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# The Unknown Infection, or ‘Rožňava Disease’ in Czechoslovakia in 1951

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This article analyses the scientific and ideological impact of the 1951 tick-borne encephalitis epidemic in Rožňava (Czechoslovakia). Scientists in Rožňava discovered the possibility of transmission of the tick-borne encephalitis virus through non-pasteurised milk. The article focuses on both the outbreak in Rožňava, with its social and ideological implications, and the subsequent virological research, which became a means of prestige and symbolic power for Czechoslovak scientists within the domestic and international scientific community. The article shows that an epidemic can become a tool of power. The Rožňava epidemic, although now forgotten, helped establish the institutional background for virological research in Czechoslovakia and was at the origin of the still cutting-edge knowledge of tick-borne encephalitis.

The world’s first discovery of the transmission of the tick-borne encephalitis virus through non-pasteurised milk, made by Czechoslovak virologists during their research into the epidemics of an ‘unknown infection’ in the east Slovak mining town of Rožňava in the spring of 1951, became an important part of the transformation of Czechoslovak science according to the Soviet model, as well as an ideologically useful propaganda tool of the communist regime. This article aims to analyse the paradigm shift in the Czechoslovak scientific community through the example of this unique and locally isolated epidemic of tick-borne encephalitis,<sup>1</sup> the largest such epidemic in the world.

The central question of this article is how the new (Marxist) ideological approaches introduced after the Second World War helped to transform the thinking on the natural sciences in Czechoslovakia, thereby indirectly opening the way for a scientific discovery with a global significance. The article interprets the results of the Rožňava events in the context of the ongoing professionalisation and institutionalisation of Czechoslovak science in the 1950s. The outbreak of an unknown disease and the discovery of its causes encompasses the sub-stories of many agents such as scientists, residents of Rožňava and representatives of the local government. The article focuses on those scientists who, in the context of medical and hygienic practices, gained a significant position of power within the Czechoslovak and international scientific community and capitalised their research on TV and in popular journals. The acceptance of ideological transfers from the Soviet Union, for which there was a political demand in Czechoslovakia, combined with the epidemiological risk in Rožňava, became the basis for establishing a new and extensive scientific infrastructure. The example of Rožňava therefore shows how an epidemic can benefit certain population groups if the solution to the crisis is in line with political demand. The topic of an epidemic of tick-borne encephalitis in the district town of Rožňava and its environs, now in the Slovak Republic, has not yet been the subject of historical research, even though unique sources on the incident are available and they are accessible in

<sup>1</sup> Milan Labuda, Elena Elečková, Martina Ličková and Alexandr Sábó, ‘Tick-Borne Encephalitis Virus Foci in Slovakia’, *International Journal of Medical Microbiology* 291, Suppl. 33 (June 2002): 43–7.

the Czech and Slovak archives.<sup>2</sup> In this article I explore the topic chronologically and thematically. First, I present the epidemic in Rožňava and explore the consequences of the epidemic at the local and national level. Finally, I draw on this to examine the implications for virology in the domestic and international context.

The arguments of the article are divided into six parts, corresponding to the six steps taken in the analysis. The first part serves as an introduction to the theoretical premises of the research. The following two parts reconstruct the causes of the Rožňava infection and are based on yet unused archival sources, which provide a unique insight into the course of the local epidemic. This is followed by a section on the 'Field Survey in Rožňava and Laboratory Research', where I present the methods that the experts applied during their field research, the analysis of the course of the epidemic and its impact on the Rožňava region. In the section titled 'Aftermath', I outline the consequences of this event for Czechoslovak epidemiological research. The last two sections analyse the process of establishing Czechoslovak virology in the context of power and ideology. The example of the interdisciplinary scientific expedition (the first in Czechoslovakia), appointed for the purposes of the Rožňava epidemic (1951), is taken to illustrate the implementation of Soviet processes in Czechoslovak science. It also presents the propagandistic use of the transfer of knowledge from the Soviet Union and its potential contributions to scientific development in Czechoslovakia.

### Theoretical Background: Czechoslovak Virology and Scientific Breakthroughs

During the early 1950s Czechoslovakia had to cope not only with the effects of the Second World War, but also the February 1948 communist coup. The state seized control over many aspects of an individual's life, both private and at work. The economic system was transformed into a directive one based on five-year plans, and lots of land were merged on a large scale (the so-called collectivisation). Until 1953, food was distributed under a rationing system. Moreover, small farmers were obliged to hand over their food production to state enterprises. The societal changes, however, were not implemented evenly in all parts of Czechoslovakia – especially in eastern Slovakia, where the implementation of measures imposed from the capital caused chaos.

The Rožňava epidemic of 1951 was an opportunity to strengthen the material and symbolic standing of Czechoslovak virology both domestically and internationally.<sup>3</sup> After the Second World War, Czechoslovakia came into the sphere of the Soviet Union. This transformation represented a

<sup>2</sup> The archival sources produced by the state administration, especially the district council (*Okresní národní výbor*) in Rožňava, and its superordinate authority, the Regional Council (*Krajský národní výbor*) in Košice, form the basis for this research. District councils were subordinate to regional councils and administered medium-level geographical units, or districts (*okres*). Regional councils were in charge of the state administration in higher-level units, i.e. regions (*kraj*). The materials produced by the top-level institutions, especially security authorities and the Czechoslovak Ministry of Health, are either unavailable or cannot be retrieved in the existing uncatalogued collections. The collections of the relevant healthcare institutions are also uncatalogued, and therefore inaccessible to researchers. Agents who played an important role in the Rožňava epidemic were top scientists, later employed by the Institute of Virology of the Czechoslovak Academy of Sciences (ČSAV, established in 1953). The materials produced by this institution, however, have not been handed over to the Slovak state archives, and hence cannot be used. The activities of the scientists who researched the infection are thus reconstructed primarily from the academic literature and also from the personal archival collection of Dionýz Blaškovič (1913–98), the first director of the Institute of Virology. Contemporary academic texts published by experts and their conference papers are crucial to the analysis. Audio-visual sources were also used for the study, including, for instance, a documentary on the epidemic entitled *The Unknown Infection* (*Neznáma nákaza*, 1959), and a television documentary about Dionýz Blaškovič, entitled *Good Morning, Professor Blaškovič* (*Dobry deň, pán profesor Blaškovič*, 1970). Compared with written archival sources, these types of material provide a compelling insight into the atmosphere of the period as well as how the topic was presented to the general public.

<sup>3</sup> Lily Hoffmann's article, 'Professional Autonomy Reconsidered: The Case of Czech Medicine under State Socialism', *Comparative Studies in Society and History* 39, no. 2 (Apr. 1997): 346–72, focuses on how the transformation of the social structure into a socialist structure influenced the doctor-patient relationship. She draws attention to the fact that, from the viewpoint of Marxist political economy, the healthcare system was an unproductive sector and was also approached as such. Lack of equipment was commonplace.

complicated process influenced by various agents. It was reflected in perhaps all spheres of public and private life, the scientific community included. The transformation of the practice of science along the Soviet model, while emphasising continuity with the previous periods, has been outlined by the British historian Sarah Marks, who draws on examples from psychology.<sup>4</sup> While some scientists fell in line with the new ideology and accepted it voluntarily, others used it to secure material and symbolic prestige.<sup>5</sup> This historical context influenced the research on the epidemic in Rožňava, its later narrative and the development of Czechoslovak virology.

In its interpretation, this article is based on the thesis of Bradley Matthys Moore, who emphasises that the transfers of ideological principles from the Soviet Union were strongly reflected in the approach to the worker and his or her living (working) environment.<sup>6</sup> As a consequence, there was an increasing interest in hygiene, which resulted in the establishment of a network of sanitary and epidemiological offices throughout the country in the early 1950s.<sup>7</sup> These hygiene and epidemiological stations were laid out following the same scheme as the general state administrative network, i.e. with district and regional branches. They were established by the councils on the grounds of Act 4/1952 Coll. on Hygiene and Epidemiological Care.<sup>8</sup> Moore shows that the change in the political regime in Czechoslovakia and the process of Sovietisation gave hygienists the opportunity to implement the plans they had already proposed during the interwar period and during the war. Likewise, Czechoslovak virology gained a solid institutional base and, as a result, had the potential for greater professionalisation.

The development of institutionalised hygiene in the Eastern Bloc continuously built on the previous historical periods. This area of public life was not free from Western influences.<sup>9</sup> Medical practices supported by the Soviet Union were integrated into existing structures by domestic experts from the various Eastern Bloc states.<sup>10</sup> They drew on their pre-war experience and knowledge gained from their stays in the Soviet Union, often during the Second World War.<sup>11</sup> The leading experts involved in the research on the Rožňava events were representatives of this continuity. They had been educated in interwar Czechoslovakia and completed foreign stays in the Soviet Union.

