungary, greeted its West German captain at the airport. The Communist Party official shook the hands of the Western pilot in the name of all Hungarian mothers, while experts from the Health Ministry and the National Public Health Institute inspected the cargo: a long-awaited shipment of Salk vaccine.⁹⁶

The scene of the vaccine's arrival was captured in a new polio short film: *Parents, be careful!* While the previous film, *Beware!* concentrated on what parents can do to protect the health of their children, this later movie stressed the actions of the government in polio prevention. After going through the usual hygienic advices of washing hands and keeping flies at bay, the film went on to provide details of polio care. The representation of therapy at once emphasized the grave consequences of polio (e.g., children "have to learn to walk all over again") and soothed these images by presenting the high-quality care provided by the state ("highly nutritious, abundant meals contribute to healing in the hospital").⁹⁷ Then, the film arrived at its climax: assuring parents that they need not fear this terrible child disease any longer, thanks to the government's heroic efforts.

"By a decree of the Ministry Council, through great difficulties, the Salk vaccine has arrived. Worrying parents had paid as much as 1000 Ft⁹⁸ for the vaccine in the past, but now everyone can have access to it for free. Vaccination has begun with the help of Red Cross activists. Parents, worry no more, now we can protect your children from infant paralysis."⁹⁹

⁹⁶ "Szülők, Vigyázzatok!," (Hungary: Health Ministry, 1957); "Július 18. És 19-én Megkezdődik a Gyermekbénulás Elleni Védőoltás. Az Egészségügyi Minisztérium Hivatalos Tájékoztatója," *Népakarat*, July 14 1957.

⁹⁷ "Szülők, Vigyázzatok!."

⁹⁸ This most likely exaggerated number serves as an obvious reference to vaccines available on the black market. As a comparison, the monthly average wage of an iron and steel worker was 1,602 Ft "Hungary's Iron and Steel Industry," in *Hungarian Evaluation and Research* (Budapest: Radio Free Europe, 1959).

⁹⁹ "Szülők, Vigyázzatok!."

From where were parents getting vaccine beforehand? Why was this Westerner greeted with such ceremony? The next section explores this pivotal moment in the Hungarian history of polio and the story of the Salk vaccine's introduction, to argue that the fight against polio created space in which existing political agendas could be temporarily overwritten. When the state was unable to provide vaccine or its supplies proved to be insufficient, preserving the health of children became the pretext on which the communist government could reach out to unlikely allies. For the sake of the children, dissidents could become extended family members, and Catholic priests could become welcome comrades.

The vaccine, whose arrival was dramatically depicted in news broadcasts,¹⁰⁰ made its way though a complicated route to Hungary. The crates, containing the precious vaccine that was developed in the United States, was manufactured and shipped from Canada, traveled to Amsterdam, where a West German pilot on a Swiss airplane picked it up and flew with it over the Iron Curtain, arriving to Budapest.

This route of the first official vaccine shipment is symbolic for international cooperation in the struggle against polio. The practical execution of transporting polio vaccines was an enterprise that, in its official rhetoric, challenged Cold War concepts and claimed to override geopolitical tensions in the name of science and for the benefit of children. Moreover, with the arrival of the vaccine, this rhetoric made an appearance in public in Hungary. While the description of international cooperation was carefully embedded in the much more familiar discourse of the paternal state providing for and protecting its subjects, such a carefree and positive tone completely devoid of lashing out

¹⁰⁰ "Szülők, vigyázzatok!," (Hungary: Health Ministry, 1957);

against the West stood out from the everyday articles and newsreels that most Hungarians were exposed to. For the sake of the health of children, instead of being an imperialist spy or a decadent oppressor, this West German became the celebrated hero of the day. The nameless pilot—referred to as “a tall, black-haired man”—said he volunteered for the flight on his day off, when he heard that it is a much-needed shipment of vaccine for the children of Hungary. “If only everyone was like this,” wished the vice-president of the Presidential Council in the newspaper article covering the arrival of the vaccine.¹⁰¹ The government considered the vaccine to be so important and the need to communicate its final success in securing it for the children so pressing, that the party newspaper could contradict its own pages in depicting this fruitful cooperation.

The same story unfolded in different ways on the opposite sides of the Iron Curtain. The news of the severe polio epidemic made it into international press, which in the aftermath of the 1956 revolution, was very interested in Hungarian affairs.¹⁰² Interestingly, while Hungarian sources stressed the high cost and debt that the government took upon itself to import the vaccine, American newspapers talked of “aid” when it came to the Salk shipment.¹⁰³

An explanation of the difference in the representation of those credited for the Hungarian vaccination can be found in contemporary international politics. In the years following the suppression of the revolution that broke out against the communist regime in October 1956, Hungarian-American diplomatic relations were at a low point.

¹⁰¹ Dániel Nagy, "250 000 Köbcentiméter Salk-Vakcina Érkezett. Az Egészségügyi Minisztérium Tájékoztatója," *Népszabadság*, July 14 1957.

¹⁰² "Polio Epidemic Feared," *Washington Post*, June 5 1957; "Salk Expects End of Polio Some Day," *New York Times*, July 9 1957; "Hungary Battle Polio," *Washington Post*, July 2 1957.

¹⁰³ "World Polio Cut by Salk Vaccine. Hungary Aided in Polio Fight," *New York Times*, July 10 1957; "Budapest Receives Canadian Polio Aid," *New York Times*, July 14 1957.

According to the Foreign Ministry, “Among all capitalist countries ... relations [were] the worst with the United States.”¹⁰⁴ The conflict between Hungary and the United States was exacerbated by the formation of a United Nations Committee set up to investigate the Soviet intervention and the actions of the Kádár government. The relationship between the two countries turned so icy that the American ambassador Edward Wailes was recalled in the spring of 1957 and the embassy in Budapest was left without an ambassador for the next 10 years.¹⁰⁵ The United States, therefore, could easily have been invested in portraying the Hungarian government, which the Americans perceived to be borderline illegitimate, as one needing outside help, rather than being capable of solving its own problems.

At this point in the story of polio prevention, the Hungarian state was more flexible in its Cold War politics than its American counterpart. While the revolution of 1956 deepened the Cold War divide for the United States, the Hungarian government used some of the outcomes of the uprising to lift the Iron Curtain and temporarily allow personal avenues to penetrate the barrier between the East and West. In fact, the shipment of the treasured vaccine was preceded by personal packages containing single doses and over a year’s effort for domestic production.

Vaccinating the nation

After the first official shipment of the Salk vaccine, nationwide immunization soon started. To ensure sufficient tools for the mass campaign, the Hungarian Army lent

¹⁰⁴ László Borhi, *Iratok a Magyar-Amerikai Kapcsolatok Történetéhez 1957-1967*, ed. Mária and Vida Ormos, István, *Iratok a Magyar Diplomácia Történetéhez* (Budapest: Ister, 2002).

¹⁰⁵ *Ibid.* p.20.

sterilization equipment and syringes to the Health Ministry.¹⁰⁶ The vaccine was free of charge, and getting inoculated was organized on a voluntary basis. The Health Ministry headed the distribution and administration of the vaccine, while public-health stations were responsible for the local organization. Vaccination teams consisting of physicians and technicians administered the vaccine, and in some cases, the district doctor¹⁰⁷ or a private practitioner¹⁰⁸ gave the shots to the children.

However, the vaccine initially procured by the Hungarian government was not enough to vaccinate all of the children. Already the day following the breaking news of the vaccine's arrival, the newspaper *Népakarat* suggested that people keep their enthusiasm in check: The shipment of 250,000 cm³ Salk vaccine was just enough to vaccinate the most endangered age group of children between 1 and 2 years old.¹⁰⁹ A week later the vaccination was administered in Budapest and in eastern Hungary, the area that was most hard hit by the disease, while other parts of the country were vaccinated in yet another week. The second dose of the vaccine was to be administered four weeks after the first dose.

The vaccination was free and voluntary, although parents were strongly encouraged to get their children vaccinated. Parents needed to take their children to the local mother and child protection facilities, on a designated day according to the alphabetical order of

¹⁰⁶ I. Benyó, "Gyermekebénulás Elleni Folytatólagos Védőoltások Szervezése," in *Egészségügyi Minisztérium iratai* (Budapest: Magyar Országos Levéltár, 1957).

¹⁰⁷ Aladár Petrilla, *The Results of Intracutaneous Poliomyelitis Vaccination in Hungary, 1957*, Acta Microbiologica (Budapest: Akadémia Kiadó, 1958). pp. 198-200.

¹⁰⁸ According to the report of the Microbiology Department of the Budapest Medical University, 80 000 children received vaccine through private practice by the end of the year. Ilona Szeri, Pál Földes, and Szilárd Bognár, "Adatok a Poliomyelitis Elleni Intrakután Védőoltás Kérdéséhez," *Orvosi Hetilap* 100, no. 38 (1959). p.1364.

¹⁰⁹ "Beoltják Gyermekebénulás Ellen Az 1-2 Éves Gyermekeket: Külkereskedelmi Szerveink Már 250 000 Köbcenti Vakcinát Szereztek," *Népakarat*, July 10 1957. and "Gyermekeparalízis Elleni Védőoltás Az 1-2 Éves Gyermekek Számára," *Népszabadság*, July 10 1957.

the children's family names. Although the vaccination was organized according to permanent residence,¹¹⁰ it was not limited to where families lived. For example, if someone was on holiday elsewhere or traveling between the two vaccination dates, they did not need to return home to receive the vaccine.¹¹¹ This aspect of the how the vaccination was organized probably made sense at the time. A lot of people were traveling in the summer, especially children who, in the summer holiday away from school, were often deposited for weeks at grandparents and family members while their parents were working. However, this facilitation of vaccination also contributed to problems later, when it became difficult to track down who was vaccinated and how many doses they had received.

The concept of free vaccination, administered on a mass scale was a particular point of conflict and comparison between the two sides of the Iron Curtain. It was the ultimate representation of socialized medicine, a sign of the Red Menace in countries like the United States. In the home country of Salk, his mass field trials in 1954, and the mass distribution of the vaccine the following year by the National Infantile Paralysis Foundation rang alarm bells. The fear of socialized medicine and of physicians being excluded from the vaccination process mobilized the medical profession to protest and lobby against low-cost, mass immunization—with success.¹¹² Ironically, the AMA (as a tool in protecting its professional territory) was using Cold War rhetoric against a process that was organized by not the government, but a foundation. One that, in fact, opposed

¹¹⁰ "Csütörtökön És Pénteken Kapják Az Első Védőoltást Az 1-2 Éves Gyerekek," *Népakarat*, July 16 1957.

¹¹¹ "Július 18. És 19-Én Megkezdődik a Gyermekbénulás Elleni Védőoltás. Az Egészségügyi Minisztérium Hivatalos Tájékoztatója," *Népakarat*, July 14 1957.

¹¹² Oshinsky, *Polio : An American Story*. p.

any federal support or intervention in its mass trials and vaccinations because of those same reasons: that it would reflect Communist thinking and would be un-American.¹¹³

Meanwhile, in Hungary, the vaccination program was not contested in any way, at least not on a professional and political level. This was, after all, socialized medicine, where doctors were appointed by local councils, and virology and public-health departments answered to the Health Ministry. While many issues could spark battles among administrators, party officials and healthcare professionals, free vaccination on a mass scale was not one of them. However, there must have been some sort of suspicion toward the vaccine among the population, as some parents did not choose to vaccinate their children.¹¹⁴ Some even went as far as to write a statement about their choice.¹¹⁵ The communist government pointed fingers to an alleged counter-propaganda against vaccination, which reveals that at least a certain level of resistance among the population must have been perceived. Such a threat to the vaccination program was taken so seriously that legal action was advised to anyone engaged in counter-propaganda against the Salk vaccine, with up to one year of imprisonment, based on laws on “criminal law protection of the democratic state order and the republic” from 1937 and 1947.¹¹⁶

¹¹³ Ibid. p. 200. and Colgrove, *State of Immunity. The Politics of Vaccination in Twentieth-Century America*. pp. 121-124

¹¹⁴ "Az Egészségügyi Minisztérium Tájékoztatója a Gyermekbénulások Megbetegedésekről," *Népszava*, July 21 1959.

¹¹⁵ Olga Ábel, "Eddig 67 000 Gyereket Oltottak Be Salk-Vakcinával a Fővárosban Az Új Akció Kezdeté Óta," *ibid.*, August 7.

¹¹⁶ Benyó, "Gyermekbénulás Elleni Folytatólagos Védőoltások Szervezése." 2. sz. betétlap.

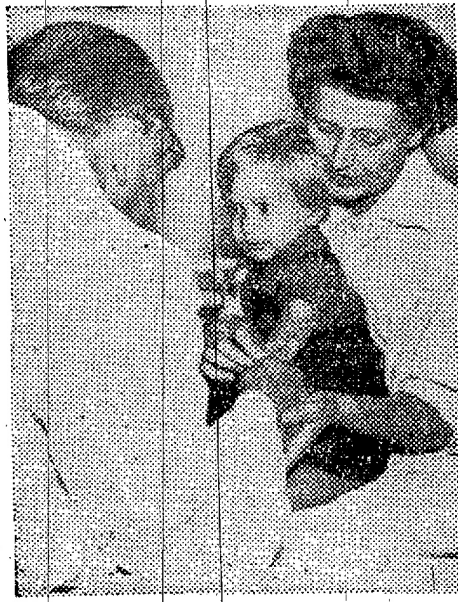


Figure 5 Photograph of 2-year-old child receiving polio vaccine in Budapest. *Népakarat*, July 19, 1957. Courtesy of National Széchenyi Library, Budapest.

Thus, it was important for the government to win the support and cooperation of the parents. Leaflets titled, “What do we need to know about the vaccine against infantile paralysis?” informed parents about the vaccination process and the significance of this particular disease prevention.¹¹⁷ Newspapers published photos that showed cute toddlers receiving the vaccine, bravely facing the needle, sometimes accompanied by personal stories of the vaccination experience.

“The time is 5:55 pm. The medical tools have been sterilized and the cherry-red Salk-vaccine is sparkling in the vial. The doctor washes her hands and calls out to the nurses: The first one may come.

- What’s your name, dear?

- Zsuzsika Csekő.

- How old are you, little one?

- Five—she replies bravely.

But her self-confidence lasts only until the needle touches her little arm. Then, she starts whimpering. Before she could break out in crying, though, Zsuzsika Csekő has already received the first dose of vaccine against polio.”

- We have inoculated three hundred children today from 8 am to 4 pm in my

¹¹⁷ Ibid.

district – says the doctor – Children usually take the vaccine very calmly, moreover, in my experience they discipline themselves much more in public."¹¹⁸

Stories such as the one above were aimed to convince parents to subject their children to the painful shot. Moreover, by showing children's bravery and emphasizing the feat of the doctors, the propaganda set an example and laid out expectations to parents and children in how to behave in the fight against polio. Finally, these images of healthy and beautiful children, and the stories that accompanied them communicated an assurance by the state to maintain the health of children and provide healthcare and vaccine for all in need.¹¹⁹

According to a subsequent report, the vaccine was administered in 0.2 milliliter doses, into the skin.¹²⁰ While the inactivated vaccine was usually injected into the muscle, in some countries, they chose intradermal inoculation. This was called the Danish method¹²¹ and served the purpose of sparing doses. The vaccine needed to immunize one child could be reduced up to 20 percent of the original dose this way.¹²² Since the intradermal vaccination method required special skill, vaccination brigades were to be set up headed by doctors who were trained and experienced in this technique.¹²³

¹¹⁸ Sz. Gy., ""Most Jöjjön a Következő..."", *Népszava*, February 11 1958.

¹¹⁹ At least part of the propaganda relating to the polio epidemic was the result of decisions on the highest levels. Ministerial Council meeting minutes from early July reveal an order for a "calming" article based on statistical data that includes statements from health care professionals as well. "Javaslat a Gyermekparalízisről Szóló Sajtócikk Megjelenésére Vonatkozóan. Münnich Elvtárs Szóbeli Javaslat.", in *Minisztertanács Iratai* (Budapest: Magyar Országos Levéltár, 1957).

¹²⁰ Kátay, "Vaccination against Poliomyelitis in Hungary". p.45

¹²¹ Paul, *A History of Poliomyelitis*.p.436.

¹²² Sticchi L. et al., "The Intradermal Vaccination: Past Experiences and Current Perspectives," *Journal of Preventive Medicine and Hygiene* 51, no. 1 (2010). p. 9. Currently, the WHO is considering using intradermal vaccination methods for the same reasons. see Martin Friede, "Dose-Sparing by Intradermal Immunization," (Geneva: World Health Organization, 2006).

¹²³ Benyó, "Gyermekbénulás Elleni Folytatólagos Védőoltások Szervezése."

The original decree on the vaccine import¹²⁴ set the sufficient quantity of vaccine that was needed to immunize the population at risk at 1 million milliliters. At the same time, the decree pointed out that the shipment they are able to procure at this point will be enough to inoculate 375,000 children with two doses each.¹²⁵ However, a later decree, authorizing the Foreign Ministry to issue payment for the Canadian import refers to the same amount of vaccine as sufficient for the immunization of 500,000 children.¹²⁶ Moreover, if we look at the dosage of 0.2 milliliters per shot, with the intradermal method, the initial shipment of 250,000 milliliters would have been enough to vaccinate the maximum number of 625,000 children (not taking into account the amount used for testing and the potential amount lost in transit and during administration). What we do know is that out of the 250,000 milliliters of the vaccine, 113,826 milliliters were issued for the first shots,¹²⁷ although it is not clear how much of that amount was used and how much of the remainder was reallocated to the second dose in August. As of now, it is uncertain how many children were indeed vaccinated with this initial shipment. It is also difficult to determine whether the number of the decree was computed with the intramuscular method that required larger doses or if the dosage in the 1960 report was inaccurate.

In any case, the vaccine was not enough to immunize the whole endangered population, and the first shipment was soon followed by a donation from the World

¹²⁴ Ferenc Münnich, "A Magyar Forradalmi Munkás-Paraszt Kormány Határozata a Járványos Gyermekbénulás Időszerű Feladatairól Szóló 1062/1957/Vii.6./Korm Sz. Határozat Kiegészítéséről," in *3290/1957* (1957).

¹²⁵ Ibid.

¹²⁶ Minisztertanács, "Gyermekbénulás Elleni Szérum Behozataláról," in *3311/1957* (Budapest 1957 July 18).

¹²⁷ Gábor Veres, "Kimutatás Salk Vakcina Kiadásáról És Készletéről," in *Egészségügyi Minisztérium Állami közegészségügyi felügyelet és járványvédelmi főosztály iratai* (Budapest: Magyar Országos Levéltár, 1957).

Health Organization of 40,000 doses.¹²⁸ At this time, Hungary's relationship with the WHO was not completely sorted out. Hungary, along with other Eastern European countries, like Czechoslovakia and Poland, followed the Soviet Union's example when it withdrew its membership¹²⁹ in 1949.¹³⁰ Although, again following in the footsteps of the Soviet Union, Hungary started talks of rejoining the WHO in April 1957,¹³¹ Hungary ended up to be the last Eastern European state to renew its membership in 1963.¹³²

Another organization also made a vaccine donation of an unknown amount, although from health-ministry documents, it appears that the vaccine did not make it intact and was most probably not fit for use by the time it arrived. The donation came through the National Organization of Actio Catholica, headed by Bishop Endrey, who received the shipment from Bern, Switzerland.¹³³ This was not the first shipment from a Catholic organization. According to a report from Katpress Catholic Press, referenced by the Radio Free Europe report, the Austrian branch of the National Catholic Welfare Council (NCWC) sent 2,000 doses of vaccine to the same bishop.¹³⁴ Knowing that the relationship of the Hungarian communist state and the Catholic Church was at its worst in the 1950s, the existence of such cooperation, one reaching over the Iron Curtain at that, shows another venue where the apolitical space created by children's health materialized.

¹²⁸ "Dr. Ivanovics Gyorgy Akademikus Nyilatkozata a Genfi Gyermekparalízis-Kongresszusrol, a Hazankban Folytatott Oltások Hatanysagáról," *Nepszabadság*, July 23 1957.

¹²⁹ The constitution of the WHO did not allow for membership withdrawal, therefore these countries were considered inactive members until they activated their membership again. See *The First Ten Years of the World Health Organization*. p.80.

¹³⁰ Ibid. p. 79-80.

¹³¹ "Letter from Rodolphe L. Coigney, Director of Liaison Office with United Nations to Dr. P. Dorolle, Deputy Director-General of the World Health Organization," (Geneva: Archives of World Health Organization 1957).

¹³² Javed Siddiqi, *World Health and World Politics: The World Health Organization and the UN System* (Columbus: University of South Carolina Press, 1995). p. 108.

¹³³ Kátay Aladár, "Svájci Polio-Vaccina Használhatósága," (Budapest: Magyar Országos Levéltár, 1957).

¹³⁴ Radio Free Europe, "Polio in Hungary. Background Report."p.2.

In August, the Health Ministry broadened the vaccination campaign. Between August 9 and September 9, another shipment of 500 liters of vaccine was to arrive from the West, this time from the American pharmaceutical company Parke-Davis. Together with the 250 liters of the first shipment, the ministry calculated that all the children born between January 1, 1951 and end of February 1957 could be vaccinated with two shots before the year was over.¹³⁵

All children born in 1955 and 1956, who did not receive their first shot in July were to be immunized, while the others of this age group would receive their second shot. Since now there was enough vaccine to broaden the program, the age group was also widened: Children up to 6 years old were also included, along with infants born in January and February of 1957. The areas most severely affected by the epidemic received priority in organizing the vaccination: the eastern counties of Borsod-Abaúj-Zemplén, Hajdú-Bihar and Szabolcs-Szatmár, the cities of Miskolc and Debrecen and the capital, Budapest.¹³⁶

By November, over 1 million children were said to have received two doses of vaccine,¹³⁷ and by the end of the year, the number of vaccinated children was reported to be 1.2 million.¹³⁸ The Salk vaccination was deemed a success. Because the vaccine was seen to have contributed to curbing the epidemic wave, in the three-year healthcare plan and the budget allocation for 1958, the government decided to assign 30 million forints for acquiring the Salk vaccine.¹³⁹ This way, children between 0-6 years old would be able

¹³⁵ Benyó, "Gyermekbénulás Elleni Folytatólagos Védőoltások Szervezése."

¹³⁶ Ibid.

¹³⁷ "Egymillió Gyerek Kapott Idén Védőoltást," *Népakarat*, November 27 1957.

¹³⁸ Szeri, Földes, and Bognár, "Adatok a Poliomyelitis Elleni Intrakután Védőoltás Kérdéséhez."

¹³⁹ "Magasabb Összeg Egészségügyre - 30 Millió Salk-Vaccinára. Az Egészségügy Hároméves Tervéről És Jövő Évi Költségvetéséről Tárgyalt Az Országgyűlés Szociális És Egészségügyi Bizottsága," *Népakarat*, November 15 1957.

to receive their third shot of the vaccine in 1958.¹⁴⁰ Soon, however, its success would have to be reevaluated after the second largest epidemic wave hit Hungary in the summer of 1959.

In the aftermath of the political and social crisis of the 1956 revolution, the new Kádár government was faced with a new one, this time in the form of a severe epidemic. The new regime was leading a delicate balancing act. On the one hand, it was in the process of solidifying its power following a major uprising that was widely supported by the population and was repressed by the Soviet army. The Kádár government fortified its position with the support of the hated occupiers, therefore it needed to show its strength: Revolutionaries were incarcerated, many executed. On the other hand, the government also needed to show that it was capable of dealing with a major public health crisis and was able to protect an important group upon which the communist regime centered much of its propaganda: children. The memories of the bloody uprising were too fresh to risk the discontent of people. Demonstrating incompetence in the face of a danger that affected the families, friends and acquaintances of children, basically most of the population on a very personal level, was not an option.

The fact that the disease mostly affected children and that the image of the child occupied a central part in the Communist Party's communication about the future of the country prompted surprising steps from the government. It was the same reason why these actions were relatively uncontested. For the sake of the children, the West German pilot could become a hero in the coldest days of Cold War Hungary; the paternal state could pass its self-proclaimed role of caretaker to citizens (actual parents); scientists

¹⁴⁰ Benyó, "Gyermekbénulás Elleni Folytatólagos Védőoltások Szervezése."

could crisscross Europe in a quest for domestic vaccine production, a project that would reach over three consecutive governments; and enemies new and old could become temporary allies in the common fight against an invisible, but powerful, enemy. Because it was for the good of children, in response to the concern of mothers and for the future of a healthy and strong nation, the holes that opened up in the Iron Curtain and the policies and practices that went against domestic politics and ideology seemed justified.

The holes in the Iron Curtain and alliances were, of course, temporary. They lasted while there was imminent threat of a dreaded disease. With the nation's vaccination, this threat disappeared: the light went dark, policies were withdrawn, and rhetoric hardened as the epidemic wave of 1957 whimpered and died away. The communist state could be secure in its capabilities; it demonstrated its power and efficiency at home and to the world, albeit using a Western technology, with vaccinations carried out in the Eastern framework of the providing state. The citizen-children and child citizens were no more in under threat of disease and they had the state to thank for that. Or so was the plan, until 1959.

Chapter 3: Needles and tea: vaccine evaluation and the switch from Salk to Sabin

For two years, it seemed that the unprecedented cooperation between emigrants, international organizations, the Catholic Church and the communist government of Hungary was fully successful. The Health Ministry requested that the foreign trade minister reward the state company that imported the vaccine in the summer of 1957.¹ In 1958, there was no epidemic and the government celebrated the feat. However, a new and severe outbreak in 1959, when almost 2000 children fell prey to the disease, prompted the state and the medical profession to reevaluate their success.

How could such a severe epidemic happen when a high number of children were supposed to have been protected by the Salk vaccine? What went wrong? Who was to blame? Public-health officials, parents, ministers and doctors tried to work out the reasons for what appeared to be a complete failure. They engaged in a conversation on effectiveness and prevention by using and producing medical data in various ways, clashing lay and medical experiences, and revealing a broad set of expectations.

This chapter argues that the particularities of polio, its haphazard epidemic pattern and the novelty of the polio vaccine made the introduction of the vaccine, its perceived success and eventual failure into a political issue that manifested on the pages of medical journals and daily newspapers and during visits to the doctor and in private conversations. The uncertainties of knowledge and practice in polio vaccination brought to the fore sweeping problems with high stakes at all levels of governance and daily life.

¹ "Letter to Jenő Incze Foreign Trade Minister," in *Egészségügyi Minisztérium Állami Közegészségügyi Felügyeleti és Járványvédeli Főosztály* (Budapest: Hungarian National Archives, 1957).

First of all, the definition of success could be problematic in the case of a disease such as polio. Broader questions of what it means to be "disease-free" or of what constitutes the end of epidemics come up when evaluating the Salk vaccine.² How was successful vaccination defined? How much did a disease need to be reduced in a population to deem it a success—was there a target ratio? How much time without epidemics or disease needed to elapse after the vaccination? In the case of polio, the issues above became especially pronounced, as it is a disease that does not strike every year. It was therefore difficult to say if the absence of polio in the summer was a coincidence or a result of the vaccination. In Hungary, the picture was complicated by the fact that vaccination began in the middle of an epidemic wave.

Second, the Salk vaccine had been used for only(?) four years at that time. Its efficacy was under debate at poliomyelitis conferences and on the pages of medical journals. Several methods of using the vaccine existed and there was no international standard set for the vaccine's application. Knowledge about the disease and its prevention was in flux, complicated with the personal agendas of rivaling scientists and situated in a Cold War world built on antagonism and contest. In the face of scientific uncertainties, medical data gained political meaning and vaccination campaigns became political acts.

As is usually the case with vaccine evaluation, determining the Salk vaccine's success or failure in Hungary in the 1950s was far from a merely medical affair. There was plenty of blame to go around for the epidemic of 1959. Citizens distrusted the state, the state

² Such questions are still relevant today. For example, the WHO certifies a region as polio-free if all of its countries can prove – with certified surveillance methods – that there has been no wild poliovirus case in three years. However, a recent outbreak in four member states in 2010 did not cause the European Region to lose its standing as "polio free", a status that the region has been holding since 2002. See WHO, "Global Polio Eradication Initiative," <http://www.polioeradication.org/Posteradication/Certification.aspx>. and Regional Office for Europe WHO, "Polio Kicked out of Europe: European Region to Retain Polio-Free Status, but Constant Vigilance Is Needed," (Copenhagen 2011).

was disappointed in the compliance of citizens, physicians were discontent with the chaotic centralization of medical supplies and methods, and everyone was frustrated with the scientific certainties of the disease in a time of epidemics and revolutions.

In this chapter, I trace the evaluation of the Salk vaccine in Hungary between 1957 and 1960 and analyze how a new epidemic wave affected the scientific and political discourse on polio. I argue that the way in which vaccine efficiency was determined over time shaped subsequent vaccine policies in the country and contributed to the country's path-breaking role in polio eradication. Moreover, I show how changes in the evaluation of the Salk vaccine highlighted broader problems in the relationship between the government and its citizens and between the efficiency of production and the organization of the state.

Defining success

Aladár Kátay, director of the epidemiology department at the Health Ministry and head of the poliomyelitis section of the Hungarian Microbiology Society, published one of the first comprehensive accounts of the 1957 epidemic wave in an article in *Népegészségügy*,³ the public-health journal of the Health Ministry. Titled “Our current situation and tasks in epidemiology,” Kátay's article discussed Salk vaccination and its evaluation.

“Regarding the efficacy of the administered vaccination, we have to state first and foremost that given the time needed to gain relative protection, we did not expect any direct result in the peak of the epidemic as a result of the vaccine. We did expect, however, the ameliorating effect in the last section of the epidemic wave and we are expecting children of the most endangered age to be protected in the epidemic waves of the coming years. The effect of the vaccination on [1957's]

³ Aladár Kátay, “Járványügyi Helyzetünk És Feladataink,” *Népegészségügy* 8, no. 10-11 (1957).

epidemic cannot be measured yet. It is a fact that the epidemic wave receded drastically sooner, already in September. However, *this alone is no proof.*”⁴ (emphasis mine)

Kátay stressed that further studies were needed to determine vaccine efficiency—an epidemiological-statistical analysis of morbidity among the vaccinated and nonvaccinated population and an immunological study of blood samples taken from vaccinated children. This opinion did not gain much publicity. Again, there was no space for uncertainty or doubts regarding the feat of importing and distributing the precious vaccine.