The scientific transfer was carried out not only in the practical but also in the ideological (Marxist-Leninist) sphere.<sup>12</sup> At that time, the natural sciences in the Soviet Union were under the increasing influence of the Lysenko-Michurin approach (named after Trophim Lysenko, 1898–1976) and Pavlovian medicine (named after Ivan Petrovich Pavlov, 1849–1936). The contemporary research discourse on scientific life in communist regimes speaks, in this context, of the Stalinisation of science.<sup>13</sup> Lysenkoism promoted ideas concerning the influence of somatic (bodily)

<sup>4</sup> Sarah Marks, 'From Experimental Psychosis to Resolving Traumatic Pasts: Psychedelic Research in Communist Czechoslovakia, 1954–1974', *Cahiers du Monde Russe* 56, no. 1 (2015): 53–75.

<sup>5</sup> Bradley Matthys Moore, 'Healthy Comrades: Czechoslovak Hygiene Services and the Pursuit of a Communist Modernity, 1948–1958' (PhD thesis, University of Wisconsin – Madison, 2013), 88–9.

<sup>6</sup> *Ibid.*

<sup>7</sup> Štátny archív v Košiciach, pracovisko Archív Rožňava [State Archives in Košice, Rožňava Branch], coll. Okresný národný výbor [District Council], Zápisnica Rady [Minutes of the Council Meetings], Book 18, Box 9, XX. Radná schôdzka 30 Apr. 1952 [20th Council Meeting], 184.

<sup>8</sup> Moore, 'Healthy Comrades'.

<sup>9</sup> Harsch, 'Medicalized Social Hygiene', 422.

<sup>10</sup> Moore, 'Healthy Comrades', 17. For an example of TB treatment in East Germany see the term 'medical social hygiene'. Donna Harsch, 'Medicalized Social Hygiene? Tuberculosis Policy in the German Democratic Republic', *Bulletin of the History of Medicine* 86, no. 3 (Fall 2012): 394–423; John Connelly, *Captive University: The Sovietization of East German, Czech, and Polish Higher Education, 1945–1956* (Chapel Hill: University of North Carolina Press, 2000).

<sup>11</sup> *Ibid.*, 45–7.

<sup>12</sup> Nikolai Kremmentsov, 'Lysenkoism in Europe: Export–Import of the Soviet Model', in *Academia in Upheaval: Origins, Transfer, and Transformations of the Communist Academic Regime in Russia and East Central Europe*, eds. Michael David-Fox and György Péteri (New York: Bergin and Garvey, 2000), 179–202; Nikolai Kremmentsov, *Stalinist Science* (Princeton: Princeton University Press, 1997); Doubravka Olšáková, ed., *In the Name of the Great Work: Stalin's Plan for the Transformation of Nature and Its Impact in Eastern Europe* (New York: Berghahn, 2019).

<sup>13</sup> Moore, 'Healthy Comrades', 92.

and environmental factors on heredity (the main scientific doctrine in the Soviet Union).<sup>14</sup> The working man and the transformation of his surrounding environment were put at the forefront of scientists' interest. Pavlovian medicine was based on the premise that an animal organism exists only due to the balance between the system and the environment. An organism therefore directly responds to outside stimuli. This theory was awarded the Nobel Prize in 1904 and enjoyed extraordinary attention in the Soviet Union.

Pavlovian medicine was the subject of the transfer of knowledge and ideology into the satellite countries of the Soviet Union, including Czechoslovakia. The aim was to interconnect biological scientific knowledge with dialectical materialism. This combination of philosophy and biology brought about a paradigmatic change in the perception of the world, which lay in the idea that the surrounding environment plays a key role in an individual's development. As a consequence, scientists could take up the ideological shield of the dialectic of nature of Friedrich Engels<sup>15</sup> or the dialectical and historical materialism of Joseph Stalin.

The interest of the governing bodies came to be focused on the working environment and they aimed to create a suitable living space for the proletariat.<sup>16</sup> In 1951, immediately before the Rožňava epidemic, the campaign to support Pavlovian medicine was at its peak in Czechoslovakia. Experts even published an open letter to the Czechoslovak communist president Klement Gottwald in March 1951, declaring that science would include in its processes the concepts and organisation of work within the intentions of Pavlovian medicine.<sup>17</sup>

Another method developed in the Soviet Union had a direct impact on the solution of the Rožňava epidemic, namely the theory of the natural foci of infections by the Soviet zoologist and parasitologist Yevgeny Nikanorovich Pavlovsky (1884–1965). Pavlovsky worked with the concept of a specific area in terms of geographical landscape type and biotopes, where, during the evolutionary process, certain interspecies relationships developed between the originator of the disease (microorganism) and its transmitter. Under suitable circumstances the transmission occurs from the animal originator (infectious agent) to other animals (infection receiver).<sup>18</sup>

Pavlovsky's theory is closely related to the notion of zoonosis, i.e. that infections can be transmitted between animals and humans. This term is used, for instance, by Christos Lynteris, who focuses on the historical research into epidemics from the relationship between humans and non-human animals,<sup>19</sup> to the aftermaths of epidemics.<sup>20</sup> The fear of animals as 'epidemic villains' is linked by Lynteris to the development of modern medicine in different cultures. The argument is highly relevant to the case of the Rožňava epidemic. The epidemic prompted the human inhabitants of the region to modify the environment in which they lived in order to feel safer. It helped shape the human view of the tick as a dangerous pest and directed scientific research in Czechoslovakia. It connected experts from a wide range of disciplines and helped with their transnational networking.

The ideological transfers from the Soviet Union to Czechoslovakia formed the background to events that included the 1951 Rožňava tick-borne encephalitis epidemic. Even though today this

<sup>14</sup> Olšáková, *In the Name of the Great Work*; William DeJong-Lambert, and Nikolai Kremensov, eds., *The Lysenko Controversy as a Global Phenomenon, Vol. 1: Genetics and Agriculture in the Soviet Union and Beyond* (London: Palgrave Macmillan, 2017); William DeJong-Lambert, and Nikolai Kremensov, eds., *The Lysenko Controversy as a Global Phenomenon, Vol. 2: Genetics and Agriculture in the Soviet Union and Beyond* (London: Palgrave Macmillan, 2017).

<sup>15</sup> Moore, 'Healthy Comrades', 95.

<sup>16</sup> *Ibid.*, 101.

<sup>17</sup> *Ibid.*, 103.

<sup>18</sup> Ústredný Archív Slovenské akademie vied, Bratislava [Central Archives of the Slovak Academy of Sciences, Bratislava], coll. Dionýz Blaškovič, No. 18, Box 1, Kliešťová encefalitída – referát na seminári WHO vo Varšave [Tick-borne Encephalitis – Presentation for the WHO Seminar in Warsaw], 3–4.

<sup>19</sup> Christos Lynteris, 'Introduction: Infectious Animals and Epidemic Blame', in *Framing Animals as Epidemic Villains: Histories of Non-Human Disease Vectors*, ed. Christos Lynteris (London: Palgrave Macmillan, 2019), 1–25.

<sup>20</sup> Christos Lynteris, 'Photography, Zoonosis and Epistemic Suspension after the End of Epidemics', in *The Anthropology of Epidemics*, eds. Anna H. Kelly, Frédéric Keck and Christos Lynteris (New York: Routledge, 2019), 84–101.

event has mostly been forgotten and neglected in historiography, it was an important milestone for the ideologisation of science and the development of virology in Czechoslovakia, as well as in Eastern Europe. It was an event with a definite time frame and scope (as a local epidemic) which, however, shares many features of the so-called great epidemics. Moreover, the politicisation and ideologisation of this biological event determined the approaches of the authorities to similar epidemics in Czechoslovakia.

### The Outbreak of the Rožňava Epidemic

When local doctors were called out to see patients who were suffering from fever and a flu-like condition in Rožňava on 23 April 1951,<sup>21</sup> they could certainly never have imagined that they were facing an outbreak of a local epidemic of a disease that was then still little known in Czechoslovakia, tick-borne encephalitis, which manifested as a sore throat and nose bleeds. The number of people infected gradually increased and more than 200 patients were hospitalised during the first few days. Most of the patients lived in and around the east Slovak town of Rožňava and in the nearby villages of Rudná, Nadabula and Hrušov. However, as their condition tended to improve within three to four days, the disease did not attract much attention at first. In fact, there was a rich history of various diseases in the region, from pneumonia and tuberculosis to typhus and frequent cases of influenza.<sup>22</sup> For the locals, diseases were therefore a natural part of life, and did not trigger waves of panic.

The term 'Rožňava disease' was probably first used at the managerial meeting of the Rožňava hospital on 12 May 1951.<sup>23</sup> The local epidemiological situation had been deteriorating rapidly for several days by then. As early as on 9 May 1951, doctors from the Internal and Infection Department of the District Hospital in Rožňava realised that they had in their care many cases of meningoencephalitis from the miners' apprentice dormitory.<sup>24</sup> The hospital reported these cases to the local state administration, namely the Department of Healthcare (*Zdravotný referát*) of the district council in Rožňava.<sup>25</sup> The case was further reported to the regional council in Košice (the superordinate authority), which made a telephone dispatch to the Healthcare Council (*Povereníctvo zdravotníctva*), the central Slovak state authority, a functional equivalent of the Ministry of Health, on 11 May 1951.<sup>26</sup> On the basis of this dispatch, a managerial meeting was immediately convened at the Rožňava hospital the following day. The atmosphere at the meeting was tense, as the number of in-patients was rapidly rising.<sup>27</sup>

That was the first time that the inhabitants of Rožňava, the small main town of the local district, began to feel nervous, as Dionýz Blaškovič, one of the first scientists sent to the scene of the epidemic, later reported:

<sup>21</sup> V[o]jtech Farkaš, 'Čo znamenala epidémia encefalítidy v Rožňave pre vedenie nemocnice [What the Tick-borne Encephalitis Epidemic in Rožňava Meant for Hospital Management]', in *Epidémia encefalítidy v Rožňavskom prírodnom ohnisku nákaz. Zborník príspevkov o epidémii encefalítidy prenesenej mliekom a o komplexnom výskume prírodného ohniska nákaz*, ed. Dionýz Blaškovič (Bratislava: Vydavateľstvo Slovenskej akadémie vied, 1954), 84.

<sup>22</sup> Štátny archív v Košiciach, pracovisko Archív Rožňava [State Archives in Košice, Rožňava Branch], coll. Okresní národný výbor, referát zdravotný [District Council, Department of Healthcare] (uncatalogued), 1951–4, Štatistika [Statistics].

<sup>23</sup> Štátny archív v Košiciach, pracovisko Archív Rožňava [State Archives in Košice, Rožňava Branch], coll. Okresný národný výbor [District Council], Zápisnica Rady [Minutes of the Council Meetings], Book 16, Box 8, XX. Schôdzka rady, 15 May 1951 [20th Council Meeting], 387.

<sup>24</sup> Karel Raška and Vojtěch Bárdoš et al., 'Epidemiologie rožňavské encefalítidy [Epidemiology of the Rožňava Encephalitis]', in *Epidémia encefalítidy v Rožňavskom prírodnom ohnisku nákaz. Zborník príspevkov o epidémii encefalítidy prenesenej mliekom a o komplexnom výskume prírodného ohniska nákaz*, ed. Dionýz Blaškovič (Bratislava: Vydavateľstvo Slovenskej akadémie vied, 1954), 93.

<sup>25</sup> Farkaš, 'Čo znamenala epidémia encefalítidy v Rožňave pre vedenie nemocnice', 84.

<sup>26</sup> Raška et al., 'Epidemiologie', 93.

<sup>27</sup> Jaroslav Hympán, 'Úvod ku klinickej časti [Introduction to the Clinical Part]', in *Epidémia encefalítidy v Rožňavskom prírodnom ohnisku nákaz. Zborník príspevkov o epidémii encefalítidy prenesenej mliekom a o komplexnom výskume prírodného ohniska nákaz*, ed. Dionýz Blaškovič (Bratislava: Vydavateľstvo Slovenskej akadémie vied, 1954), 15.

A bad mood was spreading among the inhabitants, one might even say they were very frightened, as there were many sick people even in their houses, whom their relatives were afraid to send to the hospital, and the condition many of them were in, especially due to severe headaches, seemed to be serious. No one knew how it would end.<sup>28</sup>

There was a plan to distribute information leaflets among the inhabitants, and to use the local public address system to broadcast messages explaining the situation.<sup>29</sup> The nearby hospitals were ready to accept some patients, to make room in the Rožňava hospital. The district council in Rožňava established a four-member commission, which was to instruct the local population on how to prevent the disease. Healthcare workers were seeking undiscovered mild cases of the disease within households.<sup>30</sup> The Czechoslovak Red Cross became involved in the mission and supplied a mobile clinic which drove through the town's streets.<sup>31</sup> The epidemiological measures included a ban on all mass festivities and private gatherings. The Rožňava district council ordered sewer rats to be exterminated and shortcomings in the distribution of drinking water to be rectified, i.e. drains repaired, a filtration plant in Rožňava set up and the construction of a public water mains completed. Emphasis was also placed on disinfecting all premises.<sup>32</sup> An intense search for a new and unknown virus had begun.

### Seeking the Origin of the Disease

As the first step in uncovering which disease had actually broken out in this eastern Slovak region, the Prague and Bratislava healthcare offices decided to send experts out to the scene. Their task was to ascertain in more detail the characteristics of the disease, find its cause and come up with a method to prevent it from spreading further. This was the very first working scientific group in Czechoslovakia that was set up and sent to a specific region.<sup>33</sup>

This step correlated with the post-war ideological transformations of Czechoslovak science as well as with transfers of scientific knowledge from the Soviet Union. The mission was held within the framework of Pavlovian medicine. Experts, for instance hygienists, should not remain primarily in the laboratory but should mainly work in the field.<sup>34</sup> The managerial bodies established an interdisciplinary team which took a provisional 'laboratory' and moved directly to the infection site. Doctors were required to transcend the traditional models of their practice and begin to view the examined individual in the context of both his or her working and private world.<sup>35</sup> In the context of Pavlovian medicine, the focus was on the human environment. The expert team organised the research using their knowledge of Soviet theory on natural infection foci.

<sup>28</sup> In Slovak: 'V obyvateľstve sa šírila zlá nálada, ba možno povedať prestrašenie, lebo aj po domoch bolo hodne chorých, ktorých sa zdráhali odoslať príbuzní do nemocnice, a stav mnohých, najmä pre úpornú bolesť hlavy sa zdal vážny. Nik [to] nevedel ako sa to skončí,' Dionýz Blaškovič, ed., *Epidémia encefalitídy v Rožňavskom prírodnom ohnisku nákaz. Zborník príspevkov o epidémii encefalitídy prenesenej mliekom a o komplexnom výskume prírodného ohniska nákaz [The Encephalitis Epidemic in Rožňava, a Natural Focus on the Infection. Collected Papers on the Epidemic of Encephalitis Transmitted through Milk and on the Comprehensive Research on the Natural Focus of Infections]* (Bratislava: Vydavateľstvo Slovenskej akadémie vied, 1954), 91.

<sup>29</sup> Farkaš, 'Čo znamenala epidémia encefalitídy v Rožňave pre vedenie nemocnice', 85.

<sup>30</sup> Raška and Bárdoš et al., 'Epidemiológia rožňavské encefalitídy', 94.

<sup>31</sup> Štátny archív v Košiciach, pracovisko Archív Rožňava [State Archives in Košice, Rožňava branch], coll. Okresní národný výbor, referát zdravotný [District Council, Department of Healthcare] (uncatalogued), Zdrav.-osvezova činnosť počas epidémie v Rožňave – zpráva [Health-Rescue Activities during the Epidemic in Rožňava – A Report].

<sup>32</sup> Štátny archív v Košiciach, pracovisko Archív Rožňava [State Archives in Košice, Rožňava Branch], coll. Okresný národný výbor [District Council], Zápisnica Rady [Minutes of the Council Meetings], Book 16, Box 8, XXI. Schôdzka rady, 21 May 1951 [21st Council Meeting], 424–6.

<sup>33</sup> Blaškovič, ed., *Epidémia encefalitídy v Rožňavskom prírodnom ohnisku nákaz*, 7.

<sup>34</sup> Moore, 'Healthy Comrades', 114.

<sup>35</sup> *Ibid.*, 116.

The preliminary diagnosis of the Rožňava epidemic was atypical typhoid fever.<sup>36</sup> This diagnosis was abandoned, however, after the arrival of the expert team and meningoencephalitis began to be considered instead.<sup>37</sup> Meningoencephalitis can have multiple causes, one of which is a viral infection. Based on the symptoms of the ‘Rožňava disease’, the expert team considered a specific meningoencephalitis caused by a tick as one of the hypotheses. The symptoms were chills, faintness, drowsiness, headaches, nausea, dizziness and diarrhoea. In some cases, people’s sight deteriorated too and their temperature rose to 38.5°C. The fever receded in three to four days but recurred on the seventh to the tenth day from the onset of the disease and usually rose to as high as 40°C, accompanied by severe headaches and vomiting.<sup>38</sup> The doctors ordered lumbar punctures, i.e. samples of cerebrospinal fluid to be taken from the lumbar spinal canal. This proved effective, as the condition of almost everyone affected improved rapidly within approximately 24 hours; however, in some cases the process needed to be repeated.<sup>39</sup>

The key to understanding just what disease this was lay in uncovering its causes. According to the nature of the disease, which mainly affected women, children and a considerable number of apprentices, the hypothesis was soon proposed that the disease originated in food. One of the working theories was that it was transmitted through milk.<sup>40</sup> In addition, butchers’ shops and the local water supply were checked. Major sanitary shortcomings were identified, but they were unrelated to the epidemic.<sup>41</sup> It should be mentioned, to give a complete picture of the situation, that the wells in the area were used by both people and cattle and were often contaminated by liquid manure.<sup>42</sup>

In any case, the sanitary situation in Rožňava was not adequate, as can be seen both in the shortcomings identified when seeking the source of the epidemic (water mains, butchers’ shops) and remarks made at the meetings of the Rožňava District Council, for instance, regarding the ‘astonishing filthiness of the town’.<sup>43</sup> Also symptomatic is an inspection record from the miners’ dormitory of the Miners’ Youth Institute in Rožňava, dated 7 March 1951, i.e. six weeks before the epidemic broke out. The following is included in the passages dedicated to the state of the kitchen: ‘It was so dirty that it was impossible to prepare healthy and non-harmful meals in such a filthy kitchen.’<sup>44</sup>

<sup>36</sup> This was stated by Karel Raška Jr in the radio feature entitled *The Radio Memories of a Czech-American Doctor, Molecular Virologist and Geneticist* [Rozhlasové vzpomínání česko-amerického lékaře, molekulárního virologa a genetika], part 2, time stamp 20 minutes. Available online at: <https://vltava.rozhlas.cz/viry-zkoumam-viry-obdivuji-osudy-cesko-americkeho-lekare-virologa-a-genetika-8344853> (last visited 30 Nov. 2021). He added that the Slovak experts ordered the mass inoculation against typhoid fever.