The sudden decline of the epidemic wave did come up, however, in further scientific evaluations, some of which provided different explanations: for instance, that the decline could have been caused by other factors, such as the particular pattern of the epidemic in 1957. In a report by the National Public Health Institute in *Népegészségügy*, Dr. Ottó Rudnai pointed out that compared to the polio epidemics of the past, the wave of 1957 was unusual. The curve of polio cases increased and also decreased much more drastically than before, creating a much sharper spike in the diagram than previous epidemics. The temporal layout of the epidemic wave was also peculiar: Polio usually reached its peak in August, and only three times in the past 25 years had it peaked in July, as it did in 1957.⁵

⁴ Ibid. pp. 253-254

⁵ Otto Rudnai, "Az 1957. Évi Poliomyelitis Járvány. Közlemény Az Országos Közegészségügyi Intézet (Főigazgató: Bakács Tibor Dr.) Járványügyi Osztályáról (Osztályvezető: Petrilla Aladár Dr.)," *ibid.* 39, no. 5-6 (1958). p.124

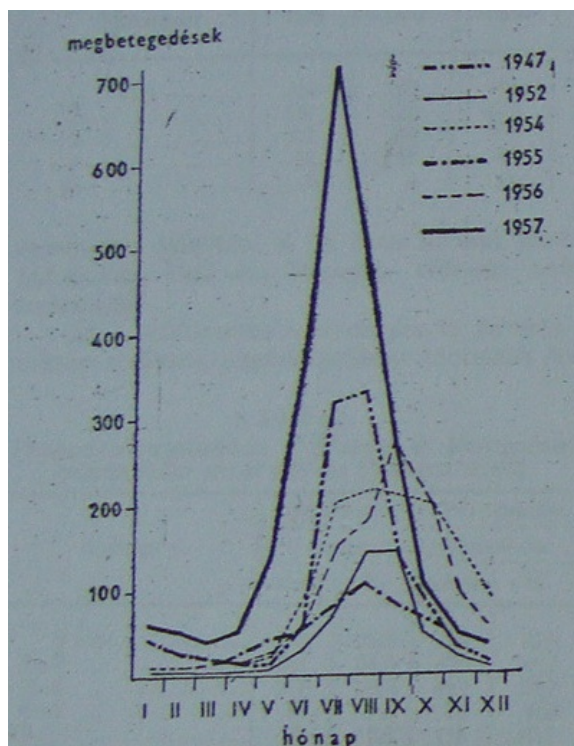


Figure 6 Ottó Rudnai's diagram of poliomyelitis cases by month in epidemic years between 1945 and 1957

Strangely enough, Rudnai decidedly left out issues of vaccine evaluation from the report. The only time he mentioned the vaccine at all was in relation to the changes in the affected age groups after the end of the epidemic: “We do not wish to address the issue or the efficacy of the vaccine here, but ... the decline in polio incidence among children under 6 years old in the fourth quarter [of 1957] is probably due to the effect of the vaccine.”⁶ Thus, a more cautious evaluation of the vaccination's effect on the epidemic detects a possible change months after the epidemic wave had been over.

By April 1958 the Health Ministry was presenting the vaccination process as a clear success. Nationwide vaccination with the brand-new vaccine was a costly enterprise, especially for an Eastern European country like Hungary struggling with debt and

⁶ Ibid. p.127.

difficulties in accessing hard currency. Therefore it was important to demonstrate that it had actually worked. In the context of polio, the moment of the vaccine import marked a turning point in the ability of the state to gain control of the unpredictable and chaotic situation that the epidemic waves had caused and to return to its role as a providing and protective parent.

On the pages of *Népszava* in June 1958, Dr. Frigyes Doleschall, the Hungarian health minister, evaluated the success of vaccination:

“We began vaccination in July 1957, that is, during the epidemic: The epidemic wave quickly started to recede and by October it ended. Thus, it finished before we could apply the three doses of vaccine that is needed to achieve optimal immunity. *This alone proves the efficiency of the vaccine.*”⁷ (emphasis in original)

The interpretation of the Health Ministry, therefore, was that even one dose of the vaccine was enough to curb polio and cause a sudden decline in the epidemic wave. For this, the decline of the epidemic served as proof.

In scientific publications, there was also a shift toward the emphasis of a marked success in the vaccination campaign, although with more reserved enthusiasm. As virologist Aladár Petrilla points out in his report from 1958 in the journal *Acta Microbiologica*, a scientific evaluation of the vaccination was indeed a difficult task. First of all, vaccination started in the peak of the epidemic rather than preceding it, making it difficult to pinpoint the efficacy of the vaccine. Second, it seemed that many children eligible for the vaccine did not receive any shots, while many outside the age group set by the Health Ministry managed to be immunized all the same.⁸ Unfortunately, Petrilla does not elaborate on how the latter was achieved, nor does he reveal the source of his

⁷ "Dr. Doleschall Frigyes Miniszter Nyilatkozata a Népszavának Az Egészségügy Hároméves Tervéről, a Salk-Oltásokról És a Gyógyszerfogyasztásról," *Népszava*, June 17 1958. p.2.

⁸ Petrilla, *The Results of Intracutaneous Poliomyelitis Vaccination in Hungary, 1957*.

information. Third, around 80,000 children were vaccinated in private practice, with a different method and different dosage.⁹ Instead of the intradermal method used in the state vaccination campaign, these children received a higher dose intramuscularly. Their results would therefore complicate the overall evaluation.

However, in the overall evaluation Petrilla states, “The effect of the vaccination was satisfactory.”¹⁰ He lists six factors that can serve as proofs for the success of the vaccine—none of which was the one that the Health Minister had communicated in the newspaper. As there was no control group and in May 1958, when the article was submitted to the journal, there was no knowing if a new epidemic had been prevented or not, Petrilla turned to alternative comparisons to analyze the effects of the vaccine.

First, he pointed out that the incidence rate in the autumn months was much lower than in previous epidemic years, which could be the result of the vaccination campaign. The second proof was a comparison with neighboring countries Austria and Romania, where there was no mass vaccination, at least according to the information of the Hungarian State Institute of Hygiene. While Romania seemed to have an even more severe epidemic that lasted longer than Hungary’s, the curve was quite similar, whereas Austria’s epidemic produced a much more gradual curve, staying well below the Hungarian one except for the months of October and November. The example of these two countries and the comparison with Hungary was left without analysis and conclusion as Petrilla moved on to points three and four, both emphasizing the decrease in the ratio of polio cases among 0 to 6-year-old children as compared to children older than 6. The fifth piece of evidence was the difference in incidence rate between unvaccinated and

⁹ Ibid.307.

¹⁰ Ibid. p.300.

vaccinated (either one or two doses) children in the months of October to December in 1957. By this time, the vaccine should have taken effect. Petrilla found that the incidence rate of the nonvaccinated children was double that of those vaccinated once and five times the rate of children vaccinated twice. Petrilla admitted that these numbers were based on months with an overall low incidence rate (following the outbreak), which made evaluation difficult. For instance, the low number of cases in Budapest (nine in total over the course of three months) made it impossible to produce statistically relevant results.¹¹ Petrilla's last piece of evidence is the difference in the way the epidemic wave receded for children born in 1955-1956 and for children born between 1951 and 1954. The younger population (1-year-olds) received their vaccines one month earlier than the 3-to-6-year-olds, and the case numbers among the former started falling earlier than among the latter. Petrilla pointed out that the evaluation of the effect on 2-year-olds was not possible, since the report cards only contained the age of the children, not the birth years, and there was no way of knowing which 2-year-old was born in 1954 or 1955, and therefore to which vaccination group they would belong.¹² Other possible reasons for the difference in age groups (e.g., comparison to age patterns in previous epidemics) were not discussed.

In his summary, Petrilla struck an even more cautious tone. Whereas he had claimed in the beginning of the article that the effects were satisfactory, he now changed his evaluation, saying that, "The efficacy of the vaccination could not be determined exactly."¹³ He furthered confused his analysis by first admitting that the unvaccinated population includes actually vaccinated ones who received vaccine through private

¹¹ Ibid. p.304-305.

¹² Ibid. p.306.

¹³ Ibid.p.308.

practice, and then he considered the “unvaccinated group” as a control group for the evaluation of the vaccination.

These evaluations of the Salk vaccine seemed to fall in line with what Tibor Bakács, director of the National Public Health Institute from September 1957, wrote in his memoir in the 1970s: “During the sectarian years [the pre-1956, Stalinist era], it was an institutional directive that ‘research is only allowed with the certainty of success.’ Those who could not show results in time in their research were reprimanded and not only in the scientific level.”¹⁴ Bakács saw this attitude and distrust in scientific research, which was still prevalent in 1957, as one of the main challenges he faced as director. It is hardly surprising that scientists therefore did not have much choice but to produce results and success, especially in a case of such national importance as the Salk vaccination.

Meanwhile, the vaccination campaign continued, as further age groups were included in the immunization program in February 1958. The Health Ministry raised the age limit from 6 to 18 years and covered the broadened vaccine needs by importing further batches of vaccine. The vaccination campaign was organized in state homes for mothers and infants,¹⁵ kindergartens and health centers. Older children were vaccinated in high schools and vocational schools.¹⁶ However, the age group of 14 to 18 apparently was not very enthusiastic about receiving vaccination. According to a newspaper article in *Népszava* in April, the majority of them did not show up at the immunization points.

¹⁴ Tibor Bakács, *Egy Életrajz Ürügyén* (Budapest: Kossuth Könyvkiadó, 1978).

¹⁵ single mothers would be admitted to the former, while orphans and state wards were accommodated in the latter

¹⁶ "Tizenennyolc Éves Korig Adnak Gyermekbénulás Elleni Védőoltást - Február 10-én Kezdődik Az Új Oltási Kampány," *Népakarat*, January 28 1958.

Therefore, they were called upon by the newspaper to get their vaccination before the epidemic months of the summer began.¹⁷

In the spring of 1959, polio vaccination became compulsory and was administered through a continuous vaccination program. The process had begun a year before, when Vilmos Kapos, director of the Public Health and Epidemiology Station of Budapest, proposed in March 1958 to implement continuous immunization for children instead of the method of vaccination campaigns that had hitherto been applied. Kapos argued that many times during the campaigns there was some kind of epidemic in place, e.g., flu or polio, which set back vaccination processes. Moreover, many of children specified in the respective age groups of certain vaccination programs were in daycare (*bölcsőde*), where infectious diseases were basically a constant feature, therefore barring whole communities from taking part in a campaign. These children then would have to be vaccinated in the next campaign, joining the ones who were regularly scheduled. This produced a serious strain on authorities providing and distributing the vaccine.¹⁸

Continuous vaccination would serve as a solution to these problems, since individual children could be vaccinated at the moment they reached the required age or got over their current illness. Until then, polio vaccinations were organized in bi-annual campaigns, in which children of certain age groups were vaccinated in the course of several days. In April, the Humán Vaccine Production and Research Institute assured the Health Ministry that from the aspect of vaccine distribution, continuous vaccination was

¹⁷ Moldován, "Aki Még Nem Kapott - Áprilisban Jelentkezzék Gyermekebénulás Elleni Védőoltásra," *Népszava*, April 16 1958.

¹⁸ Vilmos Kapos, "A Kötelező Védőoltások Folyamatos Végrehajtása a Főváros Területén," in *Egészségügyi Minisztérium Állami közegészségügyi felügyelet és járványvédelmi főosztály iratai* (Budapest: Magyar Országos Levéltár, 1958).

indeed possible.¹⁹ The next month, plans were on their way: The Health Ministry authorized the experimental implementation of continuous immunization along with the diphtheria-pertussis-tetanus and the smallpox vaccines. Budapest was to report on the progress of the test run every six months.²⁰

The government issued the decree on mandatory immunization against poliomyelitis in September 1958,²¹ to be effective in 1959.²² Children between 6 months and 17 years old were to receive compulsory polio shots with the Salk vaccine. In cases of epidemic outbreaks, health departments of city or county councils had the authority to order additional mass vaccinations against the disease.²³ It was the parents' responsibility to appear with the child before the vaccinating doctor, and everyone who was obliged to get vaccinated would receive an immunization card on which the physicians could record the vaccinations and control examinations.²⁴ Although the continuous immunization program was still in its experimental phase in Budapest, Kapos ensured the Health Ministry that they would be able to conform to the new regulation, despite the extra strain it placed on their infrastructure.²⁵

The use of the Salk vaccine thus was established and became fixed into the legal system. In this environment, there was hardly space for doubts or the circulation of alternative views, especially on a public level. The subjects of vaccination policies and

¹⁹ Oltóanyagtermelő és Kutató Intézet Humán, "Kötelező Védőoltások Folyamatos Végrehajtása a Főváros Területén," *ibid.*

²⁰ Aladár Kátay, "Folyamatos Védőoltások a Fővárosban," *ibid.* (Magyar Országos Levéltár).

²¹ "Rendelet a Kötelező Védőoltásokról", *Népkarat*, September 17 1958.

²² *A Magyar Forradalmi Munkás-Paraszt Kormány 1027/1958 (Viii. 3.) Számú Határozata a Gyermekekbenulás Elleni Védekezésről.*

²³ *Az Egészségügyi Miniszter 5/1958. (Ix. 16) Eü. M. Számú Rendelete a Védőoltásokra Vonatkozó Jogszabályok Végrehajtásáról*, (1958). 1. §

²⁴ *Ibid.* 2. §

²⁵ Vilmos Kapos, "A Folyamatos Védőoltások a Fővárosban," in *Egészségügyi Minisztérium Állami közegészségügyi felügyelet és járványvédelmi főosztály iratai* (Budapest: Magyar Országos Levéltár, 1959).

their parents and guardians were not consulted at any point of the process. Instead vaccination and the evaluation of its success were centrally decided on. And, after all, the epidemic did recede, the panic over the summer was over and the main task remaining was to reach as many children as possible with the vaccination program to try to avert another attack. For this project, emphasizing that the efficacy of vaccine had been confirmed was crucial. Soon, however, the immunization program would be put to the test in the face of a new epidemic—one that would prove to be tragic for thousands of children and their families.

An unexpected epidemic: polio in 1959

Another summer came—the second since vaccination against polio had begun. Again, as two years before, the heat rose in early June, compelling 37,000 people in Budapest to go to the baths and swimming pools on the first hot Sunday of the year. To the relief of many, beer production was well prepared for the summer and Budapesters consumed 1.6 million glasses of beer in one day alone—along with hundreds of kilograms of ice cream.²⁶ National plans for children's summer holidays were also under way: The National Council of Trade Unions was to take 30,000 schoolchildren on vacation, while the Pioneer movement planned summer camps for 200,000 children.²⁷

As the summer progressed, the temperature kept rising every day. Swimming pools and outdoor baths were increasingly packed on weekends with children and adults

²⁶ "Rekordforgalom Az Első Meleg Nyári Vasárnapon," *Népszava*, June 9 1959.

²⁷ "Harmincezer Iskolásgyermeket Üdültet a Szot, Kétszázezer Gyerek Megy Úttörőtáborba," *Népszava*, June 4 1959.

basking in the sun. But despite renewed assurances in the newspaper about the beer and ice cream supply in recreational places,²⁸ clouds of fear assembled in the summer sky.

On July 21, readers of *Népszava* found the all too familiar health minister's report on the back page of the newspaper. The minister called attention to the growing number of poliomyelitis cases in Budapest and informed the public about the decree of the Health Ministry, which brought forward all scheduled polio vaccinations due in the fall of 1959 and even in the spring of 1960.²⁹ Ten days later, Szekeres Vera, a pediatrician, warned parents in a newspaper article to avoid crowds and swimming pools and not to tire children either with games or with studying during the holidays.³⁰ Polio was back.

Soon, more and more cases were reported in Budapest, and the epidemic started spreading to Kecskemét, Szeged, Mohács, and towns in Pest County.³¹ While the number of cases was lower than in the severe epidemic of 1957, it climbed higher than any other year before. In July 1959, 252 cases of paralytic polio were registered, which was surprisingly high compared to those of previous years. In July of 1958, the number had been 21; in 1956, 145; in 1955, 83; and in 1954, 198. Only the stunningly high 705 cases from July 1957 surpassed the number in 1959.³² In August, the epidemic escalated, climbing up to 761 cases, well above the 487 of August 1957 and four times as much as the average of cases in the Augusts of previous epidemic years.³³

²⁸ "Kánikulai Jelentés a Strandokról, a Közlekedésről És a Vasárnapi Előkészületekről," *Népakarat*, July 11 1959.

²⁹ "Az Egészségügyi Minisztérium Tájékoztatója a Gyermekebénulások Megbetegedésekről."

³⁰ "Megkezdtek a Iv. Salk-Védőoltás Beadását ", *Népszava*, July 31 1959.

³¹ "Az Egészségügyi Minisztérium Tájékoztatója a Gyermekebénulások Megbetegedésekről."

³² "Az Egészségügyi Minisztérium Tájékoztatója Az Ország 1959. Évi Július Havi Járványügyi Helyzetéről," *Népegészségügy* 40, no. 9 (1959).

³³ "Az Egészségügyi Minisztérium Tájékoztatója Az Ország 1959. Évi Augusztus Havi Járványügyi Helyzetéről," *Népegészségügy* 40, no. 10 (1959).

Again, as two years before, an intensive vaccination campaign was quickly organized.

A report on the Budapest campaign in July 1959 reveals the details:

“Vaccination in the capital is executed by the 73 Mother and Infant Protection Agencies. Children under five years are summoned with personalized request cards. The request cards for [those] under 2 year olds include punitive measures; the ones for above 2 year olds do not. Nurses and Red Cross activists visit the homes of children who do not appear for vaccination despite the request.”³⁴

While vaccination took over as the primary mode of prophylaxis, as the numbers kept creeping up other, more traditional steps were also taken to soften the blow of the epidemic. Children could no longer seek refuge from the summer heat in swimming pools or on the banks of the Danube; epidemic areas were closed off from holiday travels organized for children; tonsillectomies were postponed,³⁵ in order to reduce the number of children with a weakened immune system and a wound in the gateway of the disease—the gastrointestinal system—exposed to polio; daycares in which outbreaks had been registered were shut down and disinfected.³⁶

In exceptional cases, children in the immediate environment of polio patients could also receive gamma globulin. As an article in *Orvosi Hetilap* pointed out: “Gamma globulin has ceased to be a mass tool of poliomyelitis prophylaxis, but in certain cases, we cannot renounce the protection it offers.”³⁷ Doctors would prescribe the serum for

³⁴ Gábor Vastagh and Ottó Rudnai, "Jelentés a Fővárosi Poliomyelitis Elleni Védőoltások Ellenőrzéséről," in *Országos Közegészségi Intézet Járványügyi és Mikrobiológiai Főosztályának iratai* (Budapest: Magyar Országos Levéltár, 1959).

³⁵ Ottó Rudnai, "Hetű Fertőzőbeteg Jelentés 1959. 30. Hét," in *Országos Közegészségügyi Intézet iratai* (Budapest: Magyar Országos Levéltár, 1959).

³⁶ *Az Egészségügyi Miniszter 8200-4/1953. Eü. M. Számú Utasítása a Fertőző Betegségek Megelőzéséről Szóló 61/1953 (Xii.20) M. T. Számú Végrehajtása Tárgyában.* 3.sz. melléklet a 8200-4/1953. Eü. M. számú utasításhoz.

³⁷ Pál Földes and Szeri Ilona, "A Gamma-Globulin Prophylaxis Szerepe a Poliomyelitis Elleni Küzdelem Jelenlegi Helyzetében," *Orvosi Hetilap* 100, no. 3 (1959). p.116.

those who “due to their age or other reasons could not be vaccinated previously.”³⁸ The vaccine would be distributed free of charge by the local public health and epidemiology station.³⁹

The epidemic wave started to recede in the fall. While 509 cases were registered in September, the number fell to 199 in October and 96 in November.⁴⁰ These numbers were still much higher than the respective data from the previous epidemic year,⁴¹ 1957, although in that year, as we saw in the previous section, the epidemic curve was unusually spiky, beginning and ending sooner than in an average epidemic year.

About 25 percent of the cases were reported from the capital and the surrounding Pest County in the peak month of August. Further epidemic areas were Bács-Kiskun, Szabolcs-Szatmár, Győr, Sopron, Veszprém, Heves, Fejér and Békés counties. The incidence rate was the highest in Pest County at 21.6 per 100,000.⁴² At the peak of the epidemic, the disease truly spread across the whole country; there was no county or region in Hungary that had not been affected.⁴³

In total, 1830 people, mainly children, fell ill with paralytic polio, making 1959 the second largest epidemic year in Hungary after 1957, with its 2334 cases. Pest County continued to remain in the epicenter throughout the epidemic wave, reaching an

³⁸ 38/1958. (Vi.10.) Korm. Számú Rendelet a Védőoltásokról Szóló 60/1953. (Xii.20.) M.T. Számú Rendelet Kiegészítéséről.

³⁹ Barnabás Göllner, "Gamma-Glonulin Felhasználása Fertőzőbetegségek Megelőzésére," in *Budapest Fővárosi Tanács VB Egészségügyi Osztályának iratai* (Budapest: Budapest Főváros Levéltára, 1959).

⁴⁰ Aladár Kátay, "Járványügyi Adatok Közlése Az Egészségügyi Világszervezettel," in *Egészségügyi Minisztérium Állami Közegészségügyi Felügyelet és Járványvédelmi Főosztály iratai* (Budapest: Magyar Országos Levéltár, 1959).

⁴¹ In November, 1957 45 cases of poliomyelitis were registered in Hungary, while in 1959 the number was over double with the 96 cases. Ibid.

⁴² "Az Egészségügyi Minisztérium Tájékoztatója Az Ország 1959. Évi Augusztus Havi Járványügyi Helyzetéről."

⁴³ Gábor Vastagh, "Az Országos Közegészségügyi Intézet Járványügyi Tájékoztatója 1959. Augusztus Hóról," in *Országos Közegészségügyi Intézet Járványügyi és Mikrobiológiai Osztályának iratai* (Budapest: Magyar Országos Levéltár, 1959).

incidence rate of 30.9 per 100,000, while the average rate was 18.3 nationwide. Similarly to 1957, it was Type I poliovirus that spread across the country that year. This type was more virulent than Types II and III, which had been the culprits in the epidemic years preceding 1957 and could have accounted for the severity of the two last epidemics.⁴⁴

Something else was also different from previous epidemics. There was a statistically significant change in the age groups afflicted by the disease. The ratio of children between 1 and 2 years of age fell, while the number of cases among infants under 1 year and children between 3 and 5 years grew.⁴⁵ Public-health officials and epidemiologists like Bakács and Rudnai explained that this was the effect of the Salk vaccination. According to their argument, the reason for the increase among the two age groups was that infants had not been fully vaccinated (they started receiving vaccine from the age of 6 months, many times even later), while in the cases of older children, the vaccine had lost much of its protective effect. Children between 1 and 2 years old had mostly received all their shots and had been vaccinated relatively recently.⁴⁶

“The 1959 epidemic was, to some extent, unexpected. It was hoped that the Salk vaccination, carried since 1957 would protect the otherwise most endangered age groups, which have been vaccinated most systematically,” wrote Ottó Rudnai in a report on the 1959 epidemic.⁴⁷ Tibor Bakács similarly voiced puzzlement, and perhaps disappointment: “In the light of ... the fact that from 1957 to 1959, 70 to 90 percent of

⁴⁴ Ottó Rudnai, *The 1959 Poliomyelitis Epidemic in Hungary* Acta Microbiologica (Academiae Scientiarum Hungaricae, 1960).

⁴⁵ Ibid. p.439

⁴⁶ see ibid. and Dr. Tibor Bakács, "Poliomyelitis Prophylaxis in Hungary," *Acta Microbiologica* VII, no. 3 (1960).

⁴⁷ Ottó Rudnai, *The 1959 Poliomyelitis Epidemic in Hungary* ibid. (Academiae Scientiarum Hungaricae). p.442

the population under 20 years of age had been vaccinated with Salk vaccine, it was difficult to explain how the 1959 epidemic had come about.”⁴⁸

Placing the blame

Who or what was to blame for this unexpected epidemic? Were parents irresponsible in not getting their children vaccinated? Was it the state that failed in organizing immunization effectively or securing adequate supplies? Was it the fault of physicians, who undermined the success of vaccination with doubts and alternative views? Or perhaps did blame lie with the vaccine itself, which had given a false sense of security to the nation?

The epidemic of 1959 changed the game. In the search for explanations, the success story of the Salk vaccine in Hungary was reevaluated. The state blamed the parents who neglected their children and acted irresponsibly in not taking their children to get vaccinated. Doubts formed regarding the intracutaneous method in the medical community. Bitter parents pointed fingers at the state as a persistent conspiracy theory took hold among them. Administrators pointed out deficiencies in organization, adding that medical supplies also failed to reach the standard required for a successful immunization. Finally, the Salk vaccine, which was slowly losing the battle against the rising live-virus vaccine of Albert Sabin, came under scrutiny. The following section will analyze these circles of blame in order to further unravel the expectations and responsibilities shared among the multiple actors of the state, the medical profession and the parents.

⁴⁸ Dr. Tibor Bakács, "Poliomyelitis Prophylaxis in Hungary," *ibid.* VII, no. 3. p.331

The parents: irresponsibility and neglect

It seems that there were definitely issues with the organization of the vaccination process from the beginning. A side note on an internal draft version of the ministerial instructions for the August-September vaccination campaign in 1957 reveals that “the preparation and announcement of the vaccinations in July were flawed in many instances.”⁴⁹ Sándor Tóth’s opinion might have informed the minister’s unfavorable view on the vaccination campaign. Tóth, the managing hospital director in Debrecen, which was the second largest city in the country and was home to the regional medical center, submitted a report that listed several problems he observed in his region.⁵⁰ One of the recurring problems he saw was that many parents did not turn up at the vaccination points to get their children immunized. This issue became central very early on in the outbreak of the new epidemic and served as a context in which all public communication about polio was framed.

As the previous section shows, there were many similarities between the epidemics of 1957 and 1959. The type of the virus, intensity of the epidemic, and the age groups afflicted in these two years all stood out in comparison to previous epidemics. The 1959 epidemic was also extraordinary for another reason. This time, the nation was supposed to have been vaccinated. This epidemic, especially with this vehemence should not have happened.

The paternalist state, which invested so much in reclaiming its role as the provider in importing the Salk vaccine in 1957 and which was then so intent on proving its efficacy,

⁴⁹ Benyó, “Gyermekbénulás Elleni Folytatólagos Védőoltások Szervezése.”

⁵⁰ Sándor Tóth, “Gyermekbénulás Elleni Védőoltásokkal Kapcsolatos Felmerült Problémák,” in *Egészségügyi Minisztérium Állami Közegészségügyi Felügyeleti és Járványvédeli Főosztály* (Debrecen: Magyar Országos Levéltár, 1957).

could not afford a loss of face in 1959 or admit to a failure or claim responsibility for this tragic turn of events. For two years, virtually every public communication discussed polio in the context of the government's achievement in securing the Salk vaccine and saving Hungary's children from the crippling disease.

While the government was consistent in emphasizing its own heroic role in the fight against polio throughout 1959, the new epidemic did bring change in how it saw the rate of vaccination. Up until the outbreak in the summer of 1959, one of the achievements that were emphasized frequently in newspapers was the success in immunizing masses of people with the vaccine. In November 1957, in a talk delivered at the Hungarian-Soviet Medicine meeting, the Hungarian vice-minister of health demonstrated the success of implementing the great pillar of Soviet healthcare—prevention—by stating that 1 million children had been vaccinated with the Salk vaccine.⁵¹ In June 1958, the health minister boasted that “two and a half million people, that is, one fourth of the population, has been immunized against polio.”⁵² The same number was cited in the report titled, “The results of 1958 in Hungarian healthcare and its plans for 1959,” assembled in early 1959 by Health Minister Doleschall Frigyes and submitted to the president of the Ministerial Council, Ferenc Münnich, on January 9, 1959.⁵³

However, the evaluation of the vaccination rate changed quickly in official communication when the first signs of an epidemic started to show. In the summer of 1959, newspaper readers wishing to gain more information about the spread of the

⁵¹ "Egymillió Gyerék Kapott Idén Védőoltást. Megkezdődtek a Magyar-Szovjet Orvosi Napok. , " *Népakarat*, November 27 1957.

⁵² "Dr. Doleschall Frigyes Miniszter Nyilatkozata a Népszavának Az Egészségügy Hároméves Tervéről, a Salk-Oltásokról És a Gyógyszerfogyasztásról."

⁵³ Frigyes Doleschall, "A Magyar Egészségügy 1958. Évi Eredményei És 1959. Évi Terve," in *Doleschall Frigyes egészségügyi miniszter iratai* (Budapest: Magyar Országos Levéltár, 1959).

disease looked in vain for the weekly reports of the Health Ministry, as they had done in 1957. While in the summer of 1957 the Health Ministry issued a report every week on polio in major newspapers, eight in total, only two reports came in 1959. The reports had become scarce and less informative about the number of cases and the infected areas.⁵⁴ Instead, they concentrated on vaccination issues, and most of all, on scolding parents for neglecting their duties.

The first report barely gave information about the cases and geographical spread of the disease: Almost half of the report consisted of an overview of previous prevention efforts and the success of immunization before offering details on the growing number of polio cases and naming the parents as responsible for this unfortunate turn of events.

“In the summer of 1956 the number of polio cases in Budapest was unusually high, on a national scale the highest number of people contracting the disease was in 1957. The number of new cases already started falling in the three months after vaccination was introduced and the epidemic ceased completely. In 1958 reports of the disease were scarce from all over the country. The number of cases stayed low in the summer months as well, and never before had been so few cases reported nationally than in that year. The situation remained favorable nationally in the first half of this year as well, but recently the number of polio cases has been rising in Budapest. Based on examinations so far, it appears that this increase is primarily caused by the fact that many children were not taken to get immunized in Budapest. There are also many children who only received one or two out of the three shots.”⁵⁵

Other articles, like the one titled, “All our responsibility,” published in *Népszabadság* in July 1959, more directly placed the blame:

“Who wouldn't remember the anxiety with which we looked at news about poliomyelitis cases two years ago, and what a weight had been lifted off the shoulders of worried parents, when the good news spread: the aircraft bearing the first batch of Salk vaccine has landed on Ferihegy airport? We gave news almost every day about steps taken to prevent the further spread of the disease, among them the credit of millions of Forints, with which the government secured vaccine

⁵⁴ "Az Egészségügyi Minisztérium Tájékoztatója a Gyermekbénulásos Megbetegedésekről." and *ibid.*

⁵⁵ "Az Egészségügyi Minisztérium Tájékoztatója a Gyermekbénulásos Megbetegedésekről."

for the most endangered age groups. The greatest wish of all parents was to have their children protected against the dangerous disease that often leaves severe marks for life. All the more surprising is that according to information recently published by the Health Ministry, a lot of children in the capital had not been taken to be immunized and based on examinations it can be said: the raising number of cases ... are caused by exactly this.”⁵⁶

The argument thus was simple and outright: The government did everything in its power to curb the disease, and through great sacrifices provided protection for the children. But it was the parents who had neglected their duties and with their irresponsible behavior had caused a new epidemic.

What is particularly interesting in this latter account of events is the ambivalent relationship of the state and its citizens. On the one hand, the state and parents together comprised an all-encompassing family, creating a unit in which all members had the task of working for the benefit of all. On the other hand, actions of the state were completely removed from this unit; the credit that was needed to buy vaccine was positioned as the sole sacrifice of the government and gave the impression that the debt of the country would not affect citizens in any way, and therefore they would not need be concerned.⁵⁷

But how many were “a lot” of unvaccinated or only partially vaccinated children? Was participation in the vaccination campaigns against polio really a problem throughout? Or was citing low vaccination rates instead a tool in the hands of the government looking for a scapegoat to take the blame?

The number of children to be vaccinated in each age group was set according to data provided by the Central Statistical Office (CSO). Vaccine distribution was then calculated based on the number of local eligible children, and so was the vaccination

⁵⁶ Jenő Faragó, "Mindannyiunk Felelőssége," *Népszabadság*, July 24 1959.

⁵⁷ This remote concept of a country's debt, removed completely from the lives of the people inhabiting the country came to be a persistent attitude towards state debt in later years, and only surfaced as a major problem in the eyes of citizens after 1989.

result. According to an official evaluation of the Public Health Control and Epidemiology Department of the Health Ministry (PHCED) from early 1958, a total of 983,000 children were eligible in Hungary for vaccination in the campaigns of 1957. This number does not include the number of children in Budapest, since the data was still missing when the evaluation was compiled.⁵⁸ Of the almost 1 million children born between January 1, 1951, and February 28, 1957 (between 6 months and 6 years old), 792,000 were vaccinated twice, while 190,000 were not vaccinated at all. This means that at least officially, in the beginning of the Salk vaccination in Hungary, 80 percent of the population under 6 years old was vaccinated. The evaluation remarks that some children in the “nonvaccinated” group, in fact, received one dose at the time when the rest were getting their second dose, so the overall number of vaccinated children is likely to have been higher.⁵⁹

A report from 1957 on Pest County, the region that suffered the highest incidence rate in the 1959 outbreak, reveals that at least in some cases, the data from the Statistical Office did not match local reality. The county’s public health and epidemiology station reported that 70 percent of the eligible children had been vaccinated in August 1957 (most of them twice), while 10 percent were ill at the time of the campaign. The director therefore deemed the campaign rather successful. Moreover, argued the director, the ratio was probably even higher, since “the number of children belonging to the age groups

⁵⁸ If the report on Budapest was ever completed, it is lost from the archives of the Health Ministry

⁵⁹ Aladár Petrilla, "Jelentés a Poliomyelitis Ellenes Védőoltások Előzetes Eredményeiről," in *Román József egészségügyi miniszter iratai* (Budapest: Magyar Országos Levéltár, 1958).

assigned for vaccination is significantly lower, according to local data, than what is shown by the CSO.”⁶⁰

In the report from Debrecen mentioned in the beginning of this chapter, Sándor Tóth, for one, saw deficiencies in announcing the campaign and informing the public about it. He pointed out that time was very short in July to adequately advertise the campaign. Apart from posters and radio news, the local PHCED tried disseminating information by employing Red Cross and party activists and even literally “drumming up” eligible families in railroad stations: A drummer shouted the details of the campaign during the rush hours of dawn and late evening, when agricultural and factory workers commuted to and from their workplaces. However, the participation in the vaccination did not reach the desired effect.

Other counties were more optimistic about their efficiency and did not report problems of any kind. The PHCED station of Somogy County, for instance, remarked that “the vaccination in the whole of the county has been executed smoothly and according to plans.”⁶¹ The report of Vas County recounted even bigger success: “The result of the vaccination is 105 percent. This number proves that as an outcome of the good work in providing information, the population of the whole county understood the significance of the vaccination and complied gladly to our request.”⁶²

Unfortunately, such reports from later months in 1958 and 1959 are missing from the archives. It is therefore difficult to tell if there was a significant change in participation in vaccination as time went by, or if the records of 1957 can be taken as representative for

⁶⁰ Sándor Sólyom, "Augusztus Hónapban Végzett Gyermekebénulás Elleni Védőoltásokról Jelentés," in *Egészségügyi Minisztérium Állami közegészségügyi felügyelet és járványvédelmi főosztály iratai* (Budapest: Magyar Országos Levéltár, 1957).

⁶¹ Pál Lakos, *ibid.*

⁶² László Balló, "Salk Védőoltások a Megye Területén," *ibid.*

the full period of Salk vaccination. It is also unknown whether the numbers and the accounts of the campaign's sweeping success were results of wishful thinking rather than fastidious data collection, or to what extent such reports were tools in the personal advancement of local medical directors and the PHCED stations. However, since the 1959 polio outbreak was peculiar in being roughly equally severe all across the country and not one county escaped the disease, it is possible to conclude that differences in vaccination rates, if there indeed were big differences, did not significantly affect the outbreak of polio.

The only public-health document to be found that chided parents for not taking their responsibility of vaccinating their children against polio seriously was a report submitted to the Health Ministry by the city council of Budapest from June 1959, on the health status of the capital's citizens. "Since the administration of the vaccine regards nearly 100,000 children, it places a great burden on the vaccinating apparatus; therefore it is very important that the parents comply in time to the vaccination requests. Although vaccination discipline has recently improved, still in the case of many parents we need to revert to the disfavored tools of fining, in order to get their children vaccinated in time."⁶³ One explanation can be that Budapest was special in being the residence of parents who disregarded their duties both as guardians and citizens and that the vaccination rates were indeed lower than in other parts of the country. Or, in a progress report from one political authority to another, the blaming the parents for any past or future faults in the vaccination campaign could well be a strategy the council wanted to pursue.

⁶³ "Budapest Fővárosi Tanács Végrehajtó Bizottsága Határozati Javaslat a Főváros Egészségügyi Helyzetének További Javítására," in *Egészségügyi Minisztérium Vilmon Gyula miniszterhelyettes iratai* (Budapest: Magyar Országos Levéltár, 1959).

What the evaluations and reports do reveal is that apart from the above instance, the responsibility of the parents and the excessive blame present in the public discussion of the 1959 epidemic is almost completely absent in the internal papers of the Health Ministry and the National Public Health Institute. Officially, therefore, there was hardly any foundation for the extent of finger-pointing that the government exercised in the public media. On the contrary, an article published in *Orvosi Hetilap* in 1961 stated that “according to the Health Ministry, by 1959 90% of the population under 18 years old was vaccinated three times with the Salk vaccine.”⁶⁴

Furthermore, there is no sign that the issue of a low vaccination rate that contributed to a new epidemic was further explored by the government after the summer of 1959. The recognition of the problem was localized to public discourse and also in the narrow temporal segment of the summer of 1959. The blame on parents was mostly placed through newspapers, not in scientific literature or in administrative literature. In a society where allegedly the working class had won the class struggle, it was ideology that took the place of socioeconomic factors in placing blame. In a time of unexpected epidemic outbreak, blaming parents became a political tool in the hands of the government to preserve its image as a provider and a successful protector of the nation’s children.

Quality: Organization and Supplies

While internal papers of the Health Ministry did not blame parents outright for the epidemic of 1959, they did raise issues that might have contributed to the unsuccessful immunization of the nation. These problems mainly had to do with organization, material supplies and the implementation of instructions and regulations.

⁶⁴ György Losonczy et al., "A Salk Vakcináció És a Poliomyelitis Klinikai Lefolyásának Összefüggése," *Orvosi Hetilap* 101, no. November 16 (1961). p.733

The uncertainty with numbers that became apparent in the reports mentioned above originated from the lack of a clear registration system of vaccination. This might sound astonishing, given our preconceptions of how a state socialist regime works, but it seems from the documents of the Health Ministry that the state did not actually know who was vaccinated or how many doses they received. The numbers that local PHCED stations submitted to the ministry referred to the number of doses administered only in order to calculate the amount of vaccine that needed to be distributed for the next campaign.

In 1957, the National Public Health Institute sent out inquiries to local PHCEDs to gain information about how many polio patients were vaccinated and thereby to evaluate the effectiveness of the vaccine.⁶⁵ By the end of the 1959 epidemic, there was written proof of vaccination in certain cases;⁶⁶ however, the registration system was still in a test phase in July 1959.⁶⁷

Since 1955, it had been the local registrar's duty to issue vaccination cards at birth, along with the birth certificate.⁶⁸ The vaccinating authority issued the vaccination cards for older citizens.⁶⁹ All compulsory vaccinations had to be recorded on the card, with dates and the sequence of doses (e.g., Salk I, II and III). The card was basically the responsibility of the person receiving the vaccination or their guardian; they needed to take it to the vaccination point with them and check if it had been filled out by the doctor

⁶⁵ Petrilla, "Jelentés a Poliomyelitis Ellenes Védőoltások Előzetes Eredményeiről."

⁶⁶ Bakács, "Poliomyelitis Prophylaxis in Hungary."

⁶⁷ Aladár Petrilla, "Védőoltási Kimutatások Módosítása," in *Országos Közegészségi Intézet Járványügyi és Mikrobiológiai Főosztályának iratai* (Budapest: Magyar Országos Levéltár, 1959); Petrilla, "Jelentés a Poliomyelitis Ellenes Védőoltások Előzetes Eredményeiről."

⁶⁸ "Az Egészségügyi Miniszter 8200-5/1953. Eü.M. Számú Utasítása Védőoltásokról Szóló 60/1953. (Xii.20.) M.T. Számú Rendelet Végrehajtása Tárgyában," in 38/1958. (Eü. K. 19), ed. Egészségügyi Minisztérium (Budapest 1958).

⁶⁹ *Az Egészségügyi Miniszter 5/1958. (I. 16) Eü. M. Számú Rendelete a Védőoltásokra Vonatkozó Jogsabályok Végrehajtásáról.*

or nurse correctly. However, in 1956 there was still no “unified vaccination registry and appropriate vaccination system”⁷⁰ in place.

Parallel to the individual cards, beginning in 1958, the lists containing the names of the eligible people for immunization were compiled locally. These lists were made in accordance with a decree of the Health Ministry. The lists, compiled by the city councils' public-health departments and village district physicians, would contain not only the number of shots that each person received but also permissions for delaying the vaccination (e.g., illness) or indication of absence without proper reason.⁷¹ The documents were to be kept for 20 years in their respective archives.⁷² In truth, after each campaign came to a close, these lists were usually transferred to a general file-storage space, where it was “impossible to find them after 1-2 years.” Therefore, in 1959 the National Public Health Institute recommended that district physicians keep these files separately for easy access in the future. The system of lists was, however, not nationally applied, it seems. In some places, like in Stalin City (*Sztálinváros*), the system of individual vaccination registration was introduced to keep track of immunization instead of lists. This other system was actually favored by the head of the NPHI over the official system set by the decree, since when a document disappeared it was only one person's data, as opposed to the data of a whole list of people.⁷³

The lack of a clear and organized administrative system posed challenges for scientific inquiries. Shortly after the epidemic in 1959 broke out, the National Public

⁷⁰ "Budapest Főváros Lakossága Egészségügyi Ellátásának 1956. Évi Fejlesztési Terve," in *Budapest Fővárosi Tanács VB Egészségügyi Osztályának iratai* (Budapest: Budapest Főváros Levéltára, 1956).

⁷¹ "Az Egészségügyi Miniszter 8200-5/1953. Eü.M. Számú Utasítása Védőoltásokról Szóló 60/1953. (Xii.20.) M.T. Számú Rendelet Végrehajtása Tárgyában."

⁷² Ibid.

⁷³ Petrilla, "Védőoltási Kimutatások Módosítása."

Health Institute contacted hospital directors in larger Hungarian cities to collect blood samples for the examination of immunity against poliomyelitis and the effect of the Salk vaccine. Blood would have to be collected from children staying in hospitals with non-polio cases and without fever. Vaccination histories would need to be taken “based on vaccination cards or the account of the parents.”⁷⁴ Instead of choosing to leave out children without written vaccination records of the study, the institute chose to simply ask the parents. This means that either they were afraid that otherwise the required amount of samples could not be collected or that the words of the parents were taken to be the equivalent of written proof when it came to vaccination. In any case, the presence or the vaccination cards was clearly not a fixed or given reality in the eyes of the NPHI.

Another problem was the registration of polio cases. The PHCED station was supposed to collect reports and forward them to the State Institute of Hygiene. However, the reporting was often belated, when the records of new cases were held up at the district physician’s office. A recurring problem seemed to be that many hospitals would not report the children with polio in their care, even though they were obliged to report to the PHCED station via telephone as soon as a case came in.⁷⁵

Furthermore, paralytic polio cases were not connected with vaccination information; when a polio case was reported, the information about when and how many doses of vaccine the child received (if any) was not included in the form. Therefore, to determine how many children were indeed vaccinated of those who came down with polio, a separate data collection was necessary. This system stayed in place through the whole

⁷⁴ ———, letter, July 28 1959.

⁷⁵ Ottó Rudnai, "Jelentés a Szabolcs-Szatmár Megyei Köjál Epidemiológiai Munkájának Ellenőrzéséről," in *Egészségügyi Minisztérium Állami Közegészségügyi Felügyeleti és Járványvédeli Főosztály* (Budapest: Magyar Országos Levéltár, 1959).

period of Salk vaccination, with only the minor difference that the additional questionnaire form in use since 1957 was submitted for revision and update at the end of the 1959 epidemic.⁷⁶

The fact that it was difficult to establish a link to polio cases and vaccination histories did not signal problems only for the Health Ministry and the NPHI. For children who contracted polio despite being vaccinated and their families, it was particularly vexing that they were not able to track their own vaccination.

“I was vaccinated. I don’t know how many doses, though. This is such a problem as well. My mother went [to the local health center] to ask about my vaccination, about the card. They said that they don't have it. One would think that these things, this information would be important to know for the treatment later on.”⁷⁷

While being vaccinated—and not being able to check the immunization history and details—raised concern and frustration about their illness and trust in treatment for some of those who came down with polio and suffered paralysis,, others had to face grave consequences because of the lack of clear directives and a national registration system. Katalin Parádi was particularly unlucky in being a rare case of someone who contracted polio *twice*. She came down with polio and was paralyzed in her arm in 1944, and then again, after being vaccinated in the summer of 1959.

“The vaccination was organized in my high school. I told them I already had polio and therefore do not need the vaccine. They did not care and made me get the vaccination. It was not open for discussion.”⁷⁸

Katalin's story shows that vaccination outside the most endangered group of under 3 years old was not entirely voluntary, as the law and the newspapers made it out to be. Of course, “voluntary” did gain a particular meaning in this period, as *stachanovites* all over

⁷⁶ Bakács, "Poliomyelitis Betegek Védőoltására Vonatkozó Adatgyűjtés."

⁷⁷ Zoltán Török, *Telephone Interview* (Budapest: 2011).

⁷⁸ Parádi, *Interview*.

the country did overtime in factories voluntarily, while thousands of people demonstrated voluntarily in support of the Communist Party, Lenin and Stalin. Moreover, in the case of schools, parents were more often informed about, rather than involved in, decisions about education, extracurricular tasks and, as Katalin's case shows, health. In an already complicated and rather imperfect system of vaccination registration, such arbitrary mini-campaigns would make keeping track of individual immunization history even more difficult.

Apart from organizational issues, the quality of equipment used in the campaigns also raised concern. A grave material problem that Sándor Tóth pointed out in his report on Debrecen was most probably an issue throughout the country: Apparently, the needles supplied by the Health Ministry for the vaccination were of such bad quality that it was impossible to be certain if adequate doses could be administered. Simply put, the needles were leaking. "Even after exchanging the [faulty] needles, they were not perfect, therefore it was not possible to verify the quantity of vaccine in each case."⁷⁹ As a solution, many doctors started using their own needles. However, that worked against the idea of a centrally organized and executed vaccination, in which methods, quantities and tools used were standardized and controllable.

The ministry did react to Tóth's observation and ordered a "better quality check at the time of receiving the needle shipment from the manufacturer."⁸⁰ However, Tóth's report was handed in after the second campaign in August, which means that by the time the problem was pointed out to the ministry, the "most endangered" age group had already

⁷⁹ Tóth, "Gyermekebénulás Elleni Védőoltásokkal Kapcsolatos Felmerült Problémák."p.1.

⁸⁰ Handwritten note on *ibid.*

received two doses of the vaccine. If some of those doses had been incomplete, that would have undermined the whole campaign.

Apart from vaccination issues, there seemed to be further problems with compliance with laws and regulations regarding the polio epidemic. A complaint from 1957 written by the PHCED station director in Nógrád County reveals that although children's travel was restricted by law and children's organized holidays were put on hold in times of epidemics (see Chapter 2), the execution of the law was another matter altogether.

“We learned by accident that a group of schoolchildren from Budapest had holiday in Hasznos village, without informing the district physician. ... the directors of the respective schools organized this through correspondence ... and the Station only learned about it well afterwards In our investigation we have found that not a single holiday organizing authority complied with what is set in the law. The teachers were sent to locations without previous physical exams. But an even bigger mistake was that they all brought their own kitchen staff with them, who were not examined either.”⁸¹

The director went on to mention five instances in which groups of children were brought to the county for holidays despite the ban on travel.

The ministry archives is lacking in evidence that shows any steps taken to strengthen enforcement of the law restricting child travel for future epidemics. Perhaps faith in the vaccination gave this problem a low priority among any upcoming issues. Therefore, it is quite possible that similar incidents did happen in the next epidemic year, 1959.

Inadequate reporting, the absence of a clear (and functioning) vaccination system, deficiencies in equipment and the lack of strict law enforcement all could contribute to the possibility of a new epidemic in 1959. The confusion over numbers, data collection and reporting also complicated vaccine evaluation. These questions of quality were,

⁸¹ Imre Ádám, "Az Ifjúság Csoportos Üdültetése," *ibid.* (Budapest).

however, overshadowed by issues of quantity: the amount of vaccine used throughout the campaigns.

Quantity: The Method

Not all physicians were convinced that the intracutaneous method was the best utilization of the vaccine or that it would provide the same protection as the intramuscular method. The amount of vaccine used also came under debate. According to Tóth, the “vaccination brigades” were fully committed to the method and quantity chosen by the Health Ministry, but in “larger places,” by which he probably meant cities with hospitals and health centers, alternative opinions and doubts voiced by doctors could have caused concern and suspicion among the public. This last issue was perhaps the most persistent problem in the course of polio vaccination with the Salk vaccine.

An article published in *Orvosi Hetilap* shows that there was, indeed, a heated if not very visible debate about the intracutaneous method for years. Among the reports published regarding the vaccination campaign of 1957, only one reveals laboratory testing of the Salk vaccine, published by the Microbiology Institution of the Budapest Medical University.⁸² The aim of the study was to test the effects of the intracutaneous vaccination as practiced in the mass campaign. This meant, as explained in Chapter 2, that vaccines were administered into the skin rather than the muscles. This method made it possible to significantly cut down the amount of vaccine needed for one shot, thereby stretching the available shipments in order to reach more people.

After vaccinating 15 children with two consecutive shots, the study found that while Danish, British and Czech studies had found that Salk vaccination with this method

⁸² Szeri, Földes, and Bognár, "Adatok a Poliomyelitis Elleni Intrakután Védőoltás Kérdéséhez."

provided 30 percent less protection against Type 1 polio, the Hungarian case did not show such a difference. This test could have been the proof that Rudnai needed to declare the success of the vaccination, but at the end of the article, he wrote, “Our data are not suitable to draw conclusions for the efficacy of the 1957 vaccination campaign. This is because the mass vaccination was not executed with the same vaccine used in our study.” This statement is puzzling for more than one reason. First of all, according to Petrilla, “The bulk of the vaccine used in the campaign was prepared by three laboratories: Connaught; Eli Lilly and Co.; Parke-Davis and Co. Smaller quantities manufactured by other laboratories were also used.”⁸³ If such a study was planned to test the vaccine and the vaccination method, why didn’t this particular group of scientists have access to the vaccines used in the mass campaign? The article was published in 1959, so perhaps at the time of the study the vaccine batches had all been used or were not accessible for such testing. But then why would such a study, executed with an unknown vaccine batch and therefore seemingly irrelevant to the vaccination campaign, be worth publishing in the renowned journal two years after the vaccination campaign had started? The last sentence of the article reveals the answer: The laboratory testing “strengthened the trust in intracutaneous vaccination.”⁸⁴

Two years after vaccination with the Salk vaccine began, the method still needed “strengthening.” The question still unanswered was whether the intracutaneous vaccination method was as effective as the intramuscular method. The former could be administered with a fraction of the full dose for the latter, making it possible to save a significant amount of vaccine—and money. Was this method to be blamed for the

⁸³ Petrilla, *The Results of Intracutaneous Poliomyelitis Vaccination in Hungary, 1957*. p.298

⁸⁴ Szeri, Földes, and Bognár, "Adatok a Poliomyelitis Elleni Intrakután Védőoltás Kérdéséhez."p. 1365

epidemic in 1959? Did the Hungarian state, in the end, compromise the health of the children in its efforts to save resources?

As mentioned in the previous chapter, the method used by Hungarian authorities was called the Danish method. Denmark served as a model in the quest to curb polio in Hungary: It produced its own Salk vaccine (the laboratories that the three Hungarian scientists visited on their study trip in 1956), and it was in the forefront of free mass vaccination and could show significant results in both prophylaxis and polio treatment. In a report presented at the Fourth International Poliomyelitis Conference, the Danish delegation described its vaccination process. According to the delegates, 99 percent of children between 9 months and 14 years had been vaccinated by 1957, and 93 percent of the age group of 15 to 19 years and 85 percent of those ages 19 to 35 had received vaccine. Vaccination was voluntary and free of charge for the citizens. Intradermal (intracutaneous) shots were administered with a domestically produced Salk vaccine. The dosage was 0.3 milliliters per shot in three doses. The population under 18 years also received a fourth booster shot of 1 milliliter, administered intramuscularly.⁸⁵

There had been no significant epidemic waves in the last three years in Denmark, and the annual average incidence rate dropped from 15 per 100,000 before vaccination to 0.65 after 1955. However, the Danish delegation was wary of drawing conclusions as to the efficacy of the vaccination. Since such a high percentage of the population was immunized, there was no control group to make a scientific observation possible.⁸⁶ They called the fact that there had been no epidemic outbreak for six years a temptation to announce that their immunization campaign worked, but “even if it [was] longer than the

⁸⁵ Henningsen, "Poliovaccination in Denmark".

⁸⁶ "Poliomyelitis. Papers Presented at the Fourth International Poliomyelitis Conference". p.30.

intervals formerly observed between bigger outbreaks, nobody can tell whether the immunity in the population is obtained by the 1952-1953 epidemics or by the vaccination.”⁸⁷

Hungarians definitely used less vaccine in each individual shot than did their counterparts in Denmark. Also, Hungarian scientists and politicians were much more bold in drawing conclusions about the efficiency of the vaccination than their Danish colleagues. While Denmark’s vaccination method and results were defined as a success and a model for one country, on an international scale there was no clear agreement on what constituted successful immunization programs and how efficiency could be evaluated on a national scale.

The question of the vaccination method was not settled while Salk vaccination was in use in Hungary. A letter from the Health Ministry to the head of the PHCED, containing detailed instructions regarding vaccination in March and April of 1959 reveals that at least in some cases, the intramuscular method made a comeback, which also brought changes in the quantity of vaccine used. “Children born between September 1, 1957 and September 30, 1958 are legally obliged to be vaccinated. The first vaccination in March needs to be administered with 1 ml, the second in April with 0.5 ml vaccine . . . In the case of the compulsory vaccination of 6-18 months old [children], the vaccine has to be administered intramuscularly.”⁸⁸

The reason for the decision to change the method of administering the vaccine in the spring of 1959 is unclear. It is also puzzling why only one particular age group was included in this change. Nor did it fit into the method described by the Danish delegates,

⁸⁷ Henningsen, "Poliovaccination in Denmark". p. 26.

⁸⁸ Béla Tóth, "Gyermekekbenulás Elleni Védőoltások 1959. Március És Április Hónapban," in *Budapest Fővárosi Tanács VB Egészségügyi Osztályának iratai* (Budapest: Budapest Főváros Levéltára, 1959).

whose system Hungary was allegedly using. However, the seemingly arbitrary switch from intracutaneous to intramuscular vaccination does demonstrate that despite the internal and external communication of the Health Ministry, there was no clear, unanimous agreement on the method in the national vaccination campaign.

The state: a conspiracy theory

Physicians and health officials were not the only ones looking for a reason for the severe epidemic wave of 1959. The debates and uncertainties regarding the required amount of vaccine to establish immunity filtered down from the medical profession and surfaced as rumor among the population, while distrust in the vaccine and, most of all, in the state led to bitter explanations.

It is common knowledge among Hungarians living with polio today that the reason for the 1959 epidemic (in which many of them contracted the disease) was that the state halved the required dosage during the vaccination campaigns with the Salk vaccine.⁸⁹ According to this explanation, quantity won over quality, as in most cases of production and services in the communist era. The state could not afford (or rather chose not to spend adequately) to purchase enough vaccine, and because it was irresponsible, or simply did not really care about its citizens, decided to stretch out its supply and give lower doses than needed.

Uncertainties about the quantity of vaccine used could have originated from the medical profession itself. As Tóth also remarked, the doubts voiced by physicians could have affected vaccination rates; something about the vaccine and its quantity most probably circulated among the public. Moreover, even today, the belief in the state's

⁸⁹ Based on conversations at the National Heine-Medin Convention of the Hungarian Organization of Disabled Associations (Meosz).

culpability for having deliberately halving the vaccine is shared among some health workers as well.⁹⁰ Another source for this widely spread interpretation of events could have come from the state itself. As shown in Chapter 3, the Health Ministry made efforts to curb the public's expectations by emphasizing that the initial vaccine would not be sufficient to immunize all children.⁹¹ Moreover, in the article "Fight against infectious diseases," Tibor Bakács, director of the National Public Health Institute, brought the issue of the vaccination method to the public:

"I consider it necessary to note here: international research of the latest years has established that 0.2 ml vaccine injected intradermally (into the skin) and 0.5 ml vaccine injected intramuscularly (into the muscle) are basically equal in effect. Among the great specialists of the vaccines against infant paralysis, the Danish [von] Magnus refers to this result. Our comparative epidemiology research also confirms this."⁹²

A combination of unexplained changes in the method of vaccine administration, the circulating alternative views of local physicians and the often confusing information lay people could read on the pages of newspapers could very well have served as a fertile ground for the view that something was amiss in the organization and execution of the vaccine campaigns.

Whatever the origins of the conspiracy theory might be, as of now there is no evidence in the governmental archives that prove a premeditated plan to "halve" the vaccine. It is more likely that in search of an explanation, parents, health workers and polio patients identified the state as the entity to blame, as a responsible actor in the

⁹⁰ Enyedi Judit Dr. Dékány Pálné, *Interview* (Budapest: 2008); Elvira Mészáros, *Interview* (Budapest: 2008).

⁹¹ "Beoltják Gyermekbénulás Ellen Az 1-2 Éves Gyermeket: Külkereskedelmi Szerveink Már 250 000 Köbcenti Vakcinát Szereztek."

⁹² Tibor Dr. Bakács, "A Fertőző Betegségek Elleni Küzdelem," *Népszabadság*, August 26 1959.

unexpected tragedy.⁹³ This was hardly surprising in an environment in which the state blamed parents for misconduct and failed to deliver any other explanation for the epidemic, while parents helplessly watched their often fully vaccinated children come down with the paralyzing disease.

One can only guess, therefore, where this rumor (as this information at this point cannot be termed more than a persistent rumor) came from. What it does reveal, however, is something very important in the relationship and mutual expectations among the state and its citizens. People did expect the state to provide protection, especially for their children, against polio. It was the state itself that set up this expectation, through its rhetoric of paternal roles and through propaganda emphasizing the importance of care for the mother and child.⁹⁴ However, people also counted on poor quality, insufficient quantity and corruption in the distribution of any product or service provided by the state. Moreover, the state was by no means perceived as a friend by many—especially just a year after the revolution. So a willful deception that endangered children was not wholly unimaginable.

The Salk vaccine: from the savior of children to an imperfect technology

In 1960, based on the blood samples and information collected after the epidemic wave had settled, Bakács of the National Public Health Institute estimated that “35.4 per

⁹³ No doubt that subsequent events, such as a feeling of abandonment by the state after the mid 1960s, or the drastic changes in the health care and welfare system in the post communist era all feed into an often bitter and disappointed perception of the Salk vaccination. I argue, however, that the particular set of expectations explored in this section have existed in the 1950s as well as throughout the communist era – and in many cases, even today.

⁹⁴ see e.g. László Buga, *Hogyan Gondoskodik Államunk a Dolgozó Anyáról És Gyermekeiről Útmutató Városi És Falusi Előadók Számára* (Budapest: Művelt Nép könyvkiadó, 1953); Gyula Surányi, *Egészséges Anya - Egészséges Gyermekek Útmutató Városi És Falusi Előadók Számára* (Budapest: Művelt nép könyvkiadó, 1953).

cent of those who contracted poliomyelitis in 1959 had a written record of vaccination with 3 doses and an additional 2.7 per cent certainly remembered to have been subjected to vaccination.”⁹⁵ Over one third of the people—mainly children—who came down with polio in 1959, therefore, had been fully vaccinated. In a study conducted by the infectious-disease hospital in Budapest (László Hospital), 53.3 percent of the polio patients had received two or more doses of Salk vaccine beforehand, and 37.3 percent were fully vaccinated with three or four doses, including the “reminder” shot.⁹⁶ Both evaluations stated that these ratios were in accordance with international experiences of the Salk vaccine.