<sup>37</sup> Hympán, ‘Úvod ku klinickej časti’, 15.

<sup>38</sup> Š[tefan] Kubánek and F[rantišek] Pór, ‘Poznámky internistov k epidémii encefalitidy v máji a v júni 1951 v Rožňave a v jej okolí [Comments of Internal Doctors on the Encephalitis Epidemic in Rožňava and Its Environs in May and June 1951]’, in *Epidémia encefalitidy v Rožňavskom prírodnom ohnisku nákaz. Zborník príspevkov o epidémii encefalitidy prenesenej mliekom a o komplexnom výskume prírodného ohniska nákaz*, ed. Dionýz Blaškovič (Bratislava: Vydavateľstvo Slovenskej akadémie vied, 1954), 28.

<sup>39</sup> ‘Klinický obraz uzdravených, ktorí prodělali rožňavskou encefalitidu na jaře roku 1951. Podle vyšetření v období od února 1952 do ledna 1953. Prognostické epikritické závěry [Clinical Condition of People Cured of the Rožňava Encephalitis in the Spring of 1951. Examinations from Feb. 1952 to Jan. 1953. Prognostic Epicritic Conclusions]’, in Blaškovič, ed., *Epidémia encefalitidy v Rožňavskom prírodnom ohnisku nákaz*, 75.

<sup>40</sup> *Ibid.*, 9.

<sup>41</sup> Raška et al., ‘Epidemiologie’, 98–9.

<sup>42</sup> Bohumír Rosický, Josef Kratochvíl and Ondrej Mačička, ‘Charakteristika okolia Rožňavy po stránke teriologickej a parazitologickej [The Characteristics of Rožňava’s Surroundings in Terms of Theriology and Parasitology]’, in Blaškovič, ed., *Epidémia encefalitidy v Rožňavskom prírodnom ohnisku nákaz*, 153.

<sup>43</sup> In Slovak: ‘úžasná nečistota mesta’. Štátny archív v Košiciach, pracovisko Archív Rožňava [State Archives in Košice, Rožňava Branch], coll. Okresný národný výbor [District Council], Zápisnica Rady [Minutes of the Council Meetings], Book 16, Box 8, XXI. Schôdzka rady 21 May 1951 [21st Council Meeting], 424–6.

<sup>44</sup> In Slovak: ‘Bola tak znečistená, že neni možné, aby v takej nečistej kuchyni sa pripravovali zdravé a pre zdravie neškodné pokrmy’. Štátny archív v Košiciach, pracovisko Archív Rožňava [State Archives in Košice, Rožňava Branch], coll. Okresní národní výbor, referát zdravotní [District Council, Department of Healthcare] (uncatalogued), 1951–1954, Zápisnica, napísaná dňa 7. marca 1951 pri príležitosti prehliadky Ústavu banického dorastu v Rožňave [Record written on 7 Mar. 1951 on the occasion of an inspection at the Miners’ Youth Institute in Rožňava].

It turned out that most of the sick had purchased milk from the Rožňava dairy, which failed to meet even the most basic sanitary requirements: for example, the working area was entered directly from an unpaved street. In March and April 1951, before the outbreak of the epidemic, all the dairies in the Košice region had been inspected. The inspection highlighted the Rožňava dairy's wholly unsatisfactory working premises and equipment.<sup>45</sup> The local authorities were also aware of the problems with the milk supplies as they kept receiving complaints about the working conditions in the Rožňava dairy (poor milk collection, low wages).<sup>46</sup> There were even complaints at the time of the epidemic outbreak that the quality of the product was continuing to deteriorate and the milk would curdle when warmed, therefore customers preferred to drink the raw milk (i.e. milk that had not been heat treated).

The confirmation of the Rožňava dairy as the source of the disease was, however, complicated by the fact that the rationing system that had been implemented during the Second World War remained in place in Czechoslovakia until 1953, i.e. food was only available in exchange for ration coupons. The scientists found it suspicious that a high percentage of those who had fallen ill had purchased infected milk from the Rožňava dairy. However, what made it confusing was the fact that several people who had not received any milk coupons were also sick. When asked, these people eventually admitted to buying ration coupons on the black market, and so they had also drunk milk from the Rožňava dairy.<sup>47</sup> Another clue was that two employees and several shop assistants from the dairy also contracted the disease. Among the important findings was that no one in families that boiled milk and never drank it raw fell ill.<sup>48</sup>

After identifying the Rožňava dairy as the source, the hypothesis of the expert team that the disease was tick-borne encephalitis was confirmed. This finding raised further questions. It was not certain how the virus had spread to the dairy. The scientific team came up with several theories. They checked whether the sick people were employed at the dairy and would have transmitted the virus to their place of work. Another possibility was that the disease was transmitted by rodents, which were rife in Rožňava. The virus might also have entered the dairy from the water supply, if the water had been contaminated. They also checked whether the milk could have been infected at the suppliers – milk used to be collected from small cow farmers in the town's surroundings.

The indications eventually pointed to the suppliers of the Rožňava dairy as the most likely source of the infection. It was typical for the suppliers to mix cow's milk with goat's milk. As keeping a goat is cheaper than keeping a cow, this was a financial savings for small farmers. Goats, by the very nature of their grazing area near scrublands and due to their height, are more susceptible to tick infestation. On 24 April 1951 a whole family in Hrušov who sold their cow shortly before and only drank raw goat's milk was infected. This family supplied three litres of goat's milk to the Rožňava dairy every day.<sup>49</sup> However, the family was being treated in another hospital, not in Rožňava but in Košice, and so no one saw the link between them and the epidemic. The goat's milk supplied by this family was probably the source from which the viral infection spread among the inhabitants of Rožňava and its surroundings.

It was this trivial finding that came to form the basis for a ground-breaking hypothesis, proposed here for the first time ever internationally, that tick-borne encephalitis could be contracted via an intermediary, in this case through infected goat's milk. This was undoubtedly a paradigm shift in virology in Czechoslovakia and very likely in every part of the world wherever ticks live. Naturally, this finding needed to be proved through laboratory research, as described in the next part of this article.

<sup>45</sup> Štátny archív v Košiciach [State Archives in Košice], coll. Zápisnica Rady v Košiciach [Minutes of the Košice Council Meetings], 1951, 22. schôdzka, 7 June 1951 [22nd Council Meeting].

<sup>46</sup> Štátny archív v Košiciach [State Archives in Košice], coll. Zápisnica Rady v Košiciach [Minutes of the Košice Council Meetings], 1951, 23. schôdzka, 14 June 1951 [23rd Council Meeting].

<sup>47</sup> Raška et al., 'Epidemiologie', 101.

<sup>48</sup> *Ibid.*, 101–2.

<sup>49</sup> *Ibid.*, 102–4.



### Field Survey in Rožňava and Laboratory Research

Working theories were voiced from the very beginning of the Rožňava epidemic among the scientific team of experts in various disciplines who were sent to the region, that it could be a case of tick-borne encephalitis. However, very little was known about the disease at the time. The virus was isolated for the first time in Czechoslovakia in 1947 by František Gallia (1912–50) of the State Healthcare Institute (*Státní zdravotní ústav*) and, following consultation with parasitologists, he warned of the possible occurrence of the disease in Czechoslovakia in an article in *Reports of the State Healthcare Institute (Zprávy Státního zdravotního ústavu)*.<sup>50</sup> In the following year a small epidemic of tick-borne encephalitis broke out in the district of Beroun, Central Bohemia, with some fifty cases. It was then that the virus was first demonstrated to be present in Czechoslovakia in large numbers. However, at that time, it was assumed that humans could only contract the disease from a tick bite, and no one had any idea that it could be transmitted in any another way.

Soviet scientists had been conducting research into tick-borne encephalitis since the discovery of the disease in the 1930s. However, neither Czechoslovak nor foreign scientists were aware that it could be contracted through non-pasteurised milk, i.e. the milk that was only mixed and sterilised and did not undergo a pasteurisation process in which the fat content was adjusted in the dairy. Pasteurisation is the heat treatment of milk, aimed at preventing the action of pathogenic microorganisms. By beginning to consider the possibility that tick-borne encephalitis could be contracted from non-pasteurised milk, scientists across academic disciplines in Czechoslovakia embarked upon a journey which led to a global discovery.