Until the epidemic in 1959, there was no mention in Hungary of the efficacy rate of the Salk vaccine in international experience. Not one newspaper article, not one governmental or ministerial document pointed to the fact that the vaccine would not protect the whole population, even if everyone received the full dosage.

However, in the thick of the epidemic wave, the blaming of parents gave way to the rather detached and objective citing of efficacy rates of the vaccine. In August, the official line of the National Public Health Institute was that the efficacy of the Salk vaccine was at 70 percent to 80 percent in Hungary, which, they argued, fell in line with the experiences of socialist and capitalist countries. These figures were published in the daily newspaper *Népszabadság*.⁹⁷ A joint evaluation by the institute and László hospital from 1961 then modified these numbers to 60 percent to 70 percent.⁹⁸

⁹⁵ Bakács, "Poliomyelitis Prophylaxis in Hungary." p.332.

⁹⁶ Losonczy et al., "A Salk Vakcináció És a Poliomyelitis Klinikai Lefolyásának Összefüggése." p.734

⁹⁷ Dr. Bakács, "A Fertőző Betegségek Elleni Küzdelem."

⁹⁸ Losonczy et al., "A Salk Vakcináció És a Poliomyelitis Klinikai Lefolyásának Összefüggése." p.733

The growing disillusionment with the Salk vaccine in 1959 is especially interesting, since it was that year that Hungary finally managed to start the experimental mass production of the vaccine. Newspapers had already announced the start of Salk vaccine production in 1958,⁹⁹ but mass production of the vaccine began only a year later. Virologist Sándor Koch, a participant in the Danish study trip in 1956, headed the process at the State Institute of Hygiene.

“We made the vaccine because it was an interesting technological task, but I was not excited about the routine production of it. A good friend of mine, doctor Pál László, head of department at László hospital, told me one day: ‘Come and see us.’ So I went. In several rooms, children with paralyzed limbs were playing and laughing, and then, as if it was by accident, he took us to another room, where about twenty children from infant to teenagers were lying in iron lungs. My good friend told me: ‘You know, these children will never be able to breathe spontaneously in their life, because their respiratory system is paralyzed by polio.... so tell me, are you going to produce the vaccine or not?’ It was this visit that made me realize that I have to keep on going and produce the vaccine.”¹⁰⁰

A batch of the domestically produced vaccine was then tested in Copenhagen at the Stetens Seruminstitut, before it was distributed to Hungarian children.¹⁰¹ Following Danish approval of the vaccine, the fourth, reminder shots administered during the 1959 epidemic were partly covered by domestic vaccine production.¹⁰²

The lack of an epidemic in 1958 was also reevaluated. While prior to the 1959 epidemic, the quiet year of 1958 was considered clearly to be the result of immunization with the Salk vaccine, by 1960 a virological coincidence was named as the reason for the

⁹⁹ Moldován, "Aki Még Nem Kapott - Áprilisban Jelentkezzék Gyermekebénulás Elleni Védőoltásra."; "Dr. Doleschall Frigyes Miniszter Nyilatkozata a Népszavának Az Egészségügy Hároméves Tervéről, a Salk-Oltásokról És a Gyógyszerfogyasztásról."

¹⁰⁰ Mezei, "...Isten Van, Az Ember Történi." *Koch Sándor Viroológussal Beszélget Mezei Károly.* p.24.

¹⁰¹ Sándor Koch, "Szubjektív Viroológia," *Természet Világa* 130, no. 2 (1999).

¹⁰² Aladár Kátay, "The Active Immunization against Poliomyelitis in Hungary and Its Three Years' Results," in *The Control of Poliomyelitis by Live Poliovirus Vaccine. Studies on Mass Vaccinations in Hungary, in the Ussr, in Czechoslovakia and the German Democratic Republic. Papers Presented at the Hungarian-Soviet Medical Conference September 24-30, 1960.*, ed. J. Weissfeiler (Budapest: Publishing House of the Hungarian Academy of Sciences, 1961).

lack of a polio epidemic that year. Apparently, in 1958 there had been an outbreak of Bornholm disease (named after a Danish island where it was first reported), a Coxsackie B virus, which most probably interfered with the poliovirus and, as Bakács argued on the pages of *Orvosi Hetilap*, obstructed the spread of polio.¹⁰³

Similar to polio, Coxsackie B viruses are enteroviruses. The interaction between the two groups of viruses began to be explored in the early 1950s, when it was unclear whether they mitigated or exacerbated each other's effects.¹⁰⁴ Soon, interference of the two viruses and Coxsackie's "sparing effect" on polio became a theory represented quite well in international medical literature.¹⁰⁵ This meant that people who caught the much milder Coxsackie B virus could not be super-infected with polio at the same time. Bakács argued that the outbreak of Bornholm disease coincided with the usual time of polio in the summer and that this greatly contributed to the lack of a polio epidemic in 1958.

In light of the 1959 epidemic, the vaccine quickly transformed from being the savior of Hungarian children to an imperfect technology. This process was further speeded up by the appearance of a new vaccine in the Soviet Union. Already in August 1959, newspapers were starting to write about the coming of the new vaccine, as one that would

¹⁰³ Dr. Tibor Bakács, "Az Eddigi Poliomyelitis Vaccinatio Eredményeinek Értékelése," *Orvosi Hetilap* 101, no. 20 (1960).

¹⁰⁴ Gilbert Dalldorf, "The Sparing Effect of Coxsackie Virus Infection on Experimental Poliomyelitis," *Journal of Experimental Medicine* 94, no. 1 (1951).

¹⁰⁵ see e.g. Erik Lycke, "Interference between Poliomyelitis Virus and Coxsackie B or Echo Viruses," *Archives of Virology* 8, no. 3 (1958); N.F. Stanley, "Attempts to Demonstrate Interference between Coxsackie and Poliomyelitis Viruses in Mice and Monkeys," *Proceedings of the Society for Experimental Biology and Medicine*, no. 81 (1952). Gilbert Dalldorf and Robert Albrecht, "Chronologic Association of Poliomyelitis and Coxsackie Virus Infections," *Proceedings of the National Academy of Sciences USA* 41, no. 11 (1955). The question of the virus interference of Coxsackie B and poliomyelitis, however, remained far from being settled until the 1960s. Richard L. Crowell, "Specific Viral Interference in Hela Cell Cultures Chronically Infected with Coxsackie B5 Virus," *Journal of Bacteriology* 86, no. 3 (1963).

be even more effective than the Salk vaccine: “a vaccine that was developed based on research by the American Sabin and the Polish Koprowski.”¹⁰⁶

In 1960, the *Orvosi Hetilap* published the translation of Chumakov’s article on the mass immunization of the population of the Soviet Union with the Sabin vaccine. “Today we cannot consider the Salk vaccine, despite all its advantages, to be a tool in liquidating polio in a range of countries.... Post-vaccinated immunity is not complete either.... The virus keeps circulating in the population and the danger of poliomyelitis epidemics remain.... Neither the intracutaneous nor the intramuscular methods are suitable for immunizing tens of millions of children, which would be needed to build immunity against poliomyelitis in the whole of the population.”¹⁰⁷ Scarcely six months had passed between the unquestionable celebration of the Salk vaccine and the publication of such a statement as a valid view in Hungary. A few months later, Bakács, leading virologist of the State Institute of Hygiene, reiterated this assertion as vaccination began with the new Sabin vaccine in Hungary.¹⁰⁸

The Hungarian experience tells a peculiar story about polio prevention with the Salk vaccine. The overwhelming majority of polio histories, especially those on polio in the United States, follow a narrative of the introduction of the Salk vaccine as a watershed event in blocking the return of a major epidemic and marking the beginning of the end of polio. The 1959 epidemic in Hungary, however, shows that this story cannot be universally extended. Rather, the experience with Salk vaccination in this particular

¹⁰⁶ Dr. Bakács, "A Fertőző Betegségek Elleni Küzdelem."

¹⁰⁷ M.P. Csumakov et al., "A Lakosság Poliomyelitis Elleni Tömeges Per Os Immunizálása a Szovjetunióban Sabin Attenuált Törzseiből Készített Élő Vakcinával," *Orvosi Hetilap* 101, no. 4 (1960).

¹⁰⁸ Dr. Tibor Bakács, "Az Eddigi Poliomyelitis Vaccinatio Eredményeinek Értékelése," *ibid.*, no. 20.

Eastern European state highlights how scientific uncertainties pertained to the disease throughout the 1950s. There was and still is no clear answer to why the vaccination didn't work. No clear standards guided the campaigns and, apart from the initial controlled trial in the United States in 1954, there was no proof of efficacy on the level of a population for a vaccine against an epidemic that did not come every year.

The scientific uncertainties of the disease and the preventive technology magnified the political and social forces at work in the vaccination process. The expectations of researchers and their role in producing progressive scientific results, of the state and its role as provider and protector, and of the citizens as compliant and grateful were challenged and contested. Inefficiencies in state and healthcare organization became apparent, as haphazard reporting and data management made scientific and political evaluations and decision-making difficult. Physicians resisted the overruling of their professional judgment, while some parents defied the intervention of the state in their decisions about their children's health.

The scientific uncertainties of the Hungarian Salk vaccination also highlighted changes that took place in the two years between the epidemics. The coming of a new epidemic soured the initial enthusiasm for this Western technology and triggered changes in medical discourse, in the perception of citizens and the state, and in the technology itself. Medical data changed meaning. The meanings of the statistics on vaccine efficacy in the population produced in the early fall of 1957 changed drastically in the course of two years: from being inadequate evidence in 1957, they became the ultimate proof of efficacy by 1958, only to turn into numbers signifying an epidemiological coincidence to explain away the new outbreak in 1959. In the eyes of that state, parents turned from

being thankful beneficiaries in the nonepidemic times to ungrateful and irresponsible citizens who did neither appreciated nor deserved the sacrifices of the state, and who even brought the epidemic on themselves. Furthermore, the Salk vaccine of early 1959 was not the same as the Salk vaccine of six months later. The former was the savior of children and a symbol of the state's commitment to the health of future generations, while the latter was an imperfect technology that Hungary temporarily reverted to until a better option became available.

Chapter 4: Sabin saves the day

The introduction of the Sabin vaccine in Hungary in 1959 could not have been more different from that of the Salk vaccine two years before. In the case of the killed-virus vaccine, the state was slow to move in vaccine production, faced challenges in its acquisition, and ran into significant problems in vaccine organization. Meanwhile, in the introduction and dissemination of the Sabin vaccine, Hungary was quick to adopt the brand-new vaccine following field trials and became the first country in the world to organize nationwide mass vaccination with the oral vaccine.

The development and implementation of the live-poliovirus vaccine in Hungary is truly a Cold War story: one in which scientists all over the world, among them American and Soviet researchers, worked together and shared results that led to the immunization of millions of children in national mass-vaccination programs. The scientific cooperation surrounding polio seems to have reached its climax in the development of the Sabin vaccine, revealing global cooperation that arched over conventional Cold War hostilities. Polio could clearly no longer be defined as “an American story.”¹

At the same time, the evaluation and introduction of this new vaccine was highly determined by the Cold War itself. Cold War frustrations and preconceptions permeated the scientific debate over the efficacy and safety of the new vaccine. The countries’

¹ In his fundamental work, David Oshinsky focuses on the development of Salk and Sabin vaccines and presents the process as an American story. He argues that “the polio crusade... remains one of the most significant and culturally revealing triumphs in American medical history.” Oshinsky, *Polio : An American Story*.p.7. While I am not debating here the important role of polio in American politics, culture and public health, I wish to broaden the spectrum of the history of polio vaccines and argue that especially in the case of the Sabin vaccine, polio research and vaccine development quickly became a global project with universal goals.

choices to introduce the new vaccine were largely shaped by the relations of the national public-health structure, the government, and the infrastructure and the vaccines, which, in turn, were mostly determined by their being part of the “capitalist” or “communist” regime.

Hungary’s encounter with the Sabin vaccine presents a microcosm of global Cold War politics. Hungary’s choice of the Sabin vaccine over the Salk, and the country’s participation in the network of field trials, had much to do with its being part of the Eastern Bloc and having a healthcare system that favored mass-vaccination programs. Moreover, the particular ways in which the introduction of the Sabin vaccine and the success of eliminating polio from the country’s epidemiology reports gained political significance show the dynamic nature of the Iron Curtain. In an effort to prevent the epidemic, gaping holes opened through which the two sides connected, only to close again when the East and West realigned along conventional Cold War lines.

Drawing the Iron Curtain: development of live-poliovirus vaccines

Although the live-poliovirus vaccine, developed by Albert Sabin, made its official debut in national vaccination programs in 1959 and 1960, its story, in fact, began much earlier, parallel to the making of the Salk vaccine. The concept of live-virus vaccines had been known for decades before live-poliovirus vaccine development started, and work on the live vaccine ran parallel to Salk’s research on inactivated vaccine.

Live-virus vaccines had been in use for more than 100 years in the case of smallpox and for over 20 years in the case of yellow fever.² The concept, therefore, was not new,

² Paul, *A History of Poliomyelitis*.p. 441.

and many thought that a live vaccine would be more effective than the killed one to begin with, in that it would work quicker and would probably provide a more lasting protection since it followed the pattern of a natural infection.³ Most importantly, those vaccinated would get the attenuated virus back to the environment through their stool, creating a chance to immunize the others indirectly.⁴ The challenge of the live, attenuated polio vaccine was to find a strain of virus that would not cause paralysis, but would provide immunity nonetheless. This method took considerably more time than Salk's of finding a way to kill the virus and preserve it.

Hungary's experiences with polio vaccines and the government's decision to switch from Salk to Sabin nested in a broader process of vaccine development. While the laboratory work of the development of live-virus vaccines is fascinating, the human experiments and field trials provide the most compelling insights into the Cold War political context of vaccine development. Research groups headed by three different scientists, tested three different vaccines across the globe, spanning South America to Southeast Asia and Africa to Eastern Europe. By 1959, according to the WHO's report, at least fifteen countries had conducted field trials⁵ International cooperation in organizing the trials and coordinating the evaluation of the new vaccines was unprecedented in this formative decade of international public health.

The three virologists that shaped live polio vaccine development in the 1950s were Hilary Koprowski, Albert Sabin and Herald Cox. Koprowski was born in Warsaw to a Jewish family and left Poland in 1939, after the Nazi occupation. From working with the

³ "Attenuated Poliomyelitis Vaccines," *British Medical Journal* 1, no. 4961 (1956).

⁴ Oshinsky, *Polio : An American Story*.pp.244-245.

⁵ "Summary of Conference on Live Poliovirus Vaccines," (Geneva: World Health Organization, 1959).p. 3.

Rockefeller Foundation in Brazil on yellow fever, he landed at the Lederle Laboratories in the United States, where he started to work on the live-polio vaccine. Albert Sabin, the most well-known of the three, was of Russian descent, also from a Jewish family, and worked on the polio vaccine at the University of Cincinnati. H.R. Cox, an American scientist, became head of the Virus and Rickettsial Research Department at Lederle Laboratories in 1946 and, for a while, worked with Koprowski there.

The first researcher to conduct experiments with live-poliovirus vaccine was Koprowski. In 1947, he himself was his first experimental subject; three years later he moved on to experiment on mentally disabled children in a state institution in New York's Hudson Valley.⁶ In light of the Nuremberg Code of 1947, this was an at least ethically dubious experiment even by contemporary standards. Koprowski received much criticism when he presented his results in 1951 to a roundtable convened by the National Foundation of Infantile Paralysis. Reservations about his methods softened as time went on, and his experiment on "volunteers" became a brave first step in the development of a new and successful vaccine.⁷

In 1956 a new opportunity presented itself for Koprowski to test his vaccine, this time in Belfast, Northern Ireland.⁸ Koprowski, therefore, became also the first to take his vaccine abroad. The trial, however, turned out to be a disappointment for Koprowski's Irish counterpart: the strain used by Koprowski was proven to be unsuitable as a vaccine,

⁶ Oshinsky, *Polio : An American Story*.p.135.

⁷ Ibid.pp.135-137.

⁸ Lindner and Blume, "Vaccine Innovation and Adoption: Polio Vaccines in the UK, the Netherlands and West Germany, 1955-1965."p.438.

since it regained its cytopathic power, turning virulent in the volunteers' bodies. It was thus deemed unsafe.⁹

Korpowski, Sabin and Cox turned to field trials outside of the United States in part because Cutter incident raised suspicions against polio vaccines. In the spring of 1955, almost 200 patients in the United States (mostly children and family members) contracted paralytic polio from a faulty batch of the Salk vaccine produced by the Cutter laboratories.¹⁰ This incident had a tremendous impact: it shook public trust in the vaccine and changed vaccine regulation and control in the United States.¹¹ Furthermore, by the time Sabin's vaccine required mass testing in order to establish its efficacy, the Salk vaccine had become widespread in the United States. Millions of children were now immunized with the killed-polio vaccine, making it impossible to test and evaluate a new vaccine against the same disease.

Not everyone shared the excitement over an international project, however. U.S. health officials did not uniformly accept vaccine testing on foreign ground. In a congressional hearing on polio vaccines in 1961, Alexander Langmuir, chief epidemiologist of the Department of Health, Education and Welfare and founder of the Epidemic Intelligence Service, found it important to note that "... it is not as though they [Koprowski, Sabin and Cox] went elsewhere to test. They went to the place to test that would give the best tests, but all of the questions were started and worked on in this

⁹ D.S. Dane et al., "Vaccination against Poliomyelitis with Live Virus Vaccines. I. A Trial of Tn Type II Vaccine," *British Medical Journal* 1, no. 5010 (1957).

¹⁰ Offit, *The Cutter Incident : How America's First Polio Vaccine Led to the Growing Vaccine Crisis*; National Heine-Medin Convention of the Hungarian Organization of Disabled Associations (Meosz).

¹¹ Oshinsky, *Polio : An American Story*., Offit, *The Cutter Incident : How America's First Polio Vaccine Led to the Growing Vaccine Crisis*. and Colgrove, *State of Immunity. The Politics of Vaccination in Twentieth-Century America*.

country before any overseas activity.”¹² In a scientific race between the East and West, the fact that such an important vaccine was first widely tested and produced outside the United States needed explanation and reinforcement that all, indeed, were first developed in the U.S. Cooperation may have characterized live-vaccine development, but Cold War frustrations gave the context of their presentation.

Beginning in 1958, international live-poliovirus trials accelerated, thanks to a report published by the World Health Organization (WHO). That year that a severe polio epidemic outbreak in Singapore gave the first opportunity for a trial of Sabin’s vaccine. According to the 1958 report of the WHO’s Second Expert Committee Report on Poliomyelitis, eleven weeks into the epidemic, the Singapore government decided to introduce the vaccine.¹³ The report stated that “there would appear to be sufficient justification for initiating at this time trials of the currently-available tested lots of attenuated poliovirus vaccine in increasingly large numbers of people.”¹⁴ This was the green light for which live-virus researchers had been waiting. Proponents of live-vaccine field trials trumpeted the report’s recommendations that a large-scale trial of attenuated vaccine should be attempted in the face of an emerging epidemic, and in a place where polio was endemic.. Sabin agreed to the trial on the condition that “adequate laboratory control could be assured.”¹⁵ Almost 200,000 children were vaccinated on a voluntary basis.

¹² *Polio Vaccines*.p.108.

¹³ "Expert Committee on Poliomyelitis," in *Technical report series* ed. World Health Organization (Geneva: World Health Organization, 1958).

¹⁴ *Ibid*.p.25.

¹⁵ J.H. Hale et al., "Large-Scale Use of Sabin Type 2 Attenuated Poliovirus Vaccine in Singapore During a Type 1 Poliomyelitis Epidemic," *British Medical Journal* 1, no. 5137 (1959).p.1541.

Koprowski also kept working on his vaccine after he left the Lederle Laboratories and relocated to the Wistar Institute at the University of Pennsylvania. In early 1958, he conducted a mass-vaccination trial in the Ruzizi Valley in Belgian Congo.¹⁶ The idea of an animal trial in the Congo came up in personal conversations during Koprowski's participation in a rabies conference organized by the WHO in 1955 in Kenya. The trial involving chimpanzees and their caretakers soon was broadened to include a total of 244,596 people living in the Belgian Congo and Ruanda-Urundi.¹⁷ It is not clear how volunteers were recruited, or if the people living under colonial rule had a choice or a full understanding of the trial for which they were enlisted. In any case, this time there was no protest by fellow scientists on ethical grounds.¹⁸ In the end, the project was inconclusive, and discontinued as efforts for independence from colonial rule generated political and social upheaval in the country.¹⁹

Lederle Laboratories also continued with vaccine development and conducted field trials of their own in Central America in 1959, using vaccine developed by Herald Cox in Colombia, Nicaragua and Costa Rica.²⁰ The mass-immunization campaigns in the latter two countries produced disappointing results, as the number of polio cases did not fall

¹⁶ Hilary Koprowski, "Historical Aspects of the Development of Live Virus Vaccine in Poliomyelitis," *ibid.* 2, no. 5192 (1960).p.90.

¹⁷ Allan M. Brandt, "Racism and Research: The Case of the Tuskegee Syphilis Study," *The Hastings Center Report* 8, no. 6 (1978).

¹⁸ Medical experiments on vulnerable populations were not unknown to public health practice of the mid-20th century. See Susan M. Reverby, "'Normal Exposure' and Inoculation Syphilis: A Phs 'Tuskegee' Doctor in Guatemala, 1946-1948," *Journal of Policy History* 23, no. 1 (2011). and "Washington Conference on Live Poliovirus Vaccines," *British Medical Journal* 2, no. 5146 (1959).p.236.

¹⁹ "Fifth International Poliomyelitis Conference ", *British Medical Journal* 2, no. 5197 (1960).p.534.

²⁰ Expert Committee on Poliomyelitis, "Expert Committee on Poliomyelitis. Third Report," in *Technical Report Series*, ed. World Health Organization (Geneva: World Health Organization, 1960).p.14.

significantly after vaccination.²¹ However, a controlled trial in Minnesota²² with the same vaccine reported “excellent antibody responses.”²³

Koprowski’s strains were later widely tested in Finland and Poland. In Poland, the introduction of Koprowski’s vaccine followed that of the Salk vaccine by one year.²⁴ During the five months between October 1959 and April 1960, more than seven million children were immunized,²⁵ including roughly eighty percent of the population between 6 months and fifteen years of age.²⁶ In 1961, the country reverted to the Salk vaccine after an increase of polio cases following the oral vaccination with Koprowski’s Type-3 attenuated strain in the previous two years.²⁷

It is not clear how Koprowski was able to conduct such a large field trial behind the Iron Curtain. He was born in Poland, certainly; but as an immigrant living in the United States, his experimentation on Polish youth with American-made vaccines could have easily made him a suspect rather than a friend. Reports and articles never addressed the issue of Koprowski’s access to an Eastern European country’s children for field trial;. Perhaps one of the reasons for it is that another influential and large field trial diverted attention from Koprowski’s endeavor: one that was not only conducted behind the Iron Curtain, but on the grounds of the arch enemy itself. It was Albert Sabin’s vaccine in the Soviet Union.

²¹ "Live Poliovirus Vaccines," *British Medical Journal* 2, no. 5193 (1960).p.203.

²² Robert N. Barr et al., "Use of Orally Administered Live Attenuated Polioviruses as a Vaccine in a Community Setting," *Journal of the American Medical Association* 170, no. 8 (1959).

²³ "Washington Conference on Live Poliovirus Vaccines."p.235.

²⁴ Jan Kostrzewski, "Poliomyelitis in Poland," in *World Health Organization* (Geneva: World Health Organization Library, 1969).

²⁵ "European Association against Poliomyelitis," *British Medical Journal* 2, no. 5257 (1961).

²⁶ H. Koprowski, "Preliminary Report as of September 1960 of Mass Vaccination in Poland with Koprowski's Strains of Attenuated Virus," in *Study Group on Requirements for Poliomyelitis Vaccine (Live, Attenuated Virus)* (Geneva: World Health Organization Library, 1960).

²⁷ Kostrzewski, "Poliomyelitis in Poland."

The new vaccine was the result of a unique cooperation between American and Russian scientists, Mikhail Chumakov and Albert Sabin, in a particular moment of the Cold War. The slight thaw that followed Stalin's death opened up new opportunities for exchange. Khrushchev's secret speech against Stalin's rule had significant effects for the biomedical sciences as well.²⁸ Historian Saul Benison argues that it was the increase in the incidence of polio that convinced Soviet authorities that "it was costly socially and economically not to take advantage of the great breakthroughs in American biomedical research vis-à-vis polio."²⁹ For the first time since World War II, medical cooperation between the two superpowers started to become a reality.

In early 1956, a Soviet medical mission arrived in the United States, led by Mikhail Chumakov, his wife and colleague, Marina Voroshilova, and Anatoli Smorodentsev.³⁰ The delegation studied the production of Salk vaccine and ongoing research in epidemiology. During the trip, they also visited the laboratory of Albert Sabin. This visit turned out to be the beginning of a decade-long exchange. Sabin returned the favor in June 1956 and spent a month touring the U.S.S.R. with talks and laboratory visits. Scientists, specimens and vaccine vials crossed the Iron Curtain in both directions as cooperation intensified between American and Soviet virologists, especially between Sabin and Chumakov's groups. This cooperation had the blessing of both the FBI and the State Department, despite warnings from the Department of Defense that the materials and research involved could be used in making biological weapons.³¹ Scientists' foreign

²⁸ Konstantin Ivanov, "Science after Stalin: Forging a New Image of Soviet Science," *Science in Context* 15, no. 2 (2002).

²⁹ Benison, "International Medical Cooperation: Dr. Albert Sabin, Live Poliovirus Vaccine and the Soviets," p.465.

³⁰ Ibid.p.467

³¹ Oshinsky, *Polio : An American Story*.

travel was not strictly controlled only on the eastern side of the Iron Curtain. In the 1950s, many American scientists in other fields ran into difficulties or were denied passports for political reasons when applying (600 passport applications were rejected on political grounds in the fifties until 1958).³² Sabin's relative freedom in traveling, therefore, was not entirely typical of his time.



Figure 7 Sabin and Chumakov. From The Albert B. Sabin Digitization Project: Polio and the Cold War

Scientific exchange between Sabin and Chumakov led to the largest field trial in the history of polio, involving over 16.5 million people across the Soviet Union.³³ As soon as

³² Jessica Wang, *American Science in an Age of Anxiety. Scientists, Anticommunism and the Cold War* (Chapel Hill and London: University of North Carolina Press, 1999).pp. 276-277.

³³ M.P. Chumakov et al., "Some Results of the Work on Mass Immunization in the Soviet Union with Live Poliovirus Vaccine Prepared from Sabin Strains," *Bulletin of the World Health Organization* 25, no. 1 (1961).

Sabin finished selecting the most optimal strain for creating the vaccine, he sent samples to Smorodintsev in Leningrad. Field trials with the strain started in 1957 on a very small scale with the vaccination of 67 children. This number gradually grew to 150, then to 2,010, and finally to 20,000 in 1958.³⁴ Parallel to Smorodintsev's trials, another field trial, initiated by Chumakov, then director of the Poliomyelitis Research Institute in Moscow, took off in greater proportions. Chumakov asked Sabin to send him "the greatest possible amount" of vaccine for testing and producing. Sabin sent enough to vaccinate 300,000 children.³⁵ Chumakov started the trial with 20,000 and, following its initial success, was able to conduct the largest field trial to date in the history of polio vaccines.

By the end of 1959, over 15 million people spanning 14 republics of the Soviet Union were vaccinated in the trial. Smorodintsev and his team immunized more than 1.5 million of the subjects; the rest received vaccine from Chumakov's lab in the Institute for Poliomyelitis Research in Moscow. The Soviet Union's Minister of Health issued an order on December 16, 1959 for the mass immunization of the whole population between the ages of 2 months and 20 years by July 1960. This meant vaccinating 77 million people in a matter of months.³⁶ The *British Medical Journal* deemed this campaign a "Blitzkrieg against poliomyelitis."³⁷

³⁴ A.A. Smorodintsev et al., "Results of a Study of the Reactogenic and Immunogenic Properties of Live Anti-Poliomyelitis Vaccine," *ibid.* 20(1959).

³⁵ Albert B. Sabin, "Role of My Cooperation with Soviet Scientists in the Elimination of Polio: Possible Lessons for Relations between the U.S.A. And the U.S.S.R.," *Perspectives in biology and medicine* 31, no. 1 (1987).p.61.

³⁶ Chumakov et al., "Some Results of the Work on Mass Immunization in the Soviet Union with Live Poliovirus Vaccine Prepared from Sabin Strains."

³⁷ "Mass Immunization with the Live Poliovirus Vaccine in the Soviet Union," *British Medical Journal* 1, no. 5187 (1960).p.1729.

Parallel to the Soviet campaign, smaller but equally important trials were conducted in Czechoslovakia and Hungary. The Hygiene and Epidemiological Service of Czechoslovakia organized relatively large field trials in 1958 and 1959 with vaccines prepared from the Sabin strains by the Institute of Sera and Vaccines in Prague, with additional batches of vaccines acquired from Chumakov in the Soviet Union.³⁸ Finding the serological results favorable, the vaccination program was extended to a nationwide campaign in 1960. 93 percent of Czechoslovakia's child population was vaccinated, roughly 3.5 million children.³⁹

Although less widely known than the field trials and early mass-immunization programs in the U.S.S.R. and Czechoslovakia, Hungary was also among the Sabin vaccine pioneers. Hungarian virologists and public-health authorities had been following oral vaccination trials closely throughout the year, but a turning point in developing serious interest came with the epidemic of the summer of 1959. In September the National Public Health Institute hosted an international congress on microbiology, at which one of the focuses was the issue of live-polio vaccines. Chumakov delivered the keynote address about the Russian findings,⁴⁰ while Albert Sabin's presentation was read in his absence. Vilem Skovranek, deputy minister of health in Czechoslovakia and a key player in the Czechoslovak field trials, also presented a paper on the live-polio vaccine.⁴¹ Trials began in Győr-Moson-Sopron County in 1959 on November 3rd and 4th, during

³⁸ Karel Žáček et al., "Mass Oral (Sabin) Poliomyelitis Vaccination. Virological and Serological Surveillance in Czechoslovakia, 1958-59 and 1960," *ibid.*, no. 5285 (1962).