During the conference held in Rožňava by the Ministry of Healthcare on 23–4 May 1951, the neurologist Kamil Henner (1895–1967) officially presented the findings made in the Rožňava dairy in support of the hypothesis that encephalitis was transmitted through goat's milk.<sup>51</sup> The leading Czechoslovak virologists Dionýz Blaškovič and Helena Libíková (1921–84) presented this hypothesis as the starting point for the launch of an extensive parasitological and virological study: wild mammal (the reservoir of infection); tick (the vector); cows or goats (the temporary host and producer of exudates); and milk (the transmission of infection).<sup>52</sup> Wild animals, namely birds, mice, voles, susliks and squirrels, were caught and ticks were collected from them (the *Ixodes Ricinus* and the harmful fowl tick of the *Argas persicus* were discovered in Czechoslovakia for the first time<sup>53</sup>). However, blood samples often did not make it to the laboratory, because they became contaminated by bacteria during transport. The researchers also struggled with a shortage of vehicles and the scarcity of laboratory mice.<sup>54</sup> Another complication was the lack of experts, such as epidemiologists, who were able to stay in the field and train the local doctors.<sup>55</sup>

It was successfully proven during the survey that a high percentage of goats in Rožňava and nearby Hrušov had contracted tick-borne encephalitis. The researchers applied Pavlovsky's theory of natural infection foci. The outbreak of the epidemic in Rožňava revealed the site of one of the natural foci of infections in Czechoslovakia. The hypothesis that the infection was passed through raw milk, which was successfully confirmed by laboratory tests, was ground-breaking. The Rožňava events led to this revolutionary idea and they are thus seen as a major turning point in research into tick-borne encephalitis.

As the Rožňava region is a natural focus of infections, one can assume that similar diseases had already occurred there before. However, it is not very likely that they would be classified as epidemics.

<sup>50</sup> Bohumír Rosický, 'Přírodné ohniskové infekce a zoonózy (Ze vzpomínek) [Natural Focus Infections and Zoonoses (From Memories)]', in *Kapitoly z historie československé mikrobiologie*, eds. Libor Ebringer et al. (Praha: Pražské nakladatelství Jiřího Poláčka, 1998), 189.

<sup>51</sup> *Ibid.*, 102–4.

<sup>52</sup> Dionýz Blaškovič and Helena Libíková, 'Výsledky mikrobiologických vyšetření [The Results of the Microbiological Tests]', in Blaškovič, ed., *Epidémia encefalitidy v Rožňavskom prírodnom ohnisku nákaz*, 130.

<sup>53</sup> *Ibid.*, 268.

<sup>54</sup> Blaškovič and Libíková, 'Výsledky mikrobiologických vyšetření', 118–32; Blaškovič, ed., *Epidémia encefalitidy v Rožňavskom prírodnom ohnisku nákaz*, 143–4.

<sup>55</sup> *Ibid.*, 92.

In this context, the virologist Vojtěch Bárdoš (1914–82) recalled an epidemic of viral meningitis that had broken out in the village of Ochtiná in the Rožňava district between the end of July and the beginning of August 1944.<sup>56</sup> Some thirty cases were recorded with an unidentified cause, as the results of the bacteriological examinations were negative. Brucellosis (a bacterial disease transmitted from farm animals to people) was thought to be the diagnosis. What all those who contracted the disease had in common was that they had drunk unboiled goat's milk.<sup>57</sup> Tick-borne encephalitis may therefore be assumed to have occurred then, being transmitted from animal to human via goat's milk. However, the disease was then local in nature, and occurred quite regularly, affecting mostly families. It was only when small farmers were forced to start supplying milk to the food chain and a big distributor entered the operations (a dairy in this case) that conditions arose for the outbreak of an epidemic. The example of Rožňava shows that the cluster of diseases became an epidemic only on the basis of political decisions.

The Rožňava epidemic was the largest tick-borne encephalitis epidemic in the world. The reason for this lies in a combination of economic and social factors. The need to address food shortages on the market after the Second World War, coupled with the hasty and inconsistent transformation of the economic system such as collectivisation, increased the risks of diseases that previously had only local consequences. As a result of the post-war centralisation of the economy, all resources from a wider area were concentrated into one regional centre to supply a large number of people. This was one of the main reasons why such a large epidemic occurred in Rožňava in the early 1950s.

Without proper hygiene measures in place, the dangers of an outbreak of epidemic became fully apparent. The process of pasteurisation, which had been known since the mid-nineteenth century, was introduced and made compulsory in Czechoslovakia in 1934 by a government decree on the production of milk and milk products.<sup>58</sup> The decree established strict conditions under which milk could be marketed. Since the 1920s, there has been a long-term education campaign, for example through promotional educational films, to encourage consumers and producers to accept the benefits of industrially processed milk. During the Second World War, technical equipment for pasteurisation was damaged. After 1945 the pasteurisation equipment across Czechoslovakia was largely repaired, but at the Rožňava dairy it remained broken. Later, the Czechoslovak state, as the owner of the dairy, concealed this mistake as only a temporary and unfortunate defect.

Before the epidemic, researchers had already asserted that in the Rožňava area, tick-borne encephalitis had probably been transmitted on many earlier occasions to humans through milk, but the medical community was unable to identify the disease correctly: 'in the archives of the Košice hospital from the time of the Hungarian occupation [Rožňava had been annexed as part of Hungary during the Second World War], i.e. between 1940–44, medical records have been preserved showing many cases of a disease determined then as serous meningitis [a disease similar to encephalitis].' But only at the turn of the 1940s and 1950s had scientific knowledge advanced far enough to be able to identify the transmission of the disease through milk. This technological progress is also illustrated by developments in the Soviet Union. Only one year after the 'Rožňava disease', Soviet scientists, independently of the developments in eastern Slovakia, had also discussed the question of possible tick-borne encephalitis transmission through milk.<sup>59</sup>

When the tick-borne encephalitis virus 'became visible'<sup>60</sup> in non-pasteurised milk, scientists were led to review their earlier conclusions and to establish new procedures in their research (i.e. by having expert teams in the field). In subsequent years the discovery of transmission through non-pasteurised

<sup>56</sup> Vojtěch Bárdoš, 'Vplyv dažďov na dynamiku prírodného ohniska vírusových (kliešťových) encefalitíd [Influence of Rainfall on the Dynamics of the Natural Infection Focus of Tick-borne Encephalitis]', in Blaškovič, ed., *Epidémia encefalitidy v Rožňavskom prírodnom ohnisku nákaz*, 171.

<sup>57</sup> Raška and Bárdoš et al., 'Epidemiologie rožňavské encefalidity', 110.

<sup>58</sup> Lydia Petraňová, 'Od tradičného k modernému zpracování mléka (příspěvek k rychlosti šíření inovací v českých zemích)', *Český lid* 83, no. 4 (1996): 308.

<sup>59</sup> Raška and Bárdoš et al., 'Epidemiologie rožňavské encefalidity', 108.

<sup>60</sup> Bruno Latour, *The Pasteurization of France* (Cambridge, MA: Harvard University Press, 1993), 80.

milk assisted in the discovery of several latent foci of the infection in Czechoslovakia (for instance, in the Posázaví and Tribeč regions) and to the correct diagnosis of a family from the Hradec Králové region, who had been hospitalised in 1955.<sup>61</sup>

### Aftermath: The Local Effects of the Epidemic

What were the consequences of the epidemic for the Rožňava region? Besides the effects on the nationwide promotion of Marxist ideology and the legitimisation of the powerful status of Czechoslovak virology, we can also identify the local consequences of the epidemic. The presence of epidemiologists and microbiologists in the field had an effect on the locals. Some of them planned to move away from the town as they came to 'see something unusual and strange in the disease'.<sup>62</sup> Another reaction faced by the experts was the patients' unwillingness to cooperate. As soon as they began to feel better, they demanded to be released from the hospital and often refused to undergo a subsequent check-up.<sup>63</sup>

The question arises as to why the local people were so reticent towards this research. The state authorities applied a repressive approach in the early 1950s, which created a climate that was unfavourable for expressions of anxieties and concern by the locals.<sup>64</sup> Moreover, from the viewpoint of the central authorities, this was a remote and economically backward region. There were also language barriers, as the region was known for having a dialect and was home to a large Hungarian minority.<sup>65</sup> Incidentally, the expert team members complained that they had no support in the region and faced practical issues, such as a lack of cars to take them into the field. They failed to establish a personal rapport with the locals and gain their support for the research.<sup>66</sup>

Even though the epidemic was short-lived, it affected a great part of the local population and resulted in several hospitalisations. The average hospitalisation time was twenty-two days and, in statistical terms, the hospitals received more adult women (63 per cent).<sup>67</sup> A total of 600 people were infected; however, not all cases required hospitalisation.<sup>68</sup> Approximately 7.4 per cent of Rožňava's inhabitants fell sick, while in twenty-five families more than one case was reported.<sup>69</sup> Until the end of June 1951, the hospital was admitting an average of four patients a day. The district council declared the epidemic had come to an end at its meeting held on Monday, 2 July 1951.<sup>70</sup> The total death toll was two, one man and one woman.<sup>71</sup> However, the leading Slovak virologist, Dionýz Blaškovič, stated

<sup>61</sup> Centenium narození profesora Ondráčka [The Centennial of the Birth of Professor Ondráček], recording made by MUDr. Jaroslav Král, CSc. Available online at: <https://www.infekce.cz/zprava15-10.htm> (last visited 20 Sept. 2020).

<sup>62</sup> In Slovak: 'vidieť v chorobe čosi neobyčajné a zvláštne', Blaškovič, ed., *Epidémia encefalitídy v Rožňavskom prírodnom ohnisku nákaz*, 92.

<sup>63</sup> Hympán, 'Úvod ku klinickej časti', 17. The conclusions from the neurological research of those affected were presented in 1960 by Kamil Henner and František Hanzal of the Neurology Clinic of Charles University in Kamil Henner, and František Hanzal, 'Die tschechoslowakische Zeckenencephalitis und die sogenannte Rožňava-Enzephalitis', in *Neurologie und Medizinische Psychologie* 12, no. 5 (May 1960): 161–9.

<sup>64</sup> Matěj Spurný, *Most do budoucnosti: Laboratoř socialistické modernity na severu Čech* [Making the Most of Tomorrow: A Laboratory of Socialist Modernity in North Bohemia] (Praha: Karolinum, 2016).

<sup>65</sup> This was the so-called Gemer dialect. Milošlav Smatana, 'Z lexiky gemerského nárečia v okrese Rožňava [From the Vocabulary of the Gemer Dialect in the Rožňava District]', in *Spravodajský portál global24sk*. Online: <https://roznava.dnes24.sk/narecie-na-gemeri-skrывa-krasne-vyrazy-priznajte-sa-rozumiete-im-vobec-275709> (last visited 30 Nov. 2021).

<sup>66</sup> Dionýz Blaškovič actually stated that one lesson learned from the Rožňava epidemic was that closer cooperation with the regional party bodies was needed. For details see: Blaškovič, ed., *Epidémia encefalitídy v Rožňavskom prírodnom ohnisku nákaz*, 142.

<sup>67</sup> Kubánek and Pór, 'Poznámky internistov k epidémii encefalitídy v máji a v júni 1951 v Rožňave a v jej okolí', 29.

<sup>68</sup> Růžek et al., *Klíštová encefalitída*, 80.

<sup>69</sup> Raška and Bárdoš et al., 'Epidemiologie rožňavské encefalitídy', 97.

<sup>70</sup> Štátny archív v Košiciach, pracovisko Archív Rožňava [State Archives in Košice, Rožňava Branch], coll. Okresný národný výbor [District Council], Zápisnica Rady [Minutes of the Council Meetings], Book 16, Box 8, XXVII. Schôdzka rady 2 July 1951 [27th Council Meeting], 558.

<sup>71</sup> *Ibid.*, XXIII. Schôdzka rady 4 June 1951 [23rd Council Meeting], 461.

no casualties in his later reports.<sup>72</sup> This means that either the incidents of death were requalified later, which could not be confirmed from the source documents, or Blaškovič may have been mistaken given the time that had passed, which seems more likely. After all, in the publication issued just after the first stage of the research had been completed, the team of scientists used the phrase ‘examination of both deceased’.<sup>73</sup> Also, the article published to mark the forty-fifth anniversary of the epidemic mentioned that a sixty-year-old man, a victim of the epidemic, had died on 17 May 1951.<sup>74</sup>

Why is the epidemic not engraved in the collective memory of the local population? The answer can be sought in the fact that outbreaks of various diseases were quite frequent in the region. We can quote, for instance, a record made by the Department of Healthcare of the district council in Rožňava concerning the statistical figures for 1948, which states that:

There were 107 cases of scarlet fever with 2 deaths; 26 cases of diphtheria with 1 death; 321 cases of tuberculosis with 49 deaths; 14 cases of typhoid with 4 deaths; 10 cases of varicella; 4 cases of whooping cough; 4 cases of rubeola; and 1 case of epidemiological muscle spasms. In 1948 there was only an influenza epidemic, which closed some schools.<sup>75</sup>

The document, furthermore, draws attention to TB as a social disease ‘which is widespread in the Rožňava district, mostly in miners’ families and most frequently in combination with chronic pulmonary disease’.<sup>76</sup> Alcoholism and the spread of venereal diseases are also mentioned. It is therefore apparent that diseases, occasional epidemics and, most importantly, a high incidence of TB were a matter of course for the small district capital.

What was new in Rožňava, as a consequence of the epidemic, was a comprehensive healthcare awareness campaign on the risks of drinking raw milk,<sup>77</sup> preventative vaccination of animals in natural foci,<sup>78</sup> disinfection of the dairy premises (indeed, the construction of a new dairy), and the treatment of pastures and the use of Dichlorodiphenyltrichloroethane (DDT) insecticide, whose harmful effects on human health were identified only later.<sup>79</sup>

The Rožňava epidemic changed the character of the region. The local government decided to sanitise the surroundings, eradicate ‘pests’ and create an ideal environment for humans. During the

<sup>72</sup> Ústredný Archív Slovenskej akadémie vied, Bratislava [Central Archives of the Slovak Academy of Sciences, Bratislava], coll. Dionýz Blaškovič, No. 25, Box 1, Prírodné ohniská kliešťovej encefalitídy: problém epidemiológie a prevencie choroby – referát na sympóziu o biológii vírusov kliešťovej encefalitídy [Natural Foci of Tick-borne Encephalitis: Epidemiology and Disease Prevention Issues, Presentation for the Symposium on the Biology of the Tick-borne Encephalitis Viruses], 10.

<sup>73</sup> In Czech: ‘vyšetření obou zemřelých’. Raška and Bárdoš et al., ‘Epidemiologie rožňavské encefalitídy’, 95.

<sup>74</sup> Rastislav Pospišil, ‘45 rokov od epidémie kliešťovej encefalitídy v Rožňave [45 Years after the Tick-borne Encephalitis Epidemic in Rožňava]’, *Slovenský lekár* 5–6/1996, 82; Kamil Henner and František Hanzal also stated that the epidemic did not result in any fatalities. See: Henner and Hanzal, ‘Die tschechoslowakische Zeckenencephalitis’, 165.

<sup>75</sup> In Slovak: ‘Spála vyskytla sa 107 prípadoch s 2 úmrtiami. Záškrť v 26 prípadoch s 1 úmrtím. Tuberkulóza v 321 prípade so 49 úmrtiami. Brušný týfus v 14 prípadoch so 4 prípadmi úmrtia, varicella v 10 prípadoch, čierny kašeľ v 4 prípadoch, spálňičky v 4 prípadoch, epidemické zmeravenie väzov v 1 prípade. V r. 1948 bola iba chrípková epidémia, pre ktorú boli i niektoré školy zatvorené.’ Štátny archív v Košiciach, pracovisko Archív Rožňava [State Archives in Košice, Rožňava Branch], coll. Okresní národní výbor, referát zdravotný [District Council, Department of Healthcare] (uncatalogued), 1951–1954, Štatistika [Statistics], 2.

<sup>76</sup> In Slovak: ‘ktorá je v rožňavskom okrese dosť rozšírená a vyskytuje sa najviac v baníckych rodinách najčastejšie v kombinácii so záprachom pľúc’. *Ibid.*, 4.

<sup>77</sup> Ústredný Archív Slovenskej akadémie vied, Bratislava [Central Archives of the Slovak Academy of Sciences, Bratislava], coll. Dionýz Blaškovič, No. 339, Box 12, Krátka zastávka vo Virologickom ústave SAV [A Brief Visit to the SAV Institute of Virology].

<sup>78</sup> Ústredný Archív Slovenskej akadémie vied, Bratislava [Central Archives of the Slovak Academy of Sciences, Bratislava], coll. Dionýz Blaškovič, No. 25, Box 1, Prírodné ohniská kliešťovej encefalitídy: problém epidemiológie a prevencie choroby – referát na sympóziu o biológii vírusov kliešťovej encefalitídy [Natural Foci of Tick-borne Encephalitis: Epidemiology and Disease Prevention Issues, Presentation for the Symposium on the Biology of the Tick-borne Encephalitis Viruses], 2.

<sup>79</sup> *Ibid.*

epidemic, the perception of the tick as an insidious enemy lurking in nature was also set. This menace must be eliminated and, as with other 'epidemic villains', appropriate measures must be put in place.<sup>80</sup> DDT was scattered around the forest and bushes were burned at the edge of clearings where ticks are most common. These practices were partly a consequence of the new post-war ideological order, but in many ways they continued older traditions.<sup>81</sup> DDT was invented in 1939 and used successfully throughout the 1940s, only later to become the subject of an international health scare.<sup>82</sup> The environment therefore became the target of ambitious plans to subjugate and make it safe for humans to live in, as the Rožňava post-epidemic example shows.