³⁹ Vilém Škrovánek and Karel Žáček, "Oral Poliovirus Vaccine (Sabin) in Czechoslovakia. Effectiveness of Nation-Wide Use in 1960.," *Journal of the American Medical Association* 176, no. 6 (1961).

⁴⁰ Domokos Boda, "50 Years Ago: Polio Epidemics, Immunisation, and Politics," *BMJ* 340(2010).

⁴¹ "A Gyermekbénulás Elleni Élő Oltóanyagról Tárgyal a Mikrobiológiai Kongresszus," *Népszava*, September 23 1959.

which the population between the ages of 3 months and 15 years⁴² was vaccinated. Virologists reported the average acceptance rate of the vaccine to be 96 percent.⁴³ The trial was short, and not much time was spent on the evaluation of the results. The National Public Health Institute analyzed 127 stool samples before and after the trial to investigate the presence of the attenuated virus after vaccination; but the overall evaluation of the vaccine and the decision to was based on the large-scale field trials conducted by the Soviet Union, as well as the experiences of Czechoslovakia and Singapore with the Sabin, and Poland and the Belgian Congo with the Koprowski strains.

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“There is no Cold War”

The moment of political thaw that made such global cooperation possible coincided with several turning points in scientific-research conditions on both sides of the Iron Curtain. The United States had recently increased federal financial support for scientific research, and Washington became more receptive to international cooperation in the field.⁴⁵ American scientists had more resources and support to work together with foreign colleagues. In fact, research opportunities widened on a massive scale with both superpowers, fueled by intense political, economic and military rivalry.⁴⁶ Ironically, then,

⁴² "Az Egészségügyi Minisztérium Tájékoztatója Az Ország 1959. Évi November Havi Járványügyi Helyzetéről," in *Egészségügyi Minisztérium Állami közegészségügyi felügyelet és járványvédelmi főosztály iratai* (Budapest: Magyar Országos Levéltár, 1959).

⁴³ I. Dömök, Elisabeth Molnár, and Ágnes Jancsó, "Virus Excretion after Mass Vaccination with Attenuated Polioviruses in Hungary," *British Medical Journal* 1, no. 5237 (1961).p.1410.

⁴⁴ Bakács, "Az Eddigi Poliomyelitis Vaccinatio Eredményeinek Értékelése." p.690.

⁴⁵ see Benison, "International Medical Cooperation: Dr. Albert Sabin, Live Poliovirus Vaccine and the Soviets."p.465. and Oshinsky, *Polio : An American Story*.p.251.

⁴⁶ Mark Solovey, "Science and the State During the Cold War: Blurred Boundaries and a Contested Legacy," *Social Studies of Science* 31, no. 1 (2001).

antagonistic Cold War objectives helped open opportunities for cooperation across the Iron Curtain.

At the same time, in the Soviet Union, scientific discourse was changing, gradually breaking with Stalinist concepts of the superiority of a particularly Soviet science and medicine.⁴⁷ According to Sabin, the vice president of the Soviet Academy of Sciences made this change clear when, in defense of Sabin at a lecture in the U.S.S.R., he stated that “we have now reached a stage in Soviet science where we cannot and should not any more speak of Soviet genetics, Western genetics or American genetics. There is just one kind of genetics, the kind that gives reproducible results.”⁴⁸

As shown in Chapter 1, polio began to create a unique space in Cold War politics preceding the thaw, mainly due to the involvement of children’s health and the threat of disabling future generations amid post-war recuperation. The internal changes and new avenues in both American and Russian scientific environments, together with a more general thaw in Cold War policies, further widened this space to produce a hitherto unprecedented medical cooperation between the two archenemies.⁴⁹

The global effort to put a stop to polio epidemics created a community of scientists who transcended Cold War barriers and defied the world order. Scientists and national public-health authorities shared results of field trials from all over the world with three

⁴⁷ Loren R. Graham argues that the issue of Lysenkoism, the Soviet alternative to theoretical genetics, served as early steps in going against the regime for dissidents of the regime, like Zhores Medvedev and Andrei Sakharov in the early 1960s. Loren R. Graham, *What Have We Learned About Science and Technology from the Russian Experience?* (Stanford: Stanford University Press, 1998). pp.34-35.

⁴⁸ Benison, “Albert Sabin Reminisces,” interview, 3 June 1976, pp.2-5. Cited in Benison, “International Medical Cooperation: Dr. Albert Sabin, Live Poliovirus Vaccine and the Soviets.”

⁴⁹ The significance of such a cooperation is shown by present day interpretations of the development of the oral polio vaccine. An article in *Science* magazine from 2010, for example, refers to the cooperation between the USSR and the US as an example to follow in resolving conflict among the US and the Islamic world through “vaccine diplomacy. Peter J. Hotez, “Peace through Vaccine Diplomacy,” *Science* 327(2010).

different live-virus vaccines, along with updates on vaccine use and epidemiological data in the pages of major scientific journals and at international conferences.

For instance, in a symposium and conference in Moscow in May 1960, apart from the 300 specialists from U.S.S.R., 73 foreign scientists from 19 countries took part in eight working sessions. In the three days of the conference, “23 reports and communications results were summarized of the mass application of live poliovirus vaccine in 9 republics of the Soviet Union, as well as in Poland, Hungary, China, Bulgaria, Sweden and the USA.”⁵⁰



Figure 8 From left to right: Albert Sabin, Jonas Salk, Basil O'Connor. Courtesy of March of Dimes

The success of the new vaccines ignited a scientific euphoria, strengthening the sense that science, as putatively objective and universal, could serve as a tool to stop the Cold

⁵⁰ "The Main Results of the IV Scientific Conference of the Institute and the International Symposium on Live Poliovirus Vaccine and the 1st Soviet-American Discussions of Problems Relating Tto the Control of Poliomyelitis", (paper presented at the IV Scientific Conference of the Institute and the International Symposium on live poliovirus vaccine and the 1st Soviet-American Discussions of Problems Relating tto the Control of Poliomyelitis, Moscow, 1960).

War and unite humanity in a common bond. Opening the Sixth Symposium of the European Association of Poliomyelitis in 1959 in Munich, the organization president referred to the participating scientists, coming from 25 different countries, as “members of our polio family.”⁵¹ Going a step further, at the Fifth International Poliomyelitis Conference in 1960 in Copenhagen, Basil O’Connor (who was president of the American National Foundation for Infantile Paralysis) celebrated the achievements of the cooperation in his opening speech:

“This is a council, not of war, but of victory. Together we have successfully created weapons against a common enemy that bring within our reach a triumph for all mankind, the coming elimination of epidemic-paralytic poliomyelitis. We meet now to compare notes on what we have created, to report our experiences and help each other in reaching decisions on the most effective use of those weapons. Your very presence here, from the East, from the West, is proof to the world that in your high calling, in search for the truth that frees man from disease, there is no Cold War.”⁵²

This feeling of unity marked the end of a decade when other domains of public health were hindered by Cold War tensions. For much of the 1950s, the Soviet Union, along with Eastern European countries, left the WHO as a sign of protest against the agency’s politics. Since the founding document of the WHO did not permit the unjoining of the agency, the Eastern European countries were termed *inactive*. The U.S.S.R. returned to the international agency in 1957 with Bulgaria, Albania, Poland and Romania.⁵³ Other states rejoined later, with Hungary being one of the last countries in the Eastern Bloc in 1963.

⁵¹ H.C.A. Lassen, "Eröffnungsansprache," in *Vlth Symposium of the European Association of Poliomyelitis* (Brussels: European Association of Poliomyelitis, 1959).p.6.

⁵² Basil O'Connor, "The Setting for Scientific Research in the Last Half of the Twentieth Century," in *Fifth International Poliomyelitis Conference*, ed. International Poliomyelitis Congress (Copenahgen, Denmark 1960).

⁵³ *The First Ten Years of the World Health Organization*.p.80.

Although the development of the live vaccine was the result of intensive cooperation that reached across the Iron Curtain, its implementation followed Cold War fault lines. Several major points of conflict emerged, all of which had significant effects on polio prevention in Hungary and worldwide. Convictions and reservations about the efficacy and safety of the Sabin vaccine divided the East and West, while varying healthcare and economic structures had a direct effect on the choice of the vaccine (i.e., to stick with the hitherto-used Salk vaccine or change to Sabin), as well as the speed of introduction and licensing. Furthermore, differences in welfare systems and socialized medicine, a sensitive point in Cold War concerns, influenced the efficiency of vaccine application.

National mass vaccination

Shortly after the vaccine trial in Hungary, the national weekly news program quickly gave news about the live-poliovirus vaccine and the experiences of children in Győr-Moson-Sopron county. “New polio vaccine has arrived from the Soviet Union, the Sabin vaccine Its protective effect is stronger than that of the Salk vaccine The new vaccine was warmly welcome all throughout Győr countyand will make its way to every part of the country and we hope that with it we will take another step forward in preventing polio.”⁵⁴ Little more than two weeks after the Hungarian field trials started, the government announced a nationwide vaccination campaign starting in mid-December

⁵⁴ "Új Oltóanyag," in *Magyar Filmhíradó* (Hungary: Magyar Filmhíradó és Dokumentumfilmgyár, 1959).

1959.⁵⁵ A year later, an estimated 2.4 million children had been immunized with the live vaccine imported from the Soviet Union.⁵⁶

This quick acceptance of the brand-new vaccine in Hungary was very different from the skepticism voiced about the Salk vaccine back in the mid-1950s. In connection with the Cutter incident, a Hungarian newspaper article in 1955 (based on an article in the French newspaper *l'Humanité*) argued, "The effectiveness of a new vaccine can be established only after a long time and numerous experiments. It is a dramatic fact that due to such negligence many thousands of children became the guinea pigs of the savage protectors of free enterprise."⁵⁷ Four years, two epidemics, and a revolution later, the Hungarian press was not so squeamish about time and the number of experiments. There was a greater need for vaccination that actually worked.

Concern over safety of the Salk vaccine was soon ameliorated by the growing number of success stories from Europe and the United States. While knowledge about the rate of efficacy and recommended dosage remained in flux, by 1957 the Hungarian government could rely on a wide-ranging international experience of two years, reported in the pages of medical journals and at international polio conferences.

In the case of the Sabin vaccine, the context could not have been more different. There were no comparable international experiences or clear success stories that could reassure Hungarian scientists and the political leadership. Not one country had begun national mass vaccination in the fall of 1959, and due to the novelty of the vaccine, there were no long-term observations to determine the percentage of the population who would

⁵⁵ "December 14-Én Kezdődnek a Gyermekebénulás Elleni Sabin-Féle Védőoltások," *Népszava*, November 22 1959.

⁵⁶ Chumakov et al., "Some Results of the Work on Mass Immunization in the Soviet Union with Live Poliovirus Vaccine Prepared from Sabin Strains."p.82.

⁵⁷ Quoted in Radio Free Europe, "Polio in Hungary. Background Report."

be protected against the three polio strains. Merely two large-scale trials, albeit involving millions of vaccinees, provided evidence of the efficacy and safety of the new product.

However, this time the trials were all conducted on home ground, that is to say, on the “right” side of the Iron Curtain. Intensive scientific cooperation among the Eastern European countries and the Soviet Union, fostered greatly in the years of inactive membership of the WHO between 1949 and 1957,⁵⁸ made it possible for Hungarian scientists to keep an eye on live polio vaccine trials in the Eastern Bloc from the very beginning, and to gain information about the results directly from participating scientists on personal visits.⁵⁹

While proximity and the role of the East in the vaccine trials played a large part in the quick adaptation of the Sabin vaccine, these cannot serve as the sole explanations. As the story of the introduction of Salk vaccine shows, Hungarian scientists had access to onsite visits to manufacturing labs in the West and were participants in the increasingly intensive circulation of scientific knowledge about polio. Also, by the late fall of 1959, Salk vaccine production in Hungary had already started for the following year.

Moreover, as Hungarian pediatrician Domokos Boda’s memoir⁶⁰ shows, the Cold War divide could have surprising effects: namely, trust in Western and distrust in Eastern technology. Boda was part of the delegation sent to Moscow to investigate the new

⁵⁸ During these years, Eastern European countries signed bilateral agreements to advance scientific cooperation in health related issues and epidemic control. See for instance “A Magyar Népköztársaság Kormánya És a Csehszlovák Köztársaság Kormánya Között Az Egészségügyi Együttműködésre Vonatkozóan Létrejött És Budapesten 1955. Április 28. Napján Aláírt Egyezmény,” in *A Minisztertanács üléseinek jegyzőkönyvei* (Budapest: Hungarian National Archives, 1957). *The First Ten Years of the World Health Organization*.

⁵⁹ The efficiency and safety of live virus vaccines were highly debated on the pages of medical journals all over the world, as were the doubts of efficiency of the Salk vaccine. Fears of an attenuated virus turning virulent, questions of how vaccine efficiency is measurable in the case of a disease that follows patterns of ebb and tide, and issues of the method of comparison between dead and live virus vaccines formed discussions among virologists and public health specialists before, during and after vaccine tests.

⁶⁰ Boda, *Sorsfordulók*.

vaccine and to inform the Hungarian government's choice between the Salk and Sabin vaccines. He recounted meeting a group of Soviet virologists on his arrival; they were ardently against the introduction of the new vaccine to the Soviet Union. They argued that the Salk vaccine could be considered safe, since the Americans tested it on their own people. The Sabin vaccine was a solution with which the Americans did not wish to experiment on their own society; therefore, it must be potentially dangerous. As Boda remembered, some even went so far as to consider the introduction of the Sabin²⁵ vaccine to be part of a scheme by the Americans to destroy millions of Soviet children, cutting the future generations short and thereby weakening the nation.⁶¹ With these sentiments, the Soviet scientists were expressing general frustrations that often arise with the appearance of new vaccines: the potential to cause disease and harm.

"My colleagues and I were in a difficult situation," Boda wrote. "It would be impossible to use the Sabin vaccine in Hungary if the official Soviet view was known. After agonizing, we recommended the Sabin vaccine and kept quiet about the controversy."⁶² The fact that the Sabin vaccine was arriving from the East, therefore, cannot alone explain the speedy implementation and the fast decision-making of the Hungarian government. A more plausible explanation is that the communist government could not afford another demonstration of the limits of its power by a new epidemic that would be decidedly out of their control. After the summer of 1959, it became clear that Salk vaccination did not fulfill the hopes of curbing polio in the country. The government needed to act fast. To this end, rapidly introducing a new vaccine that promised to eradicate polio seemed the only choice.

⁶¹ Domokos Boda, November 18, 2009.

⁶² Boda, "50 Years Ago: Polio Epidemics, Immunisation, and Politics."

There were changes not only compared to 1955, but compared to the previous discourse of the Salk vaccination as well. In this new communication of polio vaccination, parents the state rehabilitated parents as allies in the fight against polio and appealed to them for cooperation in a very different tone compared to just a few months ago. "Certainly there would be no negligent parents who would endanger children to be exposed to illness by missing vaccination," appeared in *Népszava*, a friendlier voice in its first article informing about the upcoming Sabin vaccination.⁶³

Official communication in newspapers reevaluated the state's role in vaccine procurement. In the case of the Salk vaccine, the government was portrayed as a hero, which, in spite of all hardships and even running into debt, managed to go out there and get much-needed protection for children. This time, Big Brother decidedly stole the show: according to daily newspaper *Népszava*, the Hungarian government "asked for the help of the Soviet Union and not without result: We were granted 2.5 million doses of vaccine."⁶⁴ There was no talk of cost or debt or the feat of the state required to import the vaccine.

Vaccination with the Sabin drops was mandatory for children between 3 months and 2 years; for all other age groups, the immunization was voluntary.⁶⁵ Vaccination was organized in Mother and Infant Protection Offices by the district pediatricians. Children were also vaccinated in daycares, kindergartens and schools,⁶⁶ which renders the term *voluntary* dubious.

⁶³ "Tizennégy Éves Korig Minden Gyermekek Kap a Gyermekbénulás Ellen Védő Új, Nagjobbhatású Gyógyszerből," *Népszava*, November 18 1959.

⁶⁴ Ibid.

⁶⁵ "Budapest December 14-15-16-Án Kapják a Gyerekek a Gyermekbénulás Ellen Védő Sabin-Oltóanyagot," *Népszava*, November 26 1959.

⁶⁶ Ibid.

There were also clear differences at the level of organization between the Salk and Sabin campaigns. For one thing, notifying the public and disseminating information about the vaccine began well in advance of the campaign. This time, Hungarians could read about the research on the new polio vaccines of Koprowski and Sabin in the newspaper already in August 1959,⁶⁷ three months in advance of the campaign, while parents could learn detailed news about the approaching campaign a month before it started. The above-mentioned news broadcast portrayed the swift and painless vaccination more than a month prior to the national campaign beginning on December 14, 1959. Red Cross and trade union activists, the Communist Youth Association, and the Women's Council all took part in informing the public about the new vaccine, its benefits, and the painless method of taking it.⁶⁸ Nor did their activities stop at public education in advance of the campaign. Once vaccinations started, every evening Red Cross activists visited the homes of those who failed to appear before the vaccination brigades.⁶⁹

⁶⁷ Géza Dr. Petényi, "Új Módszerek a Gyermekbénulás Elleni Védekezésre, Több Légzőszervi, Ideg- És Bélbetegség Vírus Eredetű, Új Műszerek a Veleszületett Szívhibák Pontos Megállapítására," *ibid.*, August 16.

⁶⁸ "Budapesten December 14-15-16-ÁN Kapják a Gyerekek a Gyermekbénulás Ellen Védő Sabin-Oltóanyagot."

⁶⁹ "Élet Egy Kanál Teában. Fővárosszerte Gyorsan És Szervezetten Folyik a Sabin-Oltás," *Népszava*, December 15 1959.



Figure 9 In the caring hands of the state. Child receiving Sabin vaccine in Budapest. *Népszava*, December 15, 1959 p1. Photograph by György Gonda.

The vaccine administration also seemed to have gone more smoothly in the Sabin campaign. The Sabin drops were definitely required less technical knowledge to administer than the Salk shots, regarding administration. The faulty needles addressed in Tóth's letter were of the past: all that was needed this time was a spoon. Parents were called on to bring their own spoons in order to facilitate the vaccination process.⁷⁰

"Many of the little ones still get scared of the doctor; but see, no need to be afraid of the horrible needle, because they can take the vaccine against polio mixed into sweet tea,"⁷¹ news broadcasters soothed the to-be-vaccinated children—and their parents—in advance of the campaign. A ministerial report from 1959 remarked that the parents did

⁷⁰ "Hétfőn Kezdődik 500 000 Budapesti Gyerek Védőoltása," *Népszava*, December 11 1959.

⁷¹ "Új Oltóanyag."

not usually have a problem with the number of vaccines: it was the number of injections that kept them away from vaccination.

Of course, in practice, the campaign still had its hiccups. Interestingly, we can learn about problems through a newspaper article titled, "Sabin vaccination in the capital is progressing in a fast and well-organized manner."⁷² Many parents failed to bring their vaccination cards, and many had lost their "invitation," the written request by the city council to appear for vaccination. The article also mentions „distrustful” mothers who claimed that their children had a fever to avoid having to take the vaccine.

While the organization of the Sabin vaccination was by far more effective than the previous years' attempts with the Salk vaccine, the result turned out well below the expectations of the government. For instance, in Budapest alone, they planned to vaccinate half a million children in three days.⁷³ However, they managed to vaccinate only 300,000. According to *Népszava*, many of the „invitations” did not make it to the families in time because of the high workload of the Hungarian Post with the approach of Christmas and New Year's Eve. Furthermore, they also blamed the foggy, cold weather for turning many children sick with cold who could not take the vaccine while they had a fever. For these reasons, the city extended the vaccination period by three extra days.⁷⁴

One of the reasons for the quick response to the problem of the low vaccination rate and for the relatively intensive campaign, was the particularity of the Sabin vaccine. Although the Sabin drops were easier to administer, their expiration time was significantly shorter than that of the Salk vaccine. Hungary received the shipment frozen,

⁷² "Élet Egy Kanál Teában. Fővárosszerte Gyorsan És Szervezetten Folyik a Sabin-Oltás."

⁷³ "Budapesten December 14-15-16-ÁN Kapják a Gyerekek a Gyermekbénulás Ellen Védő Sabin-Oltóanyagot."; "Hétfőn Kezdődik 500 000 Budapesti Gyerek Védőoltása."

⁷⁴ "A Hét Végéig Meghosszabbították a Sabin-Oltások Határidejét," *Népszava*, December 17 1959.

and the vaccine was thawed in the State Institute of Hygiene, where they tested it before distributing it to the vaccination points.⁷⁵ Once the vaccine had been thawed, it needed to be used in about a week.⁷⁶ This small window of usage might explain why the government (the Health Ministry and the NPHI) invested such effort into the organization of the Sabin vaccination.

While the acceptance and application of the vaccine was remarkably fast, the Health Ministry did wish to evaluate the vaccine. For this reason, the minister ordered every hospital director to report any confirmed or potential polio cases and all cases of any contagious disease that attacked the central nervous system, whether accompanied by paralysis or not. These cases were to be reported via telephone to the PHCED as well.⁷⁷

By 1960, Hungary had vaccinated 2.5 million people, more than the total in the two years of Salk vaccination.⁷⁸ The country thus joined the the Soviet Union and Czechoslovakia in being one of the first countries in the world to organize mass vaccination with the new, live-poliovirus vaccine.

Cold War fault lines

Mass vaccination with live-polio vaccine quickly spread in Eastern Europe, as Czechoslovakia extended its existing vaccination program to a national level and Bulgaria, Yugoslavia and the GDR followed suit in 1960. Other European countries

⁷⁵ "Új Oltóanyag."

⁷⁶ "Budapest December 14-15-16-Án Kapják a Gyerekek a Gyermekebénulás Ellen Védő Sabin-Oltóanyagot."

⁷⁷ "Sabin Oltások Eredményességének Értékelése," in *Budapest Főváros Tanács VB Egészségügyi Osztályának iratai* (Budapest: Budapest Főváros Levéltára, 1959).

⁷⁸ a report from the city of Eger states that while previously they could achieve the vaccination ration of 80% in the population, with the Sabin vaccine this number rose to 93% "Végrehajtó Bizottsági Ülés Jegyzőkönyve," in *MSZMP Eger Városi Bizottsága Végrehajtó Bizottság ülései* (Budapest: Budapest Főváros Levéltára, 1963).

started using the live vaccine in the years 1962 and 1963.⁷⁹ The rate was even slower in the case of the United States. While it took U.S. authorities an incredible two hours to license the Salk vaccine in 1955,⁸⁰ it took almost three years for the American Public Health Service to do the same for the live vaccine.⁸¹

What accounts for the lag of Western countries behind Eastern ones in the implementation of the Sabin vaccine? While the answer is a complex one,⁸² Cold War considerations were major factors in the Western evaluation of the vaccine. The most pressing questions about this Cold War scientific feat, primarily for the Americans, were: Could the Russians be trusted? Would their numbers lie? Did the new vaccine actually work?

To resolve the issue of scientific trustworthiness and to bridge Cold War suspicions, the WHO, already highly interested in global-disease eradication, sent an American specialist from Yale, Dorothy M. Horstmann, to report on the safety of the vaccine and the validity of the trials in the Soviet Union.⁸³ The idea of the visit and the proposal of Horstmann actually came from the United States: John R. Paul, renowned virologist and polio expert at Yale University, recommended his colleague to the Division of Communicable Diseases at the WHO⁸⁴ and to Mikhail Chumakov.⁸⁵ Since 1954, the

⁷⁹ S.G. Drozdov, "The Contemporary Poliomyelitis Situation in Europe," in *European Symposium on Virus Diseases Control* (Geneva: World Health Organization, 1966).

⁸⁰ Oshinsky, *Polio: An American Story*.p.207.

⁸¹ The Secretary of Health, Education and Welfare was responsible for giving license, acting on the recommendation of the Surgeon General. The latter was advised by the National Institutes of Health and the Division of Biologics Standards. *Polio Vaccines*.pp.3-4

⁸² Countries' and societies' individual histories of vaccination, health care structures, difficulties of determining vaccine efficacy in a context where the population was partially immunized with another vaccine beforehand, all played into the evaluation of the Sabin vaccine

⁸³ Dorothy Horstmann, "Report on Live Poliovirus Vaccination in the Union of Soviet Socialist Republics, Poland and Czechoslovakia," (World Health Organization, 1959).

⁸⁴ A.M.-M. Payne, "Letter to John R. Paul," in *Dorothy Millicent Horstmann Papers* (New Haven: Sterling Memorial Library, Yale University, 1959); John R. Paul, "Letter to A.M.-M. Payne," in *Dorothy Millicent Horstmann Papers* (New Haven: Sterling Memorial Library, 1959).

health agency had established a role for itself in coordinating poliomyelitis research and aiding in the circulation of information in statistics, epidemiology, field trials and laboratory investigation.⁸⁶ It was happy to fulfill the American request for the validation trip.⁸⁷ Its task of scientific evaluation, despite being a facilitator in the Cold War tensions, fit into its self-proclaimed role of bridging the local and global in public-health issues.⁸⁸

Between August 26 and October 17, 1959, Horstmann visited Poland, Czechoslovakia and several republics of the U.S.S.R. to gather information onsite about the vaccine trials. The WHO delegate voiced overall satisfaction in her report on the U.S.S.R. She saw no reason to doubt the level of surveillance of polio cases during the trial and judged the Sabin vaccine to be safe. However, Horstmann did admit that it was difficult to say how effective the vaccine was, since many of the subjects had previously received Salk vaccine and little time had elapsed since the trial to draw definite conclusions.

⁸⁵ John R. Paul, "Letter to Mikhail Chumakov," in *Dorothy Millicent Horstmann Papers* (New Haven: Sterling Memorial Library, 1959).

⁸⁶ "The Co-Ordinating Role of Who in Poliomyelitis Research," in *Executive Board* (Geneva: World Health Organization, 1954).

⁸⁷ Payne, "Letter to John R. Paul."

⁸⁸ This was not the first instance that an international health agency took on the task of validating vaccine trials. Clifford Rosenberg has recently argued that The League of Nations Health Organization issued guidelines for vaccine developers on clinical research that eventually lead to the largest vaccine trial of its time: Calmette's trial of the BCG vaccine in Algiers. Rosenberg, "The International Politics of Vaccine Testing in Interwar Algiers."



Figure 10 Dorothy Horstmann. Image from Oshinsky, David M. "Breaking the back of polio". *Yale Medicine* 40, no 1 (2005)

If skepticism about the Russian results was rooted in Cold War imagination of the East, Horstmann's report used a very similar set of tools to dissolve doubts and validate those same results. She drew upon two powerful notions that were connected to communist countries: the centralized, totalitarian state and its submissive citizens.

Horstmann highlighted the role of a centralized and state-operated public-health system in successfully organizing such a trial: a critical difference between the East and West that was mobilized in Cold War rhetoric frequently on both sides. "The scope and magnitude of the live poliovirus vaccine programmes...are of a type peculiarly fitted to the manner in which the medical profession is organized under the Ministries of Health in

these countries. For such mass programmes, it is necessary to have a Medical Service organized almost on a military basis, particularly from the epidemiologic surveillance and Public Health stand point.”⁸⁹ In the Soviet case, a state and healthcare system that was centrally controlled from top to bottom, could at once be capable of organizing a project on a mass scale and, at the same time, to vouch for the rigor and scrutiny that was expected from such a scientific trial. This, implied Horstmann’s report, was the upside of a totalitarian communist regime.

The favorable report was followed by yet another international polio conference, this time specifically on live-poliovirus vaccines, in Washington, D.C. One American scientist bluntly confronted the Soviet results, questioning the reliability of their data in the reports of Soviet epidemiological teams.⁹⁰ The Soviet delegate replied shortly: “I would like to assure [you] of one thing, that we in the Soviet Union love our children and are as concerned for their well-being as much as people in the United States, or any other part of the world are for their children.”⁹¹ Thus, polio became the symbol of an equalizer, pointing to the common familial bond, a bond of responsibility between parents and children all over the world. Cold War considerations, however, seemed to be more persistent.

The safety and efficacy of live-poliovirus vaccines were fertile grounds for Cold War fears and political considerations. Not only was Sabin’s and Koprowski’s vaccine new, but the whole concept of the live vaccine was novel in disease prevention. The reason for this was the vaccine’s potential to spread the attenuated virus to the nonvaccinated

⁸⁹ Horstmann, "Report on Live Poliovirus Vaccination in the Union of Soviet Socialist Republics, Poland and Czechoslovakia."p.99

⁹⁰ Benison, "International Medical Cooperation: Dr. Albert Sabin, Live Poliovirus Vaccine and the Soviets."

⁹¹ Ibid. p. 479.

population. Virologists and public-health officials agreed that this was the attractive, and at the same time, the dangerous aspect of the new polio vaccines: "It is recognized... that the use of a product that spreads beyond those originally vaccinated represents a radical departure from present practices in human preventive medicine."⁹²

"New faith had to be created, since the existing faith was in the development of inactivated virus vaccine only. It was also not too easy to bring over to our side the indifferent and the undecided, since my associates and I were alone in this field when the work began and remained so for several years," remembered Koprowski on the brink of the live vaccine's success in 1960.⁹³ In fact, the problem of creating faith in the attenuated strains remained significant throughout all phases of the development, testing, evaluation and implementation of the vaccine. One of the main reasons for concern over the vaccine's safety was, as Herald Cox pointed out, the difficulty in "predict[ing] the behavior of a virus in a human population from what is known about its behavior in the laboratory."⁹⁴

Following Horstmann's visit, the WHO took further steps in validating scientific results and establishing trust among the two sides of the Iron Curtain. An expert committee on poliomyelitis, comprised of leading virologists from East and West, compiled a report on the current evaluation of both the Salk and Sabin vaccines.⁹⁵ If the previous report of the committee had given a green light to large field trials and started a

⁹² "Summary of Conference on Live Poliovirus Vaccines."

⁹³ Koprowski, "Historical Aspects of the Development of Live Virus Vaccine in Poliomyelitis."p.89.