The outbreak of the local epidemic in Rožňava is underlined by the mindset during this period that saw humans as being in a struggle against their own surroundings. Humans are somehow uprooted from nature and they modify it through their actions, adapt it to their demands, thus creating a safe world in which they try to eradicate all risks, as enforced by the concept of Pavlovian medicine. The consequences of the Rožňava events affected landscape management in the region, and they stimulated people all the more in their technocratic plans to conquer the world around them, in a manifestation of the modernisation trends of state socialism in Czechoslovakia. An awareness of this atmosphere is crucial for understanding the course and, especially, the later presentation of the tick-borne encephalitis epidemic in Rožňava.

### Symbolism and Prestige: The Power Role of the Rožňava Epidemic in Science

For Czechoslovak virologists, the discovery of the transmission of encephalitis also became a means of symbolic power. It greatly legitimised their activities in the eyes of the Czechoslovak public. In the 1950s, virologists actually succeeded in strengthening the material support available to them in the form of an independent scientific institute. Shortly after the Rožňava incident, in January 1953, the Institute of Virology of the Czechoslovak Academy of Sciences<sup>83</sup> was established in Bratislava, Slovakia. It later became part of the Slovak Academy of Sciences.<sup>84</sup> The creation of the Czechoslovak Academy of Sciences in the early 1950s was being done according to the Soviet tradition but, in building it, domestic inputs were also considered. It was in this context that the Institute of Virology was formed. The connection with Soviet theories and Pavlovian medicine in particular helped to establish virology as an independent scientific field in Czechoslovakia.<sup>85</sup> The establishment of the Institute of Virology made a huge difference compared to the pre-war era, when virology research was scattered across various institutions and faced staffing shortages.

No institute of virology was ever established in the western parts of Czechoslovakia (later the Czech Republic), and while there are scientists working in the Czech Republic today who are continuing the Czechoslovak tradition in research into tick-borne encephalitis, they are linked especially to the Institute of Parasitology, which is part of the Biology Centre of the Czech Academy of Sciences in České Budějovice.

<sup>80</sup> Lynteris, 'Introduction', 1–25.

<sup>81</sup> For an example of attempts to eradicate mosquitoes see Bogdan C. Jacob, 'Malaria and Decolonization: Eastern European Experts from the League of Nations to the World Health Organization', *Journal of Global History* 17, no. 2 (2022): 7.

<sup>82</sup> *Ibid.*, 11.

<sup>83</sup> The website of the Biomedicine Centre of the Slovak Academy of Sciences, which the Institute of Virology became part of, gives the following description of the activities of the Rickettsiology Department: 'To clarify the epidemiological and epizootological aspects of tick-borne microorganisms [...] and survey the natural foci of these pathogens, and find the connection with the infections developed in humans'. Available online at: <http://www.biomedcentrum.sav.sk/oddelenia/oddelenie-rickettsiologie/> (last visited 30 Nov. 2021).

<sup>84</sup> In 1993 Czechoslovakia was divided into two independent states, the Czech Republic and the Slovak Republic.

<sup>85</sup> Jozef Černáček, 'Neurológia na Slovensku v rokoch 1945–1960 [Neurology in Slovakia in 1945–1960]', in *Věda v Československu 1945–1960, sborník příspěvků z pracovního zasedání [poř.] Ústavem československých a světových dějin ČSAV*, eds. Ludmila Cuřínová, Jaroslav Foltá, and Luboš Nový (Praha: Ústav československých a světových dějin ČSAV, 1982), 22.–23.10.1980, 279.

Although in the 1950s, there were many other topical public health issues relating to virology, such as poliomyelitis<sup>86</sup> and influenza epidemics, the success in Rožňava was a significant legitimising milestone that showed the need for virology to be established in institutional terms. Along with that, in Czechoslovakia the foundations were laid for virology research in other institutions too, especially as part of the emerging network of hygiene and epidemiological stations and at universities.<sup>87</sup> Bradley Moore's research on hygiene in Czechoslovakia emphasises that one of the objectives of the Department of Hygiene after its establishment by Act 4/1952 Coll. was to begin 'a determined campaign to enlighten central and local authorities about the serious dangers posed by rapid industrial expansion'.<sup>88</sup> In this context, the Rožňava epidemic fully demonstrated the health and hygiene downsides of industrialisation and the centralisation of the economy.

Dionýz Blaškovič, a leading Slovak scientist and the first director of the Institute of Virology, made public appearances to speak on the topic of the 'Rožňava disease' throughout most of his professional life. These included TV appearances in a documentary entitled *Good Morning, Professor Blaškovič* [*Dobry deň, pán profesor Blaškovič*]<sup>89</sup> and his popularising article in the Communist Party daily *Rudé právo* on 18 January 1975, entitled 'The Virus on the Operating Table' [*Virus na operačnom stole*],<sup>90</sup> amongst many others.

The scientists involved in the research into the epidemic were awarded the 1955 State Prize for identifying the causes of the so-called Rožňava encephalitis. Vojtěch Farkaš, Josef Kratochvíl (1909–92), Kamil Henner (1895–1967), Helena Libíková (1921–84), Karel Raška (1909–87), and the neurologist Jaroslav Hympán (1912–2009) were among those who received the award.<sup>91</sup> Bohumír Rosický (1922–2002) was presented with the award one year earlier in 1954.<sup>92</sup> This award was a state honour, awarded by the President of the Republic from 1950 to 1990. From 1955 it was renamed the Klement Gottwald State Prize after the president of the Czechoslovak Republic, who had been in office from 1948 to 1953. It was awarded for an outstanding creative contribution in the field of science, technology and art, and was accompanied by a considerable financial reward. The recipients were representatives of the disciplines that the ruling regime favoured and considered beneficial for society.<sup>93</sup>

Dionýz Blaškovič was awarded the Klement Gottwald State Prize in 1976 in the biological and medical sciences for his research into the ecology of tick-borne encephalitis in Czechoslovakia, for his experimental proof of the virus discharge through the milk of domestic animals, and for evidence

<sup>86</sup> Poliomyelitis was a frequent topic of discussion on both sides of the Iron Curtain. Dora Vargha examines the example of Hungary: Dora Vargha, 'Between East and West: Polio Vaccination across the Iron Curtain in Cold War Hungary', *Bulletin of the History of Medicine* 88, no. 2 (Summer 2014): 319–43.

<sup>87</sup> Ústredný Archív Slovenskej akadémie vied, Bratislava [Central Archives of the Slovak Academy of Sciences, Bratislava], coll. Dionýz Blaškovič, Desiat rokov virologického výskumu [Ten Years of Virological Research], Box 2. In the 1950s research into tick-borne encephalitis was carried out by academicians at the Institute of Virology, at the Ministry of Health Institute of Epidemiology and Microbiology in Prague, at the Military Institute of Hygiene, Epidemiology and Microbiology in Prague, at the Department of Microbiology of the J. E. Purkyně Medical Faculty and at the Regional Hygiene Station in Brno. Černáček, 'Neurologia na Slovensku', 275–90.

<sup>88</sup> Moore, 'Healthy Comrades', 187.

<sup>89</sup> Ústredný Archív Slovenskej akadémie vied, Bratislava [Central Archives of the Slovak Academy of Sciences, Bratislava], coll. Dionýz Blaškovič, No. 449, Box 15, Dobry deň, pán profesor Blaškovič; Archív Rozhlas a televízia Slovenska [Archives of the Slovak Radio and Television], Dobry deň, pán profesor Blaškovič, 1970.

<sup>90</sup> Masarykův ústav a Archiv Akademie věd ČR [Masaryk Institute and Archives of the Czech Academy of Sciences], Sbirka dokumentů, osobní spisy akademiků [Collection of Documents, Personal Files of Academicians], Dionýz Blaškovič, Box 112.

<sup>91</sup> Národní archiv Praha [National Archives in Prague], coll. Úřad předsednictva vlády – Tajná spisovna [Office of the Prime Minister, Classified Files], sign. 22.52.28/55, Box 2111.

<sup>92</sup> Národní archiv Praha [National Archives in Prague], coll. Úřad předsednictva vlády – běžná spisovna [Office of the Prime Minister, Open Files], sign. ČSR č. 718/204, uncatalogued.