⁹⁴ "Live Poliovirus Vaccines."p.202

⁹⁵ Among the members we find the names of John R. Pul from Yale University, Viktor Zhdanov Secretary of the Academy of Sciences of the USSR, S. Gard from the renowned Karolinska Institut in Sweden, and V. Skovranek from the Czechoslovak Ministry of Health. Expert Committee on Poliomyelitis, "Expert Committee on Poliomyelitis. Third Report."

wave of vaccine testing all over the globe, the evaluation of those trials was the objective of the next report published in 1960.

The committee's report on the whole was favorable, and the majority supported the introduction of live vaccines into national prevention programs. However, since concerns over safety still persisted in the application of a vaccine that had not been used for a long time, the WHO claimed future roles to continue to coordinate investigation:

The Committee pointed out that the spread of live-virus vaccine used in large-scale trials within a given country, even though less extensive than had been anticipated, has already caused concern in neighbouring states which were not using the vaccine.... It appears, therefore, that there is need for international cooperation in these vaccination programmes between neighbouring states and for coordination in the timing of mass programmes along national borders. The Committee considered that such coordination might best be effected through the WHO.⁹⁶

In their concluding remarks about the live-virus vaccine, the expert committee took up the concept of polio eradication. It is not entirely surprising that the WHO started thinking about eradication in this particular moment. Viktor Zhdanov, deputy health minister of the U.S.S.R., was a committee member. He was the same man who introduced the idea of smallpox eradication to the WHO and eventually started the campaign in 1959.⁹⁷ The proposed method of complete polio eradication, a concept that was termed *a bold one*, was mass vaccination of the whole population over a short period of time.⁹⁸ In some circles, however, his application of the vaccine, rang alarm bells of a Red Scare.

⁹⁶ Ibid.p.44.

⁹⁷ Erez Manela, "A Pox on Your Narrative: Writing Disease Control into Cold War History," *Diplomatic History* 34, no. 2 (2010).

⁹⁸ Expert Committee on Poliomyelitis, "Expert Committee on Poliomyelitis. Third Report."

The Sabin vaccine was (and still is) at its most potent when applied using this method. Free, mass vaccination was a cherished symbol of universal healthcare that Eastern European countries took pride in, but, in some parts of the Western world, it was perceived as the devil itself. As David Oshinsky points out, health officials in the United States connected this system of prevention with socialized medicine, “one of the great bugaboos of the Cold War era.”⁹⁹ In this reading, American reluctance to use the Sabin vaccine widely when it first appeared can partly be traced back to healthcare ideology.

Leading Hungarian virologist Tibor Bakács remembers being puzzled as to why the United States had not switched to the Sabin vaccine, whereas socialist countries had already done so in 1959. He posed this question to Sabin himself when the professor was visiting the National Public Health Institute in 1960. According to Bakács's memoir,

"He gave a short, but thought-provoking answer: ‘Sir! In the West vaccine production is mainly in private hands. These have, since 1954, since Salk has discovered his vaccine, been producing that with great capacity. They hoped to gain a huge profit from the production and distribution of this first, partially effective vaccine. Although my vaccine is more efficient, they do not produce it until there are significant Salk-vaccine supplies waiting to be sold. Until these are depleted, they will not start the mass production of the Sabin drops.’ Only socialist countries chose to abandon their existing Salk-vaccine supplies. This is the reason why there were still big epidemics in the rich, Western countries in the 1960s.”¹⁰⁰

While Sabin’s reply most probably came from a decade-long conflict with Jonas Salk and American funding bodies, and Bakács might have interpreted Sabin’s words in a way to conform his own sentiments, the success of the Sabin vaccination in Hungary became a recurring example of the superiority of socialism. Seven years after the vaccination began, Vilmos Kapos, director of the Budapest Public Health and Epidemiology Station,

⁹⁹ Oshinsky, *Polio : An American Story*.p.241.

¹⁰⁰ Bakács, *Egy Életrajz Ürügyén*. p.202.

still felt it necessary to make a remark on the international significance of the Sabin vaccine in an internal party meeting in 1966:

"The social implications of the fight against epidemic diseases are demonstrated with the fact that while in socialist countries the occurrence of polio could be reduced to the minimum with the use of the free and effective Sabin vaccine, the results of capitalist countries, due to economic problems, do not come even close to this."¹⁰¹

The Hungarian success in polio vaccination was thus celebrated as the triumph of an entire system of political ideology, welfare and economic structure. It became the ultimate proof of the superiority of communist values and its system.

The holes in the Iron Curtain thus were patched up. The figure of the West German pilot and his precious cargo quickly got lost in the historical memory of polio, as the disease itself disappeared from epidemiology reports of Cold War Hungary. Division between the East and West became prominent once the polio problem was solved. Discourse channeled back to conventional arguments of the superiority of one side over the other. This medical arms race that united the two sides against a common enemy and provided an evasion from the military arms race ended with the perceived cease of polio's threat.

The particular politics of polio brought unexpected turns into the history of Hungary during the post-uprising years, making it possible for cooperation between dissidents and the communist state in the darkest moments of repression. In the process, this small satellite state outperformed the United States by 10 years in the eradication of polio. In a common effort against polio, scientific research and globalizing efforts for disease

¹⁰¹ Vilmos Kapos, "Jelentés a Főváros Közegészségügyi Járványügyi Helyzetéről," in *MSZMP Budapesti pártértekezletei 1957-1989* (Budapest: Budapest Főváros Levéltára, 1966).

prevention offered an opportunity for multifaceted cooperation and outreach during decades of antagonism and division.

The history of polio vaccination in Hungary shows that the mutual and rhetorically depoliticized goal of saving children from disability and death opened spaces in domestic and foreign policies on both sides of the Iron Curtain that legitimized actions contradicting contemporary political attitudes and processes. While political agendas and Cold War divisions interwove the story of polio vaccine development, polio prevention on the whole overrode Cold War politics to unite and coordinate efforts. Polio was not seen in the West as a Red virus, nor was it perceived in the East as an imperialist cancer on society or a disease to be “contained.” Instead, it brought about the perception of a noble enterprise in an age when millions of children on both sides of the Iron Curtain were threatened by the crippling disease.

After 1963, the number of polio cases was reduced to 0-4 per year.¹⁰² The last indigenous wild-polio case in Hungary was recorded in 1969, ten years prior to that in the U.S., while the last imported case (someone contracting the disease elsewhere and falling sick in Hungary) was registered in 1972.¹⁰³ Vaccination with the Sabin vaccine and the disappearance of polio epidemics in Hungary brought significant change into the lives of many. But most of all, it changed the lives of polio patients, the majority of whom were children. Polio treatment and its significance in the eyes of the state was contingent on the efficacy of polio prevention. As polio disappeared from the epidemic reality and as

¹⁰² Dömök, István: A kampányoltások időszaka (1959-1991). In: Rezső Hargitai and Kiss, eds., *A Gyermekbénulás Elleni Küzdelem: Beszámoló Egy Ma Már Múlttá Váló Rettegett Betegség Ellen Folytatott Hősies Küzdelemről És Felszámolásának Lehetőségéről: A Szent László Kórház Centenáriuma Készült Összeállítás* P. 169.

¹⁰³ WHO, "Certification of Poliomyelitis Eradication" (paper presented at the Fifteenth Meeting of the European Regional Certification Commission Copenhagen, 2002).

summer fears dispersed, the state quickly became disinterested in polio on the whole and no longer invested in research or medical care. Children with polio were left abandoned, as the state withdrew its caring hands. It is their story that the next chapter tells.

Chapter 5: Access to care – Polio treatment in Hungary 1956-1963

On the late autumn day of November 2, 1956, Russian commander-in-chief Marshal Ivan Konev established the Hungarian headquarters of the Soviet army in Szolnok. He would give orders for attack in two days to put an end to the Hungarian revolution against the Communist regime. Ten days had passed since October 23, when the mass demonstration initiated by university students took a revolutionary turn. The Hungarian armed resistance would be crushed in little over a week.

On the same day, Imre Nagy, revolutionary prime minister, also gave orders in Budapest. However, the issue of the Hungarian leader's order could hardly have been more different from that of his Soviet counterpart: amid the turbulent events of the revolution, he took time to establish a polio hospital.¹ Even though the revolution would come to an end in a matter of weeks, the Heine Medin Post Treatment hospital would survive and continue to operate for seven more years, treating children with polio, a cause that seemed to override political ideologies and regimes.

Polio treatment in the 1950s not only cut through the decade, but crossed between East and West, between professional and lay actors and between state and family. The ways in which polio as a disease caused disability challenged communist ideals of productivity and citizen's role in society. This chapter argues that polio treatment in Hungary and the interactions it triggered revolved around questions of access to certain technologies, knowledge, decisions and care itself.

¹ Lukács, "Feljegyzés a Fővárosi Heine-Medin Kórház És Rendelőintézet Alapításáról, Működéséről, Eredményeiről És Ezzel Kapcsolatos Tevékenységéről." and Budai Gyermekkórház és Rendelőintézet, "A Kórház Története," <http://www.budaigyk.hu/site.php?inc=0&menuId=5>.

Cold War events and frameworks affected access to technology and knowledge in the treatment of the disease in Hungary in various ways. In a country strained by the effects of World War II, forced industrialization and collectivization and a bloody revolution, medical supplies were often scarce and facilities were not readily available to accommodate long-term care of polio patients. Moreover, polio was a disease that required highly specialized equipment—most importantly life-saving respiratory machines such as iron lungs. The devices were expensive and hard to come by, especially on the eastern side of the Iron Curtain. This lack of resources triggered innovation, new ways of using existing devices or developing new machines. However, Hungary was not alone in having trouble accessing high-tech machinery. In the midst of the Cold War, in a network spearheaded by the International Committee of the Red Cross, iron lungs crisscrossed Europe (and, in fact, the globe) to assist polio patients wherever an epidemic crisis was unfolding.

Some events of the Cold War, like the 1956 revolution in Hungary, had unexpected effects on polio treatment. The political and social upheaval of revolution propelled Hungarian polio treatment with the establishment of a specialized hospital, plans for which already started in the early 1950s. Furthermore, the humanitarian crisis in the wake of the uprising facilitated the influx of hospital equipment needed to furnish the new institution, just as it facilitated the influx of Salk vaccine packages to Hungary.

Communist ideas of free mass healthcare, paired with meager resources, created a particular setting in treatment and access to care. A secluded institution, the Heine Medin Hospital, a national center for polio treatment provided care for hundreds of children every year, free of charge. Schooling and vocational training became integral to medical

treatment as they were seen as central to turning polio patients into “fully valued” and productive citizens who could be reintegrated into society without being a burden. In some societies, like the United States, the goal of treatment was to return the patient as soon as possible to the family or local community for care. In Hungary, the paternalistic view of care that trickled down from state ideology allowed free, extended hospital stays for patients, some of whom spent an entire lifetime in the institution.

The following chapter explores the above issues of access through the story of the Heine Medin Post Treatment Hospital in Budapest between 1956 and 1963. The first section examines how the Heine Medin Hospital was established and the role that the 1956 revolution and international organizations played in the process. The second section focuses on central technologies in polio care, including the iron lung and other respiratory devices. The third section investigates the particularities of polio care for the non-respiratory cases that affected the majority of the patients. The fourth section then turns to the respiratory ward and the challenges that the long-term care of children living with mechanized breathing brought to concepts of treatment.

Setting up the hospital

The Heine Medin Hospital was not the only site of polio treatment in Hungary. Several other institutions gave homes to polio patients, most of them in the capital, Budapest. The National Rheumatic and Physiotherapy Institute cared for a large number of children with polio, along with adults with various physical disabilities. Some

institutions, like András Pető's conducive education center² or the Home for Crippled Children that had been in operation since the early-20th century,³ catered specifically to disabled children, though not only those with polio and not necessarily in a medical sense. The Heine Medin Hospital was the only institution in the country that provided specialized medical care for polio patients, and it quickly became the largest national center for treatment.

Although Imre Nagy founded the Heine Medin Hospital, the story of the institution that became a key player in polio treatment in Hungary began a few years earlier in the Stalinist era. Dr. László Lukács, an orthopedic doctor and future director of the hospital, initiated the process in 1954, a year after poliomyelitis research began at the National Public Health Institute, in cooperation with the epidemics department of the Health Ministry.⁴

Lukács handed in a petition to the Health Ministry, pointing out the necessity of a national polio hospital and emphasizing the urgency of establishing such an institution.⁵ Lukács made his case by pointing out the insufficient resources for treating the increasing number of polio patients.⁶ The Under-Secretary of Health supported Lukács's proposal in a letter to the Health Minister⁷ and according to an internal document, the case of the future Heine-Medin Hospital was included in the second five-year plan to hold 150-200

² Pető was treating polio patients already in the 1940s in Budapest. Pál Kelemen, *Telephone Interview* (Berlin: 2012). For the history of Pető's institution, see Hári Mária, *A Konduktív Pedagógia Története* (Budapest: MPANNI, 1992).

³ For the history of the institution, see Bán et al., eds., *Száz Esztendő a Mozgáskorlátozott Gyermekek Szolgálatában*.

⁴ Dr. Bakács, *Az Országos Közegészségügyi Intézet Működése 1927-1957*. P.82

⁵ László Dr. Lukács, 1954.

⁶ Lukács, "Feljegyzés a Fővárosi Heine-Medin Kórház És Rendelőintézet Alapításáról, Működéséről, Eredményeiről És Ezzel Kapcsolatos Tevékenységéről."

⁷ István Dr. Simonovits, 1954.

beds.⁸ However, for a while nothing happened: a year later only 20 beds for polio patients were ordered to be issued to the Bókay János Children's Hospital, where Lukács worked at the time.⁹

The plans of Dr. Lukács became a reality with the signature of Imre Nagy, and the hospital started working during the months of retribution. The institute, its acquired buildings and the appointment of Lukács as head of the hospital was reconfirmed on several occasions after the revolution was suppressed with the aid of the Soviet army.¹⁰ The institute officially opened on November 12, 1956, and was organized under the authority of the City of Budapest.

Even though the importance of the fight against polio overrode political changes, this heritage put the hospital in a delicate situation. A brief manuscript, which became the basis of the chapter in a volume celebrating the hospital's fiftieth anniversary, gives insight into the political maneuvering of its director, László Lukács, as he states:

“The Health Minister proposed that the institution belong directly to the Ministry, but I could also choose to put it under the authority of the City of Budapest instead. I chose the latter. [...] The chief doctor of the city was Dr. János Vikol, who had [...] firmly supported the cause of the disabled. The other reason was that I didn't trust the leaders of the Health Ministry, I feared [undoing], a hope of the 200 leading party members with the intention of getting back the distinguished treatment of their children.”¹¹

Although maintaining the new institution and its buildings after the revolution clearly required political skills, the fact that the doctor-director could choose which authority the institution should belong to, implies the great importance assigned to the cause, leaving

⁸ Röthler, May 3 1954.

⁹ Ibid., hand written note, February 4, 1955.

¹⁰ József Dr. Karossa-Pfeiffer, "Megbízás," (Budapest: Budapest Főváros Tanácsa Végrehajtóbizottságának XII. Egészségügyi osztálya, 1956). and János Dr. Vikel, "Határozat," (Budapest: Budapest Főváros Tanácsa Végrehajtóbizottságának XII. egészségügyi osztálya, 1956).

¹¹ Lukács, "Feljegyzés a Fővárosi Heine-Medin Kórház És Rendelőintézet Alapításáról, Működéséről, Eredményeiről És Ezzel Kapcsolatos Tevékenységéről." P.2.

Lukács with a certain political independence. Meanwhile, he also had to deal with the hostility of the political elite, who felt that the establishment of the hospital would curb their privileges in childcare.

The reason for this was that the Heine-Medin Hospital opened in five buildings that previously belonged to the Rákosi Mátyás¹² kindergarten, a childcare home for privileged party officials in the prestigious district of the Rózsadomb in the Buda hills. It is no coincidence that an institution founded during the 1956 revolution was established in buildings with such history: this was a small, but obvious, attack against the hated political elite.

The houses were for the most part nationalized residences of the economic and political elite of another era. The villas were scattered in the most sought-after part of the city, among green lawns with small patches of woods and swimming pools around them. In many ways, they were ideal for the long-term care of disabled children, but they also came with obstacles that were difficult to overcome.

First of all, the hospital's location posed problems: reaching the relatively removed location on the hilltop without proper public transportation on poor quality roads¹³ was often hard on staff and patients alike, neither of whom lived in the elegant neighborhood. This was especially true in the early days. Public transportation came to a complete stop during the desperate street battles of the revolution, and it took months to reorganize trams and buses and to rebuild damages to the infrastructure. It could take nurses hours to

¹² Hungarian Stalinist leader, head of the Hungarian Worker's Party and the most influential political figure from 1949 to 1956. The Stalinist era in Hungary is named after him.

¹³ "Polio Epidemic Feared," *Washington Post and Times Herald*, June 5 1957.

reach their workplace on foot, even with the director's help in giving them a ride as often as he could.¹⁴

Getting children to the hospital was equally hard. In the fights of the revolution, the hospital's only van was hit severely and had a gaping hole on the side and bottom. When transferring children from the infectious disease hospital to the Heine Medin Hospital, nurses put infants into laundry baskets (along with the fresh laundry), which they tied to the inside of the van and hoped for the best.¹⁵ In later years, in possession of more resources, the hospital organized a minibus to pick up children daily in the city center for outpatient care—4500 on a monthly basis. Severely disabled outpatients were transported by two minivans door-to-door. Since the same vehicles were used to transport hospital patients between buildings (to X-ray, surgery, physical therapy, etc.), and were often under repair, these transports often involved long waiting times.¹⁶

The buildings themselves were never intended to house a hospital, let alone a treatment center for disabled children. Steep, curving stairways and slippery floors made each day in the hospital challenging for staff, parents and children as they tried to make their way between bedrooms and spaces of treatment.¹⁷ When the hospital started working, the buildings were partially damaged from the war and the revolution. After the fighting settled in the winter of 1956-1957, the Hungarian army contributed by repairing the buildings and heating them.¹⁸

¹⁴ Dékány Pálné, *Interview*; Mészáros, *Interview*.

¹⁵ Mészáros, *Interview*.

¹⁶ "Hungary Battle Polio," *Washington Post and Times Herald*, July 2 1957.

¹⁷ "Salk Expects End of Polio Some Day," *New York Times*, July 9 1957.

¹⁸ Péter Ferenc, ed. *Gyermekeketeg-Ellátás a Rózsadombon 1956-2006* (Budapest: Tudomány Kiadó, 2006). p.8.

The hospital was still in dire need of medical supplies. “The bad conditions prevailing in Hungary are affecting and hindering the beginning of our work and are causing us great difficulties,” wrote the director, Dr. Lukács, in a letter to the Red Cross. “It is quite impossible to obtain supplies of equipment, especially instruments, in Budapest.”¹⁹

Even basic necessities like bed linens—and even beds were scarce. One polio patient remembers her first weeks in the hospital, not long after it opened. She was a teenager when she contracted the disease, an exception to the rule in Hungary, where the overwhelming majority of polio patients were under 3 years old.²⁰ Since polio was truly an “infantile paralysis” in Hungary, the hospital arranged its meager resources accordingly—leaving exceptional patients like Katalin without a room of her own, or even a bed. “They had only cots that they inherited from the childcare home, no proper beds for patients. I had to sleep in the same room with the little ones on a makeshift bed assembled of a couple of chairs.”²¹

¹⁹ János Dr. Vikol, “Heine-Medin Utókezelő-Intézet Szervezése,” in *Egészségügyi Minisztérium* (Budapest: Magyar Országos Levéltár, 1956).

²⁰ see Chapter 4

²¹ Parádi, *Interview*.



Figure 11 Lukács and staff tending to the children in the propaganda film "Parents, beware!" (1957), featured in Ádám Csillag's documentary "Polio" (1994)



Figure 12 Santa Claus day at the Heine Medin Hospital. Year unknown. From the photo collection of the online Heine Medin Group at iWIW.hu/gyermekbenulas

Soon, help came from the International Red Cross. As with polio vaccines, official and personal avenues were utilized to procure crucial donations. First, Acting Minister for Foreign Affairs István Sebes sent a letter to the Secretary-General of the United Nations in reply to the UN's note "requesting data on the Hungarian people's needs in medical supplies, foodstuffs and clothes from abroad"²². In this, the minister gave a detailed list of urgent needs, including ambulances, insulin, gamma globulin, vitamins, surgical stitching materials, X-ray machines and iron lungs.²³ The request was forwarded to the Division of External Relations and Technical Assistance of the UN, which in turn forwarded it to the International Committee of the Red Cross (ICRC).

However, the general aid received from abroad was shared between all of the hospitals in the city and was mostly used to replenish their stocks. It was not sufficient to equip a brand-new institution.²⁴ Thus, Lukács chose an unofficial, more targeted route to procure the necessary supplies that he needed for the treatment of the now over 100 polio patients housed in the hospital. He mobilized his family.

An extensive exchange of letters among the American Red Cross, the ICRC and Hungarian physicians reveal the route of request for aid. On December 28, 1956, the American Red Cross contacted the ICRC with the following information: "Dr. Laszlo Lukacs, chief surgeon of the Metropolitan Heine-Medin Institute of Budapest... has been in telephone communication with his wife, who is now in the United States on a visitor's visa, staying with her brother, a student at the Eastern Baptist Seminary in Philadelphia, Pennsylvania. In these telephone conversations, he spoke of the urgent need for Salk

²² Külügyminisztérium, "A Külügyminisztérium III. Osztályának Feljegyzése a Magyar-Amerikai Viszonyról," (Budapest: Magyar Országos Levéltár, 1958).

²³ , *Szabad Nép*, May 1 1955.

²⁴ Dr. Vikol, "Heine-Medin Utókezelő-Intézet Szervezése."

vaccine and essential operating room equipment for his hospital, equipment that had been lost when the hospital was moved from its previous location... Since then, the brother-in-law has been trying to raise funds for the purchase of operating room equipment.”²⁵

It is uncertain when and why Lukács’s wife went to the United States, and if the trip took place before or during the revolution. It is certain that she was back in Hungary in 1959, as she was present as a member of the Women’s Council at the annual school exams that were organized for the children staying and studying in the hospital.²⁶ This shows that she was hardly considered to be an unwanted element of society by the government and could return safely to Hungary—perhaps thanks to the political connections of her husband.

The ICRC replied to the letter in mid-January with the promise to investigate it through their general delegate for relief to Hungary.²⁷ By the end of February 1957, a detailed report about the hospital and its needs was assembled by ICRC officials and was forwarded to the American Red Cross.²⁸ The report, containing an assessment by the head of medical services of the Hungarian Relief Action of the ICRC, highlighted that. “The poor and makeshift character of the therapeutic equipment stands out in sharp contrast to the modern fittings of the houses.... There is also a shortage of qualified staff.” The reason for urgency was the growing importance of the hospital in polio care in Hungary. Merely months of its opening, without sufficient equipment or supplies, the patient load was growing fast. “There are now 130 beds, all of them occupied. Except for two adults, this is purely a children’s center.... Besides the patients who live in, mostly

²⁵ "Megérkezett Hazánkba Az Első Vastüdő," in *Magyar Filmhíradó* (Hungary 1948).

²⁶ Ágnes Soós, *Interview* (Budapest: 2010).

²⁷ "Eljött a Nap..." , *Heine-Medín Híradó* 1, no. July (1959).

²⁸ Tamás Kertész and Tibor Szabó, *Interview* (Hévíz: 2010).

children from the provinces, a further 200 children from Budapest visit the hospital every day for treatment.”²⁹

This report, with detailed lists of requirements from different respiratory devices to surgical equipment reached the American Red Cross too late. By the time the letter arrived, the brother-in-law had managed to secure some of the much-needed equipment and had sent it directly to the hospital.³⁰ However, the Red Cross could soon take a more active part in organizing polio aid as the 1957 epidemic rolled into Hungary. The ICRC, the League of the Red Cross Societies and national Red Cross societies coordinated efforts in providing polio aid to Hungary.

Much of the equipment sent by Red Cross societies found its way to the Heine Medin Hospital. The Swedish Red Cross and the Swedish Rädde Barnen society for child relief working under the auspices of the ICRC concentrated their efforts especially toward this institution.³¹ The hospital received important donations, such as rocking beds, hospital beds, bed linens, blankets, surgical equipment and medicine. The donations were vital and more than appreciated—hospital workers called the high quality blankets Swedish blankets for years to come.³²

²⁹ Sándor Rádai, *Interview* (Budapest: 2010).

³⁰ Maria Roth, "Child Protection in Communist Romania (1944-1989)," in *Social Care under State Socialism (1945-1989). Ambitions, Ambiguities, and Mismanagement*, ed. Sabine Hering (Opladen and Farmington Hills: Barbara Budrich Publishers, 2009).

³¹ Rädde Barnen's involvement in general Hungarian child relief dates back to December, 1956. "Agreement between the International Committee of the Red Cross, the Hungarian Red Cross and Rädde Barnen," in *Accord conclu entre Rädde Barnen, le CICR et la Croix-Rouge hongroise au sujet des envois non-Croix-Rouge acheminés par le CICR à Budapest. Signé le 3 décembre 1956* (Geneva: International Committee of the Red Cross Archives, 1956).

³² Dékány Pálné, *Interview*.



Figure 13 Accepting donations from Rädda Barnen. International Committee of the Red Cross Archives, V-P-HU-N-00023-01© Photothèque CICR (DR)/

Iron Curtain, Iron Lungs

While hospital equipment was important in launching organized mass polio treatment in Hungary, the procurement of respiratory machines, mostly iron lungs was equally, if not more crucial. Iron lungs were life-saving devices that essentially breathed for polio patients who were suffering from respiratory paralysis. By the 1950s the machines came to symbolize the horrors of polio epidemics in the imagination of parents all over the world. Iron lungs and other respiratory machines, such as swing beds (rocking beds) were crucial in the acute phase of the disease, and, as we will see, came to play a central role in the whole life of several dozen patients as well.



Figure 14 Iron lung model from 1952. From Ernst Bahns: It began with the Pulmotor. One Hundred Years of Artificial Ventilation. Lübeck: Dräger Medical AG & Co. KG, 2007

Iron lungs, no longer in use today, were big, tubular metal machines that operated with negative pressure. The patient lay on her back, her whole body inside the machine, with only her head on the outside. The machine created a vacuum inside the tank, which made the patient's chest rise, resulting in inhalation. The pressure then changed in the tank, letting the chest fall and creating exhalation.³³ This device could only work for patients without complications, since any infection or mucus would cause significant problems—patients with respiratory paralysis cannot cough. Another important respiratory method, developed in Denmark in the early 1950s was called intratracheal positive-pressure respiration. A portable machine applied positive pressure into the lung of the patient directly through the trachea. This meant that a tracheotomy was necessary; however, getting rid of mucus also became easier, and the less mucus, the lower the risk of

³³ Dr. Kiss, "Tartós Gépi Lélegeztetéssel Életben Tartott Postpolióz Légzésbénultak Sorsa".p.9.

infection. The least invasive respiratory device was the rocking bed. This bed, swinging back and forth like a seesaw, used gravity to help breathing: Internal organs pushed and pulled the diaphragm as the body swayed up and down in a lying position.



Figure 15 Arrival of the first iron lung to Hungary. From Rezső Hargitai, and Ákosné Kiss, eds. *A Gyermekbénulás Elleni Küzdelem: Beszámoló Egy Ma Már Múlttá Váló Rettegett Betegség Ellen Folytatott Hősies Küzdelemről És Felszámolásának Lehetőségéről: A Szent László Kórház Centenáriuma Készült Összeállítás* Budapest: Literatura Medica, 1994. P.65

The first iron lung arrived to Hungary in 1948, with the cooperation of the American embassy and Andor Bossányi, director of the László Hospital of Infectious Diseases.³⁴ This machine became the basis of the respiratory ward of the infectious disease hospital organized by Dr. Domokos Boda under the direction of Pál Ferenc.³⁵ Nevertheless, for a long time, access to the treasured respiratory device was difficult.

³⁴ "Megérkezett Hazánkba Az Első Vastüdő."

³⁵ Dr. Kiss, "Tartós Gépi Lélegeztetéssel Életben Tartott Postpolió Légzésbénultak Sorsa".p.2.

In the first half of the 1950s, iron lungs began to be produced in Czechoslovakia and the GDR.³⁶ In the late 1950s, domestic iron lung production started, along with that for electrospirators and rocking beds. By 1959, over 100 Hungarian iron lungs were in use in the country.³⁷ Most of the iron lungs arrived to Hungary during the 1957 epidemic, the worst year in the country's polio history.

The International Committee of the Red Cross (ICRC) and the League of the Red Cross Societies coordinated an international effort to identify heavy-respiratory machinery all across Europe and send it to Hungary. The Hungarian delegate of the ICRC, who in early July found the epidemic severe but not catastrophic, deemed the insufficient number of respiratory devices as the most pressing problem.³⁸ Meanwhile, the ICRC headquarters was waiting for the reports of two Swedish polio specialists, Dr. Lindhal and Dr. Werneman, who were sent by the Swiss Red Cross to Hungary to determine the country's needs.³⁹

In the opinion of the Swedish doctors, the Hungarian hospital staff, including physicians, nurses and technicians, were sufficient in number and their treatment methods and expertise were "modern." The most urgent issue was, they concluded in accordance with the ICRC delegate, the lack of respiratory equipment. According to their findings, about 15 percent to 20 percent of the paralytic polio cases involved respiratory paralysis. Before the peak of the epidemic wave by the end of July, 35 patients needed artificial respiration. However, there were only 24 iron lungs in the country. The experts who

³⁶ Boda, *Sorsfordulók*. p. 60.

³⁷ Dr. Kiss, "Tartós Gépi Lélegeztetéssel Életben Tartott Postpolió Légzésbénultak Sorsa".

³⁸ F. Dr. Züst, "Note an Das I.K.R.K. Budapest, Z. Hd. Von Herrn Ch. Ammann: Poliomyelitis-Epidemie in Ungarn," in *Epidémie de poliomyélite* (Geneva: International Committee of the Red Cross Archives, 1957).

³⁹ Z.S. Dr. Hantchef, "An Outline of Red Cross Activities in the Fight against Poliomyelitis," in *Fourth International Poliomyelitis Conference*, ed. International Poliomyelitis Congress (Geneva: J.B. Lippincott Co., 1957).

visited treatments sites were apparently impressed by the innovation of Hungarian physicians and technicians born out of necessity and meager resources. The report describes iron lungs that were transformed into devices that could serve three infants at a time instead of one and rocking beds accommodating up to six children.⁴⁰

A detailed description of this latter technology in the Hungarian medical journal *Orvosi Hetilap* reveals that, in fact, even more children were treated with one respirator than what the Swedish experts encountered. Patients were connected to the tank of the iron lung through the side openings with rubber tubes and breathed through a humidifier receptacle.⁴¹ This addition was important to keep the patients' mucous membrane humid and thereby prevent infection.⁴² With this technology in an extreme situation in December 1956, Hungarian physicians were able to connect 10 infants to one iron lung. Between June 1956 and July 1957, more than 100 patients were treated with the common use of one iron lung.⁴³

⁴⁰ Bengt Aman, "Epidémie De Poliomyélite En Hongrie. Informations Communiquées Par Le Bureau Médico-Social, Ligue Des Sociétés De La Croix-Rouge," in *Epidémie de poliomyélite* (Geneva: International Committee of the Red Cross Archives, 1957).

⁴¹ László Nagy, "Vastüdő Felhasználása Intratracheális Szakaszos-Túlnyomásos Lélegeztetésre," *Orvosi Hetilap* 2, no. 7234 (1959).

⁴² Domokos Boda and László Murányi, *Respirációs Therapia* (Budapest: Medicina Könyvkiadó, 1963).p.113.

⁴³ Nagy, "Vastüdő Felhasználása Intratracheális Szakaszos-Túlnyomásos Lélegeztetésre."

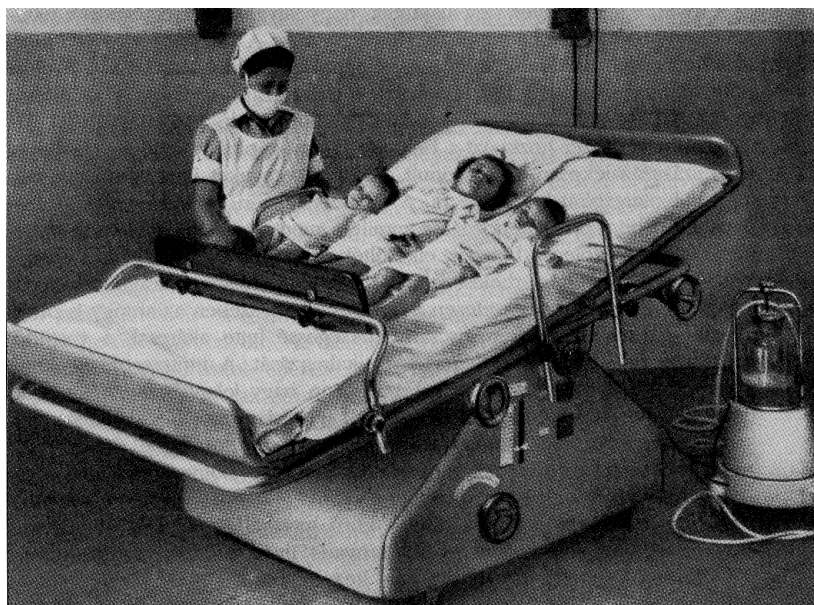


Figure 16 Rocking bed accommodating three patients. From Rezső Hargitai, and Ákosné Kiss, eds. *A Gyermekbénulás Elleni Küzdelem: Beszámoló Egy Ma Már Múlttá Váló Rettegett Betegség Ellen Folytatott Hősies Küzdelemről És Felszámolásának Lehetőségéről: A Szent László Kórház Centenáriuma Készült Összeállítás* Budapest: Literatura Medica, 1994. p.81.

In reply to the appeal of the League of Red Cross Societies, East Germany lent Hungary seven iron lungs,⁴⁴ which traveled to their destination by train.⁴⁵ The British Red Cross sent two iron lungs by air on immediate request by the Red Cross and prepared three more for transportation.⁴⁶ West Germany dispatched five iron lungs, 15 poliomats (smaller respiratory devices developed by the Dräger company, developer of the iron lung)⁴⁷ and four pieces of respiratory equipment.⁴⁸ The Swedish Red Cross dispatched six

⁴⁴ Z.S. Dr. Hantchef, "Rapport De Dr. Hantchef Directeur Du Bureau Médico-Social, Ligue Des Sociétés De La Croix-Rouge," in *Epidémie de poliomyélite* (Geneva: International Committee of the Red Cross Archives, 1957).

⁴⁵ Bengt Aman, "Epidémie De Poliomyélite En Hongrie. Informations Communiquées Par Le Bureau Médico-Social, Ligue Des Sociétés De La Croix-Rouge," *ibid.*

⁴⁶ Evelyn Bark, "Letter to Monsieur Amman, International Committee of the Red Cross," *ibid.*

⁴⁷ Ernst Bahns, *It Began with the Pulmotor. One Hundred Years of Artificial Ventilation* (Lübeck: Dräger Medical AG & Co. KG, 2007).

⁴⁸ Deutsches Rotes Kreuz, "Telegraph Message to M. Ammann International Committee of the Red Cross," in *Epidémie de poliomyélite* (Geneva: International Committee of the Red Cross Archives, 1957).

respiratory devices and 10 mucus aspirators,⁴⁹ key equipment in preventing infections in polio patients with respiratory paralysis. The iron lungs and devices arrived by air to Vienna and were transported by Malév Hungarian Airlines to Budapest with the coordination of the Austrian and Hungarian Red Cross societies.

These were not the first iron lungs to be flown over the Iron Curtain. The arrival of a much-needed iron lung during the 1956 revolution tells perhaps one of the most dramatic stories of international cooperation during the Cold War. As the revolution was unfolding in Hungary, a polio epidemic erupted in the northeastern part of the country, leaving parents and doctors in a desperate situation. The country's infrastructure came to a full stop, and administrative services and communication ran into severe problems. For many cities, the only means of establishing contact with the outside world was via radio. Broadcasts were used not only to inform people of the events and goals of the revolution, but were also channels for family members to look for or notify each other of their safety, to reach over borders for aid, and to coordinate processes that would have otherwise fallen under the tasks of the state.

In the last days of October, the radio stations of Miskolc and Nyíregyháza broadcast an appeal for an iron lung for the hospital of Debrecen, since its only iron lung was broken.⁵⁰ The request for help found its way to Munich, most probably through Radio Free Europe (RFE), which was monitoring and documenting radio transmissions in Hungary. Such appeals made through domestic radio broadcasts traveled a long way with the help of RFE. For instance, in a telegraph to Geneva, RFE notified the Red Cross

⁴⁹ Z.S. Dr. Hantchef, "Rapport De Dr. Hantchef Directeur Du Bureau Médico-Social, Ligue Des Sociétés De La Croix-Rouge," *ibid.*

⁵⁰ Rádió Miskolc, "1956 Október 29: A Debreceni Kórház Felhívása! ," in *A Forradalom Hangja. Magyarországi Rádióadások 1956. Október 23 - November 9*, ed. Gyurgyák János (Budapest: Századvég kiadó és Nyilvánosság Klub, 1989).

about a call “to all international helping organizations” about the polio epidemic in the northeastern region, stating that 30 people already died and asking for “a serum against this malady.”⁵¹

In the evening on October 29, 1956, an iron lung onboard a German airplane arrived in the skies above Hungary. The transport might have been organized by the West German Red Cross, its origin at this point remains a mystery. What we do know, however, is that landing the aircraft was more than challenging: In the midst of the revolution, airports were not functioning and there was no one to control the airplane from the ground.

At 10:10 p.m., the radio station of Miskolc broadcast an urgent message for Hajdúszoboszló, the town neighboring Debrecen, to illuminate their airport for the arrival of the iron lung. All they needed to do now is to direct the airplane there. Four minutes later, the radio broadcasted the following message: “Attention, attention! We ask all amateur [radio transmitters] to help with landing the plane! Seek connection with it and direct it to Hajdúszoboszló, where a lit-up airport will receive it.”⁵² In a few minutes, the radio revealed that the plane was flying above Debrecen, close to the target airport. However, something must have gone wrong and the plane had to be redirected to yet another city through public radiowaves: “Attention, attention, radio stations of [Budapest], Debrecen and all Hungarian airports, and radio control of the German aircraft! Direct the airplane to Miskolc! We are waiting for it. It will be able to land at the airport there. We will transport the iron lung to its destination!”⁵³

⁵¹ Fischer, "Telegraph Message to Mr. Ammann International Red Cross Geneva," in *Demandes d'aide pour secours en Hongrie* (Geneva: International Committee of the Red Cross Archives, 1956).

⁵² Rádió Miskolc, "1956 Október 29. 22.14 H: Halló, Halló, Figyelem!."

⁵³ Rádió Miskolc, "1956 Október 29, 23.54 H: Figyelem!," *ibid.*

There is no way of knowing how many amateurs took part in the process of this community effort, using low-tech, amateur devices and knowledge to navigate the plane and ensure the safe arrival of the iron lung. From the initial appeal for help through radiowaves, the life-saving equipment reached its destination with efficiency that put the communist dictatorship's best form to shame.

Many of the patients whose respiratory muscles were paralyzed as a consequence of the poliovirus breathed with the help of a device called the *Electrospirator*. This machine was a Hungarian innovation based on Western experiences. The result of technology transfer from one medical specialty to another, from one side of the Iron Curtain to another, the Electrospirator became a central element in the life of many patients.

During an especially severe polio epidemic in Copenhagen in 1952, Dr. Alexander Lassen, chief physician at the Blegdam hospital, faced an influx of respiratory-paralysis cases in unprecedented numbers and sought the help of anesthesiologists to find a solution to the problem of the meager number of respiratory machines.⁵⁴ A common procedure in anesthesiology, applying positive pressure ventilation through the trachea, became an innovative method in polio treatment and went on to shape the overall treatment of respiratory paralysis significantly. The most important trait of this type of ventilation was that it was conducted through the trachea, which made getting rid of mucus become easier, thereby lowering the risk of infection. However, the initial version was manually operated during the Copenhagen epidemic, mainly by medical students. This worked as an emergency measure, but required a huge staff to operate in the long run.

⁵⁴ Luise Reisner-Sénélar, "The Birth of Intensive Care Medicine: Björn Ibsen's Records," *Intensive Care Med*, no. 37 (2011).

Employing manpower in extreme ways in cases of emergency was not unusual in the history of polio, especially when it came to respiratory paralysis. An otherwise healthy-looking child or young adult suddenly unable to breathe was a shocking and powerful image that mobilized resources to exhaustion and shaped public-health policies and medical practices. In his book *Beginnings Count*, David J. Rothman argues that the personal choices of doctors and the moral imperative of trying to help on each and every case of respiratory paralysis with iron lungs, regardless of the efficiency of the technology or the prognosis of the particular patient, formed ideas of access to medical care.⁵⁵ While Rothman analyzes a “democratization” process of technology use and expectations and concludes that such ideas could be counterproductive from a medical perspective, the Hungarian case raises different issues. In an economy of shortage, the question of whether to use a certain medical technology, in this case the iron lung, never came up. The dilemma was, rather, how to best make use of given resources and maximize access to the available technology.

Dr. Kiss Ákosné, who later became head of the respiratory ward at the Heine Medin Hospital, considered the dramatic story of a relative who contracted polio to have shaped her medical career. In 1946, two years before the first iron lung was to arrive to Hungary, the young doctor’s distant relative fell ill on her 16th birthday and became paralyzed first in the legs, then in the arms, and finally in her respiratory muscles. “Since in these cases you could never tell if the respiratory paralysis would last five hours, three days, or a month.... Three of us, another doctor, a pianist cousin and I tried to help, like relay

⁵⁵ David J. Rothman, *Beginnings Count : The Technological Imperative in American Health Care* (New York: Oxford University Press, 1997).

horses, with the Silvester method, the most efficient method available then.”⁵⁶ This way of artificial respiration, so often pictured in films, meant raising the patient’s arm above her head to induce air into the lungs and pressing them down on her chest for exhalation.⁵⁷ It was a huge physical strain on the givers and the receiver as well. The efforts of the doctors and friends lasted one and a half days, by which time the girl’s skin on her forearms and chest were so damaged from the continuous friction, that she couldn’t stand the pain and she begged them to stop. The young doctor could do nothing but arrange a morphine injection to ease her struggle as she died.⁵⁸

With such alternatives at hand, similarly to his Western colleagues, Boda started working on the mechanization of the new Danish respiratory method in 1953. Iron lungs were scarce in Hungary and the epidemic of 1952, along with epidemic patterns all over Europe and beyond, made many physicians wary about the epidemic crises looming in the near future. Boda’s first attempt was an “inspirator,” based on glass technology and completed the same year. He encountered a Swedish version, the Engström respirator, for the first time on his trip to Switzerland in 1954 and gained new momentum for developing his own device.⁵⁹ In cooperation with Pál Kerekes, an engineer at the Research Equipment Manufacturing Company of the Hungarian National Academy of Sciences, Boda built the final version and named it *Electrospirator*. The device was later

⁵⁶ Interview with Dr. Kiss Ákosné in Ádám Csillag, "Gyermekebénulás I," ed. Ádám Csillag (Hungary: Csillag és Ádám Film; Fórum Film, 1995).

⁵⁷ The method was named after Henry Robert Sylvester, British physician who developed this technique in 1858 "Silvester Method," in *Medline Plus Merriam-Webster Medical Dictionary* (National Institutes of Health). In the 1940s this method was still widely considered to be the most effective way of artificial respiration. See D.G. Cordier, "Methods of Artificial Respiration," *British Medical Journal* 2, no. 4316 (1943).

⁵⁸ Interview with Dr. Kiss Ákosné in Csillag, "Gyermekebénulás I."

⁵⁹ Boda, *Sorsfordulók*.p.56.

patented and manufactured for export.⁶⁰ By 1963 a wide variety of machines were in use in Hungary,⁶¹ some of which, mostly Electrospirators and one iron lung, were continuously used until the late 1990s in the respiratory ward.⁶²

The case of respiratory machines is yet another example that we need to dismiss the idea of simple technological transfer from West to East in the Cold War.⁶³ At the time of escalating epidemic waves and meager resources in respiratory devices all over the world, the problem to be solved was the same everywhere, independent of capitalism and socialism. Scientists and engineers worked on similar projects in a parallel pace on both sides of the Iron Curtain, and in the case of polio they were not in a race or competition with each other.

Many years later, patients themselves joined the process of developing the respiratory machine by requesting the exchange of the tracheal tube to a longer one. Originally, a short tube connected the device to the patient to ensure that the inhalation and exhalation sequences that the machine generates reach the patient as soon as possible. However, patients living with the device found it difficult to go about their daily life connected so closely to an object with a fixed place and needed a longer tube to be able to move around in their wheelchairs. Following their requests, the length of tubes were an average of 2.5 meters in the ward.⁶⁴

⁶⁰ Ibid.p.62.

⁶¹ Boda and Murányi, *Respirációs Therapia*.pp.115-117

⁶² Csillag, "Gyermekebénulás I."

⁶³ see for instance Riikka Nisonen-Trnka, "Science with a Human Face: The Activity of the Czechoslovak Scientists František Šorm and Otto Wichterle During the Cold War" (University of Tampere, 2012).

⁶⁴ Dr. Kiss, "Tartós Gépi Lélegeztetéssel Életben Tartott Postpolió Légzésbénultak Sorsa".p.16.

Negotiating knowledge and authority in polio treatment

As the donations arrived to the hospital, the institution quickly began to fill up with patients. The rate of new patients accelerated in the summer of 1957. But how did a patient end up in the Heine Medin Hospital and what happened to her or him once treatment began?

"He was two and a half. He had a high fever and a sore throat, so we kept him in bed. One morning as I was dressing him, I noticed that his legs were limp. I asked him to move them—he could not. We immediately called for the doctor and soon we had him transported to Debrecen, a city with a better hospital."⁶⁵ The mother who gave this account of the paralysis of her 3-year-old son was a member of a relatively privileged family. Both parents were educated and therefore had access to information about the best medical care. Moreover, the father was the regional chief vet, an important and influential position in a rural community, and the family could afford to transport their child to the other end of the country if needed.

What happened when a child got paralyzed depended greatly on where the child was geographically, her parents' social and financial status, the medical knowledge and network of the local doctor, and the degree of paralysis. It also depended on when in the fifties the child got ill. In the early 1950s, when iron lungs were scarce, respiratory paralysis could mean a death sentence. However, from 1957 onward, a child could be transported to one of the three iron lung wards in the country by airplane.⁶⁶

⁶⁵ Dr. Vargha Jánosné Lázok, *Interview*.

⁶⁶ Tünde Hargitai, *Telephone Interview* (London: 2012).

The health service of the Hungarian Aviation Association was brand-new at the time of the 1957 epidemic. In fact, the transportation of respiratory polio cases was among its first tasks. Most critical patients were transported from Miskolc, the largest city in the center of the epidemic, to Budapest. Symptoms developed so quickly and the disease spread so rapidly that sometimes when the pilots were alerted to the transport of one child, they found two more children were waiting to be taken to the capital. In the first two months of the service more than 110 children with polio were transported with two airplanes from various places in the country to Budapest.⁶⁷

As soon as a child was diagnosed with polio (marked by the onset of paralysis), most patients were transferred to the national center for infectious diseases, the László hospital in Budapest. Further polio centers were established in Debrecen and Miskolc, both in the eastern part of the country, in counties where polio epidemics hit the hardest.

If the virus attacked “only” the limbs, the acute treatment could be very uneven across space and time as well. At one hospital, a toddler in 1954 could be exposed to regular lumbar punctures, an extremely painful procedure when administered into an already inflamed nervous system.⁶⁸ At another, in 1959 she could get the up-to-date Kenny treatment, which meant wrapping the muscles in warm bandages and hot packs to retain their flexibility.⁶⁹ The concerns of a baby’s parents in a small village in eastern Hungary could be dismissed by the local doctor as creating drama over a simple flu. She may never have received any kind of polio treatment and may have grown up to be the strange, limping girl of the village.⁷⁰ At the same time, many children in Budapest could

⁶⁷ Gábor Nagy, "Szomorú Elsőbbség - Egy Mentőpilóta Élettörténete," *Indóház*, October 11 2011.

⁶⁸ Vargha, *Interview*.

⁶⁹ Domokos Boda, *Interview* (Szeged: 2009).

⁷⁰ Kálmán Mrs. Gere, *Interview* (Debrecen: 2007).

receive medical attention instantaneously and have a physical therapist come to their home for regular sessions.⁷¹

After getting through the acute phase, most children received restorative treatment of some kind. Many were admitted to the Heine-Medin Post Treatment Hospital, which became the center that treated the masses of polio patients from the 1957 and 1959 epidemics. If their families lived outside of the city, children would stay in the treatment center from September to June. If they were from the capital, they could receive daily outpatient care and reside a few months at a time in the hospital following surgeries. Others received treatment from their local physical therapist or, as we saw, received no treatment at all.

Some parents were able to move across the country to be close to their child being treated in a specialized hospital in Budapest; they rented a room or flat near the hospital and looked for new work opportunities around the area.⁷² However, most parents were not able to uproot their whole families and find work near the treatment center, and thus were not they able to visit their sick children often.

The post-treatment institutions were sites of restorative treatment, medical and technological innovation and also served as sites of everyday life: a school, a home away from home, and their staff as family away from family. The unique features of polio and the special care patients required contributed to the particularity of the inner life of polio-treatment institutions. A high level of cooperation was needed for the treatment and caretaking of the disabled children, who were often very young, in pain, separated from their families, and required continuous and attentive care.

⁷¹ Parádi, *Interview*.

⁷² Kelemen, *Telephone Interview*.

Seemingly, Erving Goffman's concept of *total institutions* fits well these hospitals. Goffman describes such institutions as a "place of residence and work where a large number of like-situated individuals, cut off from the wider society for an appreciable period of time, together lead an enclosed, formally administered round of lives."⁷³ One of Goffman's crucial points is that in total institutions, there is a "split between a large, managed group, conveniently called inmates, and a small supervisory staff."⁷⁴ When we look at total institutions or political systems on the ground, not surprisingly, it turns out that control is rarely total. Leaving this critique to the side, Goffman's concept can be still useful here in analyzing the governance of lives in everyday hospital practice, since the daily administration and management of polio care in more or less enclosed communities deeply affected how the disease was treated and what treatment consisted of.

First of all, the treatment of the disease and the peculiar needs of children required a large staff in hospitals. While the children's lives were under control by the staff, the everyday life of the staff was in turn controlled by the requirements of treatment and care of the polio-stricken children. Staff working at the iron lung ward was perhaps under the strictest control, since the machines, as well as the care for children with respiratory paralysis, needed to operate like clockwork.

All the staff, ranging from the director to assistant nurses needed to be up-to-date with the exact medical history of each child under their care,⁷⁵ needed to be ready to perform everyday tasks such as diaper changing, to carry children about on the winding staircases

⁷³ Erving Goffman, *Asylums. Essays on the social situation of mental patients and other inmates* (Chicago, 1961). P.IX.

⁷⁴ *Ibid.* p.7.

⁷⁵ Mészáros, *Interview*.

of the hospital, and to take overtime shifts regularly.⁷⁶ Part of the nursing staff lived on the premises,⁷⁷ while other staff members would bring their own, healthy children to work if they did not have a family member available to babysit them after daycare or school.⁷⁸

The particular task of creating able and productive bodies in the hospital and the specific care polio required complicated professional and doctor-patient relations. A closer look at the status of physical therapy gives an insight to how polio care formed knowledge, practice and social interactions. Physical-therapy sessions were central to polio treatment, as life in the hospitals was organized around them. As an article on the pressing issues of polio care claimed, “Among the latest treatment procedures, physical therapy has a significant importance in the rehabilitation phase. In this process, it is important not only to treat the paralyzed muscles and to develop coordinated movement, but also to condition healthy muscles so that static balance can be achieved.”⁷⁹

Since the keystones of successful rehabilitation were long, tedious and often painful process of physical therapy and a need to follow specific exercise routines, the expertise of physical therapists gained special importance and affected their status in the medical hierarchy. For instance, physical therapists, almost exclusively women,⁸⁰ could overrule male surgeons in questions of polio care. “I told the chief director that this child is under my care and I will not allow him to operate on her. Only when I am through, and there is

⁷⁶ see Dr. Kiss, “Tartós Gépi Lélegeztetéssel Életben Tartott Postpolió Lézésbénultak Sorsa”; Mészáros, *Interview*; Anna László, *Vaspólya* (Budapest: Szépirodalmi könyvkiadó, 1979).

⁷⁷ “Heine Medin Híradó.”

⁷⁸ Mészáros, *Interview*.

⁷⁹ Mária Tarnóczy, “Fontosabb Feladataink a Heine-Medin-Betegek Rehabilitációjának Megoldása Terén,” *Rheumatológia, Balneológia, Allergológia*, no. 2 (1963).

⁸⁰ Out of the 52 physical therapists working in the Heine-Medin hospital, only one or two were men, according to head physical therapist, Dr. Dékány Pálné Enyedi Judit Dékány Pálné, *Interview*.

still a reason to operate, can he touch the patient.”⁸¹ In treatment, physical therapists worked together with and also offered an alternative to surgeons.



Figure 17 Physical therapy in the Heine Medin Hospital. Still from "Parents, beware!" (1957) featured in Ádám Csillag's documentary Polio (1994)

It is thus surprising, that physical-therapy training on a national, organized level was nonexistent in Hungary until the mid-1950s. The two-year education program for physical therapy, offered in Budapest, came into existence because of prevalence of the poliomyelitis epidemics. In 1957, the year of the great epidemic, two more schools opened in Debrecen and Miskolc, and by 1959, more than 200 physical therapists were active.⁸²

In fact, the staff of the Heine Medin Hospital trained many of these physical therapists. The institution started out with 12 therapists, who joined Dr. Lukács from the Bókay Children's Hospital and András Pető's institute (which developed Conductive Education, now practiced worldwide). However, these therapists were not specialized on

⁸¹ Ibid.

⁸² Dr. Mónika Horváth, "A Gyógytornász Képzés Története," Semmelweis University, http://www.sote.hu/intezetek/info/?inst_id=82&page_id=1.

polio; in fact, nobody was. Developing their knowledge through practice, the core therapists became nodes of knowledge and held trainings in several hospitals in Budapest and across the country.⁸³

Even though physical therapists didn't hold a medical degree, they ranked above nurses in the professional hierarchy, due to the vital nature of their work. That work also allowed them to develop close working relationships with physicians, nurses and the children themselves. They were the ones who took part in the treatment process most intensively, by having sessions with patients daily, observing surgeries,⁸⁴ consulting with the surgeons, and being companions and friends to nurses.⁸⁵

The web of family and professionals contributing to the children's treatment and each group's investment and concept of the patient's health and healing required constant negotiations from all parts. Authority over the child's body was often intensively disputed. One of the patients, Szöllősiné Erzsébet Földesi remembers how the surgeon started shouting with her parents when he found out that they were gathering information about alternative methods of care. She ended up having the most common surgery in the Heine Medin hospital: to correct the uneven length of her legs and ease walking, Dr. Lukács sawed off a part of her "normal" leg near the knee joint. "Instead of one bad and one good leg, I ended up with two short ones. This was [the doctor's] specialty, he liked butchering. I still remember the pain and the sound of him tinkering away at my bones. You see, they no longer used ether at that time, and even though they said I would not feel anything, I can tell you that I felt every single thing."⁸⁶ Erzsébet never forgave this

⁸³ Dékány Pálné, *Interview*. "Heine Medin Híradó."

⁸⁴ "Heine Medin Híradó."

⁸⁵ Mészáros, *Interview*.

⁸⁶ Erzsébet Szöllősiné Földesi, (Budapest: April 26, 2010), *Interview*.

operation and lamented that her parents were not in the position to stand up for her treatment.

In certain cases, however, the wishes of the patient and her parents opened new and innovative ways in otherwise routine procedures. Pál Kelemen, an 11-year-old boy and already a gifted cello player needed surgery to secure his dislocated hip. The usual method of treating this common problem was to ossify the joint, creating a sturdy but unflexible hip for the patient. However, Pál and his parents (a peasant and a factory worker) viewed this as an unworkable option, because the procedure would have rendered the boy unable to sit down to play the cello.

They worked together with the surgeon to find a different method that would allow the child to continue his musical career. They even managed to book an appointment at a Viennese clinic (no small feat, as it required connections across the Iron Curtain). In all the negotiations, Pál was an active participant. “Of course I was part of the whole process. I was in a conscious age by that time and it was my body and my life in question.”⁸⁷ In the end, the surgeon came up with a complicated but feasible option in 1959. “Director Lukács performed a huge surgery on him. He was arranging Pal’s bones and muscles for half a day in the operating room.”⁸⁸ Pál grew up to be a distinguished musician, eventually leading the renowned Franz Liszt Chamber Orchestra.

Another child ended up not going under any surgery. Her mother, who worked as a physical therapist, forbade all invasive treatment and gave her daughter private physical-therapy sessions after work hours.⁸⁹ If we look closely at the individual cases, it becomes clear that there was no typical form of treatment. This was partially because the effects of

⁸⁷ Kelemen, *Telephone Interview*.

⁸⁸ “Eljött a Nap... .”

⁸⁹ Soós, *Interview*.

polio varied significantly, ranging anywhere from a mild and mostly reversible paralysis of one limb to the complete paralysis of the body, leaving little more than facial muscles under the patient's control. But equally important in the way treatment was structured were power relations among the groups working together and negotiating knowledge, practice and objective in the process.

Thus it is very important to investigate the agency of the various actors in the power relations of the disease, especially those of children.⁹⁰ In the story of polio, children were active participants and subjects, rather than objects of care. "It was the time of the grand visit. The head of the ward, the chief doctor, medical students, everyone, went from bed to bed. When they reached mine, they said I would need yet another surgery. By that time, I had been through a few and knew exactly what that meant. So I started screaming and put all curse words I knew to use. I had been sharing a hospital room with adult men. Believe me, I knew quite a few. I sent the whole company to hell. They must have been taken aback, for the whole group quickly ushered out of the room without a word. I was 8 years old then."⁹¹ After the boy successfully scared off the whole medical staff, they sent a diplomatic envoy, his favorite physical therapist, to talk to him. She managed to calm him down and persuaded him to agree to a meeting with the surgeon before he made his mind up about surgery. He eventually agreed to the operation, which would not be his last.

The role of the physical therapist as a facilitator and negotiator in this story highlights the importance of the professional in establishing trust, forging a close relationship with

⁹⁰ Cynthia Comacchio, Janet Golden, and George Weisz, eds., *Healing the World's Children: Interdisciplinary Perspectives on Child Health in the Twentieth Century*, McGill-Queen's/Associated Medical Services Studies in the History of Medicine, Health and Society (Montreal, 2008).p.8.

⁹¹ Interview no.2., June 19, 2009.

the children, and providing the bigger half of the treatment. It was the physical therapist who would help “re-tone” muscles after weeks in a cast following the surgery, and practice using the modified organ.

Furthermore, the story points out that children’s opinions and willing participation in their own treatment was seen as crucial in polio care. “The consensus and cooperation between doctor and patient is nowhere else as important as in the rehabilitation of paralysis,”⁹² stated one journal article from 1963. Although the surgery would probably have been performed on this particular child whatever his opinion was, it was essential that he agreed with his treatment. This approval fit into the perception of the psychological treatment of the patients, which was seen as crucial for producing a fully valued member of society, someone who would not lose contact with the outside world, would be able to participate and interact in society, and would engage in some kind of productive work. For this reason, the Heine Medin Post Treatment Hospital broadcast regular radio programs for the children, operated a small zoo in the garden, and was equipped with a library.⁹³ Another institute in Budapest with a large polio ward, the National Rheumatic and Physiotherapy Institute organized plays with the participation of the children.⁹⁴

Treating children on the emotional level, not merely the physical level, was important to the perception of polio care. Every stage of the treatment, from preparing for surgeries to preparing for the outside world, had to be conducted with psychological effects in mind. “The task of the psychologist is dual: on the one hand, the normalization of the

⁹² Tarnóczy, Mária dr.: Fontosabb feladataink a Heine-Medin-betegek rehabilitációjának megoldása terén. *a Rheumatológia, Balneológia, Allergológia* (2) 1963

⁹³ Heine-Medin Híradó (1959-1962)

⁹⁴ Vargha, *Interview*.

psychologically damaged patient due to his/her disability. The main point here is to help adaptation to a healthy environment. On the other hand, taking the mobility of the individual patient into account, to conduct examinations for working ability and spotting potential talent.”

The ultimate goal, therefore, was to transform disabled children into working citizens: “Upon leaving the institution, the [poliomyelitis] patient must be capable of acquiring a profession that will enable him/her to become a fully valued member of society.”⁹⁵ Both the Heine Medin Hospital and the Rheumatic Institute operated fully accredited schools, so that the children did not fall behind during their treatment and would be prepared to acquire a profession to support themselves.

Ironically, the ideal professions considered for polio patients were closer to physical work than intellectual. For example, wards of the state could choose between two professions: either to be shoemakers or watch repairmen.⁹⁶ Many others ended up working in the prosthetics factory, relegated to the world of disability outside of the hospital as well. Some were dissuaded from pursuing higher levels of study, like applying to university⁹⁷ when they grew older, but others did grow up to be lawyers, archeologists,⁹⁸ doctors⁹⁹ or even inventors¹⁰⁰—creating a small, but strong minority among polio survivors.

The imagination of the future for polio children as represented by the post-treatment institutions and the medical literature throws light on how productivity was defined in

⁹⁵ Tarnóczy, "Fontosabb Feladataink a Heine-Medin-Betegek Rehabilitációjának Megoldása Terén."

⁹⁶ Soós, *Interview*.

⁹⁷ "Minden ötszázadik" film (1967)

⁹⁸ Dékány Pálné, *Interview*.

⁹⁹ Vargha, *Interview*.

¹⁰⁰ Rádai, *Interview*.

communist Hungary. The ideal bodies of physical workers, so often portrayed in statues and murals across the country, were imprinted on the process of rehabilitation. The goal was to make these crippled and often distorted bodies come as close to being like the muscular, robust ideal as possible. Productivity equaled to physical activity and material output, and thereby defined the education and overall future of many disabled children. The ideal society communicated through propaganda was based on physical work in heavy industries, technological progress and an individual commitment to the greater good. To be a “fully valued member” meant being a “productive member” of society, and to be productive meant being physically able—a condition that polio clearly challenged.

The Iron Lung Ward

Treatment and the experience of the disease were quite different if the paralysis involved the respiratory muscles and the patient was dependent on mechanically assisted breathing in the long term. In 1957, Electrospirators, iron lungs and other respiratory devices arriving from abroad as donations or loans played a crucial role in saving and preserving the lives of over 200 patients with respiratory paralysis.¹⁰¹ By the next year, László hospital, the center for respiratory paralysis, was unable to manage the chronic respiratory patients, and as an infectious-disease hospital, it was not prepared to handle the long-term care of patients who were no longer infectious. Moreover, the hospital's electric system and building structure could no longer support the growing number of

¹⁰¹ Domokos Boda, "Evaluation of Recent Methods for the Management of Respiratory Disorders in Poliomyelitis and Other Indications of Mechanical Artificial Respiration," *Therapia Hungarica* 8, no. 1-2 (1960).

respiratory devices.¹⁰² Finally, whenever a polio patient treated in the Heine Medin Hospital relapsed and was in need of a respiratory device, she had to be transported to the László hospital at the other end of the city, arriving often just in time to save his or her life using the machine.¹⁰³

The new respiratory ward of the Heine Medin Hospital was set up in two recently acquired buildings (following the eviction of 21 squatters living there) not far from the main buildings. One of the buildings, which still serves as a respiratory ward today, was a stylish villa designed in 1941 by renowned architect József Fischer, who, incidentally, became a minister in Imre Nagy's revolutionary government.



Figure 18 The villa, designed by Jozsef Fischer (1941), that became the home of the respiratory ward of the Heine Medin Hospital.

¹⁰² Dr. Kiss, "Tartós Gépi Lélegeztetéssel Életben Tartott Postpolió Légzésbénultak Sorsa".p.3.

¹⁰³ László Lukács, "Az Intézet Hároméves Munkájának Ismertetése. A Heine-Medin Betegség Rehabilitációs Vonatkozásai," in *Előadások a Gyermekbénulás Rehabilitációs Problémáiról*, ed. László Lukács (Budapest: 1961).p.10.

Following a training period for the new staff, patients and equipment were transported from the László hospital, which retained professional supervision of the ward.¹⁰⁴ The number of respiratory patients was 90, all of whom suffered paralysis due to polio. Most of them were male, 60 percent of them were under age 2 and 90 percent were under age 6 at the time of their admittance. One third of them contracted the disease in 1957 and another third in 1959, which were the two most severe epidemic periods. Of these patients, 15 were “long term respirator patients,” meaning that they could only leave the respiratory device for a very limited time and improvement in their breathing capability was not expected.¹⁰⁵

Since the buildings of the new respiratory ward, just like the other buildings of the hospital, were not originally intended to house the machines and patients, the distribution of children and devices gained a unique pattern. Rooms were not set up according to sex or age, but according to the weight of the iron lungs, swing beds and Electrospirators. One room and one floor could support only a limited amount of weight that had to be evenly distributed. As a result, boys and girls of different ages, with varying stages of paralysis and using different respiratory technologies were mixed in the rooms.

The amount of time children spent in the respiratory ward varied. Depending on the level of paralysis and the type of polio contracted, some spent a lifetime within the walls of the villa, while others returned to the main buildings or home as they became independent from the machines. Out of the 90 polio patients treated in the respiratory ward, 15 were unable to spend any time without mechanical ventilation. “In their case,

¹⁰⁴ Ibid.

¹⁰⁵ Ákosné Kiss, “Légzésbénult Utókezelő Osztályon Szerzett Tapasztalataink,” *ibid.* (Statisztikai Kiadó).

the fight was for being able to spend 30 minutes outside the respirator,”¹⁰⁶ wrote the head of the ward, Dr. Kiss Ákosné, in her dissertation on the life of respiratory patients treated in the Heine Medin Hospital. Most of the patients with the most severe cases of respiratory paralysis never went home after entering the hospital. György Kárpáti, for instance, contracted polio in 1959 at the age of 3 and he lived in an iron lung in the villa until 2006, when his over 60-year-old machine was exchanged for a modern respiratory device.¹⁰⁷

Since there was no elevator in the buildings, patients could only exit their floor while they were small enough to be carried around. As soon as they got bigger, they found themselves confined to one or two rooms for decades to come.¹⁰⁸ In the winter, nurses would bring snow from the garden on a plate, so the children could experience the seasons.¹⁰⁹ The one telephone line in the building was the only connection many of the patients had to the outside world. However, since this line was also used in official matters, patients only had access to it with the consent of the ward head, who sometimes used her authority over the telephone as a pedagogical device. Unacceptable behavior could mean the loss of one’s access to the weekly telephone conversation with friends or family.¹¹⁰

The access to continuous care in the framework of the socialist healthcare system paired with lack of resources created a community in the respiratory ward that challenged concepts of childhood, families and conventions about medical knowledge and caretaker roles. Medical staff assumed parental duties, nurses worked with highly specialized

¹⁰⁶ Dr. Kiss, "Tartós Gépi Lélegeztetéssel Életben Tartott Postpolió Légzésbénultak Sorsa".p.

¹⁰⁷ Ilona Székely, "Ház a Baba Utcában," *A mi kórházunk*, no. June (2009).

¹⁰⁸ László, *Vaspólya*

¹⁰⁹ Mészáros, *Interview*.

¹¹⁰ László, *Vaspólya*

medical knowledge and also doubled as technicians, and children became active participants in shaping their own treatment.

In the case of polio involving respiratory paralysis, nurses became key players in medical care and fulfilled a role of similar significance to physical therapists. "An appropriate nursing staff is of utmost importance for the department. Only specially trained nurses who possess proper knowledge and ability to handle unexpected emergencies may be employed for this work. They have to be capable of operating safely manual respirators, which are in readiness at every patient's bed, and to perform discharge-suction during the use of positive pressure respirators, every hour or 30 minutes, or in severe cases, if necessary, at 5 to 10 minute intervals. The nurses are responsible for timely removal of the humidity precipitated in the tubes. They must be adequately skilled to assist at interventions. In our department they have to check up the patients' basic vital functions Keeping of a precise record with daily four entries summarizing the machine's function and numerical data is also among nurses' duties. Such gravely affected, frequently unconscious, entirely immobile patients require the possibly greatest and most efficient care and nursing."¹¹¹

Nurses needed to be prepared for any occasional power outage, had to know how the mechanics of the machines work, had to be able to operate all respiratory devices, mucus-suction appliances and hand pumps. This was, in fact, an important part of respiratory treatment for every member of the staff: the medical textbook on respiration therapy from

¹¹¹ Boda, "Evaluation of Recent Methods for the Management of Respiratory Disorders in Poliomyelitis and Other Indications of Mechanical Artificial Respiration."p.5.

1963 emphasized that all doctors needed to know intimately how each machine they use works, for that is the only way they can treat complications due to malfunction.¹¹²

Patients using the Electrosprator or any other device that involved tracheotomy needed to have their trachea suctioned every two hours at the most,¹¹³ since any excess mucus could lead to infection or could block the airways. Nurses were required to be ready to leave anything they were doing often to perform emergency suction, when a patient's airway got obstructed. Additionally, constant hand washing was needed because of the presence of antibiotic-resistant bacteria. The frequent use of disinfectants in turn caused allergic reactions on the skin of many nurses.¹¹⁴

The manifold tasks of nurses and the highly specialized skills required of them was only one part of their job. Work in the respiratory wards was very demanding, both physically and emotionally. Not only did the children require intensive attention and highly specialized knowledge, and not only could any situation turn into a critical and life-threatening one, but also the children would not get better eventually. They would keep on living there, their care posing the same demands every day and they would never leave the hospital healed. Many nurses, especially those in the beginning of their career, would soon seek more readily rewarding areas of work.¹¹⁵

Polio care, in general, caused a relatively high fluctuation among nurses,¹¹⁶ which caused frustration among some children, especially ones who spent years in hospital. One former patient writes in her memoir about the dread of coming back to the hospital after a family leave, surrounded by new children and a completely new staff. Some nurses were

¹¹² Boda and Murányi, *Respirációs Therapia*.

¹¹³ Ibid.p.120.

¹¹⁴ Dr. Kiss, "Tartós Gépi Lélegeztetéssel Életben Tartott Postpolió Légzésbénultak Sorsa".p.21.

¹¹⁵ Mészáros, *Interview*.

¹¹⁶ Ibid.

sadly missed, while the departure of others—a nurse she called The Witch, who stole children's food and mistreated the patients—was welcome.¹¹⁷ The long work hours, emergency situations and a constant lack of sufficient staff disrupted the life of nurses as well. Pósa Dezsőné, a former nurse at László hospital's respiratory ward, divorced her husband, an engineer, who had a hard time accepting that his wife would take night shifts when she was not on duty or would not leave the hospital immediately when her shift was over.¹¹⁸

The operation of respiratory machines demanded sophisticated knowledge not only in technical terms: anyone operating such devices needed to know of physiology of respiration itself. It was very important that both the inhalation and exhalation sequences were optimal, since the task of breathing is twofold: first of all, to deliver oxygen to the blood, and second, to remove carbon dioxide from the body. The realization of how important both processes were in administering assisted breathing was relatively new. As Carl-Gunnar Engström, Swedish physician and developer of the above-mentioned respirator, pointed out in an article in 1953, mortality rates of respiratory paralysis were still high in 1950, due to carbon-dioxide retention, despite mechanical respiration. It was the realization of the importance of the exhalation sequence and its assistance with newly developed respiratory machines that significantly improved survival rates starting in 1952.¹¹⁹ Thus it was very important that staff could keep an eye on the pressure of the machines and any symptoms of the patients that could reveal an insufficient breathing process.

¹¹⁷ Franciska Kormos, *Magánkeringő* (Budapest: Aposztróf Kiadó, 2010).

¹¹⁸ Interview with Pósa Dezsőné in Csillag, "Gyermekekbnulás I."

¹¹⁹ Carl-Gunnar Engström, "Treatment of Severe Cases of Respiratory Paralysis by the Engström Universal Respirator," *British Medical Journal* 2, no. 4889 (1954).

Patients also gained intimate knowledge of how their individual machine operated. Some began to intervene into their own care at a very early age. Mária Barabás remembers that by the time she first arrived to the hospital in Debrecen, she could hardly breathe and was turning blue from lack of oxygen. Even though she was quickly placed in an iron lung in Debrecen, she would still not get better. “Doctors and technicians were busy around me and I still kept fainting, because I was not getting enough air. What could it be, what could it be, they kept trying to find out, when I spoke, me, the 3-year-old, first time in an iron lung, first time having polio, and said, ‘The pressure is too little,’ meaning that there was not enough pressure to push my chest. Later, when my parents were able to laugh again, it became a sort of saying in my family.”¹²⁰

Along with nurses, children would take part in handling emergency situations, such as power outages. “When everything stopped working, in a power outage, for example, everyone, who was able to move even a little bit, was taught to hurry to those who couldn’t even make it for two minutes [without the machine].... Even at night, we would wake up immediately if it got quiet, and would start screaming for the nurses at once [that the machines are not working]. This reaction became so much a part of me that when years later I moved into my own apartment and there was a power outage, I would drop everything, get into my wheelchair and start hurrying. Only after a meter would I realize that there was no need to run.... They taught us the responsibility for each other.”¹²¹

When children were unlikely to ever return to their homes or become integrated into the educational system, the respiratory ward organized schooling. The problem of introducing perceptions of productivity to disabled children in their education, and the

¹²⁰ Interview with Mária Barabás in Csillag, "Gyermekebénulás I."

¹²¹ Ibid.

lack of resources allotted to their training were clear in the case of patients with respiratory paralysis.

In the respiratory ward, where children lived permanently in iron lungs, swingbeds and tracheal respiratory devices, staff and parents were at a loss when it came to organizing schooling and everyday life. “There was no medical precedent to this. As far as we knew, these children could live one, two or three years in iron lungs or other respiratory devices. So it was difficult to persuade some parents about schooling. Why pressure the child with learning, if she has such a short time to live?”¹²² Organized education finally began, involving every child, and classes were held in the patients’ rooms. While the children were small enough, they were lined up on a swingbed for the time of the class to assist their breathing.

As time went by, and it became clear that these children would not only survive a few years, but would also actually grow up with the help of respiratory technology, the means became an end. “It was very important that we get a high school degree. But nobody had any idea what will happen if we finish high school.” remembers a patient who grew up in the Heine Medin Hospital. Only very few patients were able to continue their education in universities and even fewer of those could ever use their schooling and degree in their work. A history-philosophy graduate with respiratory paralysis ended up supporting his family with random manual jobs like the assembly of glowing keychains. Getting to a university to hold classes or even bringing research material home was not an option.¹²³

As adults, many polio patients chastise the state, which was ultimately in control of their treatment and opportunities, holding it responsible for not providing them with sufficient

¹²² Interview with Kiss Ákosné in Ádám Csillag, "Gyermekbénulás II," ed. Ádám Csillag (Hungary: Csillag és Ádám Film; Fórum Film, 1995).

¹²³ Ibid.

education to support themselves. From their point of view, the state failed to fulfill its role as a provider as it also failed to conform to perceptions of productivity.

While access to education and career options were, of course, contingent on social status, economic resources and political standing for all children in Hungary, the future of children disabled by polio was in large part determined by their disability, the way in which their disability was perceived and the way in which their treatment was conceptualized. The conflict of expectations of production and the reality of disabled bodies and resources resulted in an educational concept that stressed the importance of continuous education through polio treatment, but lacked clear objectives that were followed through.

The story of the Heine Medin Post Treatment Hospital came to a sudden end in 1963. The hospital was transformed into a general children's hospital that year, and while Lukács stayed on and did continue part of the outpatient care of polio patients, the majority of children were sent home.

Since vaccination with the Sabin vaccine put an end to polio epidemics, the state became disinterested in polio on the whole, treatment centers were dismantled and the medical and educational care of children with polio withered away. Many children returned to their families. Others, who did not have families or whose families could not care for them, kept on living in secluded institutions. Once the polio problem was "solved," children were left to their individual families' resources and the care of the local district physician. The respiratory ward remained the only part of the institution where the care for polio patients was continuous.

Access to polio care after 1963 was no longer a question of securing adequate medical equipment from international organizations or having enough iron lungs and Electropsirators on hand to save the lives of patients with respiratory paralysis. As the state pulled away from polio—a disease that no longer threatened its population—patients whose lives were untouched by the benefits of vaccination found their care to be determined more by their geographic location and social status than ever before. Money could still buy you physical therapy sessions conducted in your home. Alternatively, excessive poverty of your family could land you in the “traveling circus,” a depository of institutionalized children with polio who no longer received medical treatment. Since the state did not allocate an adequate building for their care, a large group of children was placed from institution to institution across the country, from abandoned palace ruins to mental asylums.¹²⁴ In the eyes of the state, polio was over.

¹²⁴ Julianna Bedő, Tamás Kertész, and Tibor Szabó, "Interview," (Hévíz2010). Also see Kormos, *Magánkeringő*.

Conclusion

In December 1959, Hungary became the first country in the world to begin nationwide mass vaccination with the Sabin polio vaccine. Ironically, though not often recognized as a player in the history of public health, this Eastern European state introduced the vaccine to its national immunization program four years before the United States—the country where the vaccine was developed. This campaign put Hungary in the frontline of polio vaccination along with the USSR and Czechoslovakia, where the Sabin vaccine was tested. By 1969, polio had been practically eradicated¹ in Hungary,² ten years before the United States achieved the same result.

It would seem that the story of polio in Hungary ends here. As annual polio cases dwindled and ceased from 1963, the disease rapidly transformed from a threat to the nation into a success story of communism. Polio was over and done for. The disappearance of the disease meant the end of an era. The break between the years of polio and the new world safe from its effects marked a rupture in two important aspects: in the lives of polio patients and in international politics.

¹ The last wild polio outbreak in Hungary occurred in 1966 in an isolated Roma community and the last polio case was registered in 1969. The last polio case in the United States was recorded in 1979. The Global Polio Eradication Initiative (lead by the WHO, Rotary International, United States Center for Disease Control and UNICEF) was launched in 1988 and is the authority to issue polio-free certification. Polio eradication in a country or region is defined as the absence of wild poliomyelitis transmission for three consecutive years. The Americas was certified polio-free in 1994, the Western Pacific Region in 2000 and Europe in 2002. "Global Polio Eradication Initiative," World Health Organization, <http://www.polioeradication.org/Posteradication/Certification.aspx>

² I. Dömök, "Experiences Associated with the Use of Live Poliovirus Vaccine in Hungary, 1959-1982," *Reviews of Infectious Diseases* 6, no. Supplement 2. International Symposium on Poliomyelitis Control (1984). and Beatrix Kapusinszky, "Molecular Genetic Examination of Paralytic Type 3 Poliovirus Isolates and Molecular Epidemiology of Non-Polio Enteroviruses in Hungary" (Eötvös Loránd University of Science, 2010).

Since the Hungarian state was no longer invested in the disease and there was no perceived danger that would debilitate generations to come, it pulled out of polio care. Polio treatment was no longer a priority in healthcare and national and regional centers and wards were dismantled, among them the Heine Medin Hospital. As the hospital in which most Hungarian children with polio were treated was transformed into a general children's hospital—still in operation today—polio patients and their families were left on their own in organizing continued treatment and in acquiring special supplies like orthopedic shoes and leg braces. Patient records were sent to district health centers based on the last known address of the patients.

Katalin Parádi, the girl who emerged from the bomb shelter in the beginning of our story oversaw the process. She remained in the hospital for most of her adult life: after her treatment finished she started working as an assistant to Lukács and kept that position until the physician's retirement. According to her account, she spent endless days and weeks meticulously organizing the patient files, hunting down addresses of patients, finding the district healthcare centers responsible for their care and posting the records herself. But in many cases the records were either lost on the way to their destinations or were not integrated into the local health offices administrative system.³ Based on the inefficiency of record management that became clear in the analysis of polio vaccination in Chapter 3, this is indeed quite imaginable. The hospital kept a copy of all records and patients who knew this, could request a copy. However, when Katalin Parádi retired, the documents were moved into a moldy cellar and shortly thereafter were destroyed. Today, many women and men living with polio lament that they don't even have information on

³ Parádi, *Interview*.

what kind of surgeries they had in their childhood. Many know little or nothing about their own medical history.

The end of polio in Hungary also seemed to mean the end of intensive scientific cooperation and interaction reaching across the two antagonistic worlds. Success of one vaccine over another became a symbol for superiority in healthcare systems and economic status. Long gone was the figure of the West German pilot, the packages of vaccines crossing borders and the iron lungs flying over the Iron Curtain. As the age of polio ended for many of the countries involved in the Cold War, so did the cooperation against the common microscopic enemy. The holes in the Iron Curtain were patched up and division between East and West became prominent, once the polio problem was solved.

The spaces of scientific cooperation on a wider level also looked narrower as polio disappeared from the global north. The National Foundation for Infantile Paralysis looked for a new grand project to utilize its public relations machinery and scientific networks.⁴ The last international poliomyelitis conference was held in 1960, while the eighth and last Symposium of the European Association for Poliomyelitis was in 1962.⁵

But was this really the end of the epidemic? Was this how the story of polio in Hungary ended, with a disbanded treatment system and hardening Cold War ideas about

⁴ As a major post polio project, Jonas Salk along with Basil O'Connor and other prestigious scientists went on to establish the Salk Institute with the declared goal to bridge the sciences and humanities for "the advancement and unification of knowledge relevant to the health and well-being of man." The Cold War politics of the endeavor are explored in Elena Aronova, "Studies of Science before "Science Studies": Cold War and the Politics of Science in the U.S., U.K., and the U.S.S.R., 1950s-1970s" (University of California, San Diego, 2012).

⁵ Porras, Báguena, and Ballester, "Spain and the International Scientific Conferences on Polio."

scientific achievement? Or, as Catherine Kudlick points out,⁶ do we need to reconsider concepts of ending in the case of debilitating epidemics such as polio?

In Hungary, thousands of children, growing up to be adults in the 1970s and 1980s remained disabled in a world that rendered their condition increasingly invisible by transforming polio into a non-issue. These patients became repositories of scientific knowledge about the disease as polio treatment disappeared from medical textbooks. Decades later, they became important actors in organizing one of the first civil societies in state socialism that was not based on dissent. Their story continues with the end of polio, the communist regime and the Cold War itself.

Intensive medical and political attention to polio treatment lasted little more than a decade in Hungary. Financial, professional and personal investment into a new, quickly escalating problem was cut short by the success of vaccination, as Hungary's only hospital dedicated to polio treatment was transformed into a general children's hospital in 1963, dispersing patients and knowledge across the country. As time passed doctors, nurses and most physical therapists moved on and changed their medical focus. Only one thing did not change: patients who once contracted the disease were still living with polio. Five decades after the last polio epidemic, the former patients - 'dinosaurs' as many call themselves referring to their group as "a breed that is about to die out"⁷ – have become the only depositories of medical knowledge and experience in polio treatment.

On the one hand, the above-mentioned lack of patient records made life difficult for many children growing up with polio, since the details of their previous surgeries, their

⁶ Catherine Kudlick, "Smallpox, Disability and Survival: Rewriting Paradigms from a New Epidemic Script," in *New Directions in Disability History* ed. Susan Burch and Michael Rembis (forthcoming).

⁷ This term and definition was frequently used by people living with polio in talks, comments and personal conversations at the National Heine-Medin Convention of the Hungarian Organization of Disabled Associations (MEOSZ), Hévíz, Hungary, November 6, 2010

orthopedic needs and prescriptions were all lost. On the other hand, out of necessity many patients and their families took medical care into their own hands. In the eyes of the aging polio patient generation, the communist state failed to fulfill its role and did not provide for them, therefore they needed to become proactive, developing an attitude that was not usual in state socialism.

In the late 1970s, drawing on the network developed during their long hospital stays, young adult polio patients established something unimaginable and unique in a communist state: a civil association. "We realized that nobody was going to help us, so we needed to help each other"⁸ remembers one of the founding members of the National Association of Disabled Societies. The disabled adults utilized the network they built during their long hospital stays and also took advantage of fact that the concept of private data had not taken hold in health care: volunteers contacted hospital administrations and obtained the list of polio patients treated there in the 1950s and 1960s, along with their phone numbers and addresses.⁹ This way they even managed to find people who had been isolated from the polio community beforehand, and lived their whole life alone with their disability.¹⁰

Getting the Party's approval for such an enterprise was a more difficult matter. The initial response from the government was total rejection and it took over two years of negotiation through political connections to receive authorization for the founding of the national association.¹¹ The first, founding assembly of the National Association of Disabled Societies, coordinating 19 regional organizations was held on June 13, 1981.

⁸ Kálmán Gere, July 2007.

⁹ Vargha, *Interview*.

¹⁰ Mrs. Gere, *Interview*.

¹¹ Lajos Hegedűs, "Interview," (2010).

The Association whose leadership (and the majority of its membership) is still made up of former polio patients has been a major force in pushing for disability and accessibility laws; has founded a small packaging company to provide work for members and income for the organization; and has also fulfilled a social function in organizing meetings for former patients to connect or reconnect.

Moreover, the window of cooperation that polio opened between East and West had long term effects and continued to form disease prevention strategies long after that cooperation ceased to exist. The Hungarian model of "blanket" vaccination, that is mass vaccination of the whole population in the course of a short time eventually became the basis for polio eradication.¹² Drawing on the success of smallpox eradication after 1980, plans for the eradication of polio that started forming in the late 1950s reemerged. The World Health Assembly passed a resolution in 1988 about the eradication of the disease from the planet and set the year 2000 as the target. The Global Polio Eradication Initiative, backed with significant private funds, has been based on mass immunization with oral live poliovirus vaccines. Thus, polio again appeared as a basis for coordination in the final years of the Cold War, building on vaccines developed in cooperation between East and West in its early decade.

In many ways, then, the story of polio did not end with the end of outbreaks, neither in Hungary, nor on an international level. The disease continued to challenge the social and political makeup of Hungary decades after the last polio cases occurred in the country. Moreover, holes in the Iron Curtain continued to open and close in a dynamic relationship that was the Cold War.

¹² Harry F. Hull et al., "Progress toward Global Polio Eradication," *Journal of Infectious Diseases* 175, no. Supplement 1 (1997).

In this dissertation I have argued that polio, with its novelty as an epidemic disease in the 20th century, its clinical manifestation and its global presence interacted in specific ways with post-war processes of economy, science and medicine, forming international agencies and new regimes. I have looked at the early Cold War through the lens of a disease that did not respect dividing lines that split the world into East and West.

Through the story of the governance of polio in the 1950s and 1960s in Hungary, I have shown that the history of polio does not map onto the conventional history of the Cold War, which is based on two rigid sides and a stark dividing line. The Iron Curtain reveals holes, flexibility and a dynamic nature that let technologies, knowledge, and people cross back and forth in an effort to prevent and treat polio. Moreover, polio highlights continuities and invites us to reconsider ruptures in Cold War and Eastern European history – take for example the physicians who were so indispensable to the communist regime of Hungary that they had a significantly larger political playing field and could maintain their pre-war international networks.

Furthermore, the Cold War history of polio in Hungary is also a story of the management of epidemic disease and the political story that it is embedded in. A truly global disease, polio challenged healthcare systems, public health institutions and governments on both sides of the Iron Curtain. The disease threatened modernist projects at the foundations by attacking children and causing visible disability requiring long-term treatment. The political stake was pushed even higher by the fact that polio touched upon a foundational point of antagonism in the Cold War: the question of healthcare and socialized medicine.

Regarding disease prevention, a central issue in the historiography of polio, the key questions in this story turned out to be connected not as much with vaccine innovation, but with its production, distribution, and development. On the one hand, new players appeared in the evaluation, standardization and distribution of biomedical technologies, such as vaccines. The most intensive decade of polio research coincided with the formative years of the WHO, which not only acted as a passive site for political games, but in this period also became an active participant in shaping research. For instance, thanks to epidemiologic reports from all over the world, researchers like Albert Sabin were able to draw on epidemic data from Northern Canada's indigenous populations and contrast it with data from Singapore, Egypt and Argentina. On the other hand, the well-known story of who is to credit with the success of polio prevention was worked out in a politically fraught way. Choices of the Salk and Sabin vaccines, their development, standardization, and implementation challenged and reflected Cold War concepts and frustrations at the same time.

In my work I aim to provide an analysis that moves from global politics through governmental to institutional concerns, right to the patient-doctor level, using the locality of Hungary to access the above issues. Shifting the geographical focus from the superpowers to spaces on the edges show local perspectives, practices and legacies that can provide us with a more subtle understanding of global public health. The story of how Hungary dealt with the epidemic waves that paralyzed children by the thousands reveals the way in which Cold War concepts were ingrained in public health, virus research and clinical practice. Conversely, it also tells us how these same issues overrode Cold War concerns. Overall, the story of polio vaccination in Hungary highlights how

political alliances do and do not produce trust – in technologies, in science, in one's own government, in the other side, in doctors and in citizens. Trust that is fundamental to epidemic management.

While this dissertation has concentrated on the years between 1952 and 1963, Hungarian polio epidemics and their Cold War politics are part of a larger story and speak to broader issues than the limits of this work have permitted. The Cold War history of polio involving international cooperation in research, treatment and vaccine development coincided with the formative years of the World Health Organization and decolonization – all of which had long-term effects on the global terms in which we think about the disease today and the different meanings of polio prevention around the world.

Polio continues to be a disease that moves masses of financial resources, like the funds of the Bill and Melinda Gates Foundation or the Rotary Club, and the work of hundreds of volunteers. Its prevention is seen as a cause that cuts across continents, cultures and antagonistic political sides. At the same time, similarly to its early Cold War history, polio vaccination also manifests fears of the other side, symbolizes threats to future generations and ignites resistance to campaigns of various intensity.

A New York Times article reporting on the killing of polio vaccinators recently referred to the polio eradication effort as “Pakistan’s most crucial public health campaign.”¹³ If in a country with masses of displaced population, spiking infant and maternal mortality rates, and difficulties in access to clean drinking water, polio is indeed the most urgent public health concern remains a question. However, statements like the above signal the persistent political importance of polio. Despite its low incidence rate

¹³ Declan Walsh and Donald G. McNeil, "Female Vaccination Workers, Essential in Pakistan, Become Prey," *New York Times*, December 20 2012.

and its relatively low death rate, polio continues to be a central issue in global public health policy.

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