<sup>93</sup> Jakub Jareš and Martin Franc, *Mezi konkurencí a spoluprací* [Between Competition and Cooperation] (Praha: Karolinum, 2018), 199.

of the possibility of preventing human infection acquired through alimentation by vaccinating domestic animals with a living vaccine from an attenuated virus strain.<sup>94</sup>

The Institute of Virology had gained international prominence as a result of the Rožňava epidemic. It founded the international virology journal *Acta virologica*, where scientists published the results of their research in English and Russian. The Institute maintained contacts on both sides of the Iron Curtain and conducted prestigious virology research. What is significant from the viewpoint of the global impact of the Rožňava discovery is that the World Health Organisation (WHO) made the Institute of Virology the Regional Reference Laboratory for Central and Southern Europe for research into Articulata-transmitted viruses.<sup>95</sup> Czechoslovak scientists assisted in the research into encephalitis infection foci in Bulgaria (in the Plovdiv region), where an encephalitis epidemic from non-pasteurised milk broke out in 1953. However, they were unable to isolate the virus.<sup>96</sup>

Further research into tick-borne encephalitis became one of the most important tasks for the Institute of Virology.<sup>97</sup> In fact Blaškovič attended many foreign conferences to discuss this topic, including a WHO seminar in Warsaw,<sup>98</sup> a seminar at the Friedrich Loeffler Institute,<sup>99</sup> and gatherings at the Entomological Society of America,<sup>100</sup> the New York Academy of Sciences,<sup>101</sup> the Scottish Microbiology Association,<sup>102</sup> and lectures in Wisconsin, USA,<sup>103</sup> Yugoslavia,<sup>104</sup> at the University of Michigan, USA,<sup>105</sup> and in Baden, Austria.<sup>106</sup> The foundations of the Institute's international renown were being built.

### Rožňava at the Crossroads between Ideology and Scientific Transfers from the Soviet Union

The Institute of Virology enjoyed great success when it held a conference in 1954 in Bratislava on the topic of the natural foci of infection, which was also attended by the renowned Soviet scientist Yevgeny Nikanorovich Pavlovsky, the author of the theory of the natural foci of infections. The conference as a whole was held in a Lysenko-Michurin-like spirit (this term refers to the teaching based on man manipulating nature in a desired direction): 'We cannot wait for favours from nature. We must take them from it – that is our task.'<sup>107</sup> The motto of the conference refers to a statement by Ivan

<sup>94</sup> Archiv Kanceláře prezidenta republiky [Presidential Office Archives], KPR collection, 1970–1991, Udělení Státních cen Klementa Gottwalda v roce 1976, číslo 8090 [Awards, file no. 8090, Klement Gottwald State Prize, item no. 8090/76-1, 1976].

<sup>95</sup> Ústredný Archív Slovenskej akadémie vied, Bratislava [Central Archives of the Slovak Academy of Sciences, Bratislava], coll. Dionýz Blaškovič, Box 2, Desť rokov virologického výskumu [Ten Years of Virological Research], p. 13.

<sup>96</sup> Ústredný Archív Slovenskej akadémie vied, Bratislava [Central Archives of the Slovak Academy of Sciences, Bratislava], coll. Dionýz Blaškovič, No. 305, Box 11, Spolupráca ČSAV a BAN v komplexnom riešení prírodnej ohniskovosti kliešťovej encefalitidy [Cooperation between CSAV and BAN in Finding a Comprehensive Solution to the Natural Focality of Tick-borne Encephalitis].

<sup>97</sup> Ústredný Archív Slovenskej akadémie vied, Bratislava [Central Archives of the Slovak Academy of Sciences, Bratislava], coll. Dionýz Blaškovič, No. 449, Box 15, Dobrý deň pán professor – scénár [scenario].

<sup>98</sup> Ibid., No. 18, Box 1, Kliešťová encefalitída – referát na seminári WHO vo Varšave [Tick-borne Encephalitis – Presentation for the WHO seminar in Warsaw].

<sup>99</sup> Ibid., No. 20, Box 1, Die Ökologie des Zeckenzephalitis-Virus – presentation for the seminar at the Friedrich Loeffler Institute.

<sup>100</sup> Ibid., No. 26, Box 1, Ticks and Virus Vectors in Eastern Europe – lecture at the Entomological Society of America.

<sup>101</sup> Ibid., No. 27, Box 1, Kliešťová encefalitída v Európe – prednáška v New-Yorskej akadémii [Tick-borne Encephalitis in Europe – lecture at the New York Academy].

<sup>102</sup> Ibid., No. 56, Box 2, Tick-borne Viruses in the Same Biotope – lecture at the Scottish Microbiology Association.

<sup>103</sup> Ibid., No. 71, Box 3, Ecological Approach to the Study of Tick-borne Encephalitis – lecture in Wisconsin, USA.

<sup>104</sup> Ibid., No. 61, Box 3, Pathogenesis of Influenza Infections and Tick-borne Encephalitis – lecture in Yugoslavia.

<sup>105</sup> Ibid., No. 72, Box 3, Surveillance of Tick-borne Encephalitis – lecture at a seminar at University of Michigan.

<sup>106</sup> Ibid., No. 105, Box 4, Fine Structure of Tick-borne Encephalitis Virus – lecture at the international symposium on tick-borne encephalitis in Baden, Austria.

<sup>107</sup> In Czech: 'Od přírody nemůžeme čekat milost, brát si od ní – to je naše úloha.' Ústredný Archív Slovenskej akadémie vied, Bratislava [Central Archives of the Slovak Academy of Sciences, Bratislava], coll. Dionýz Blaškovič, No. 863, Box 35,

Vladimirovich Michurin.<sup>108</sup> This is exactly how the Rožňava epidemic of tick-borne encephalitis was repeatedly interpreted.

It was not only scientific meetings that served to disseminate the findings of the epidemic in Rožňava. For example, the documentary film *The Unknown Infection* [*Neznáma nákaza*] was made for the general public and explained the achievements of Czechoslovak scientists in fighting the epidemic. It was made with the expert collaboration of virologist Vojtěch Bárdoš and parasitologist Bohumír Rosický and it was initiated by the Healthcare Council (the *Povereníctvo zdravotníctva*).<sup>109</sup> The documentary was shot in a dramatic style and scored with impressive music. The narrative line is introduced by the statement that ‘nature has been forced to give up one of its secrets’.<sup>110</sup> It is followed by a description of the laboratory research with expressive shots of infected dying laboratory mice. Research in nature is depicted as a ‘tough, yet silent battle [between man and nature] to force nature to yield all of her secrets’.<sup>111</sup>

The film presents man as holding the power to transform nature – to cultivate pastures, burn risky places, spread DDT insecticide in the forest, etc. The narrative ends with a proclamation: ‘And after that nature in these places, too, with all of her beauty and diversity, will better serve the health of the working man, and this will be a great victory for our science.’<sup>112</sup> In this way, the scientists’ great discovery was used especially for propaganda. According to the narrative, the researchers’ work was to prepare ideal conditions for the working man in the late 1950s. The regime used Pavlovian medicine as a means to emphasise the merits of creating a safe environment for the worker.

The documentary also mentions that ‘on the fateful day, the pasteurisation equipment in the dairy was out of order’,<sup>113</sup> a claim often made by the state authorities. The information about the failure of the pasteurisation equipment even found its way into the latest Czech literature on tick-borne encephalitis.<sup>114</sup> That assertion, however, is misleading as the equipment had not been in operation for many years at that time. The communist regime modified the information on the violation of sanitary standards to publicly deny that it may have had any share in the blame for the outbreak of the epidemic.<sup>115</sup>

The scientific research in Rožňava was legitimised and accrued power by the fact that the researchers referred to Soviet theories concerning the natural infection foci by Pavlovsky. Cooperation with Soviet science was highly valued in the context of the time. Czechoslovak state representatives aimed their propaganda at the implementation of Marxist ideology in all spheres of human life. The reference to ideological transfers from the Soviet Union was a necessary precondition for legitimising research. Nevertheless, it should be emphasised that experts educated in the Czechoslovak traditions integrated new knowledge into older procedures. It was the combination of these approaches

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Sympóziu o biológii vírusov komplexu kliešťovej encefalidity, Smolenice [Symposium on the Biology of Viruses of the Tick-borne Encephalitis Complex, Smolenice].

<sup>108</sup> ‘Мы не можем ждать милостей от природы. Взять их у нее – наша задача,’ Blíže viz Olšáková, *In the Name of the Great Work*, 249.

<sup>109</sup> Slovenský filmový ústav, Bratislava [Slovak Film Institute, Bratislava], *Neznáma nákaza*, director: Kazimír Barlík, 1959.

<sup>110</sup> In Slovak: ‘príroda musela vydať jedno zo svojich tajomstiev’. Ibid., time stamp: 03:56.

<sup>111</sup> In Slovak: ‘tichý húževnatý zápas [mezi člověkem a přírodou, poznámka KK], aby příroda vydala všechny svoje tajomstva.’ Ibid., time stamp: 11:12.

<sup>112</sup> In Slovak: ‘Potom príroda aj v týchto priestoroch so všetkými svojimi krásami a bohatstvami bude lepšie slúžiť zdraviu pracujúceho človeka, a to bude veľké víťazstvo našej vedy’. Ibid., time stamp: 12:12.

<sup>113</sup> In Slovak: ‘v osudný deň v mliekarni pasterizačný prístroj nepracoval’. Ibid., time stamp: 10:20.

<sup>114</sup> Daniel Růžek et al., *Klíšťová encefalitida [Tick-borne Encephalitis]* (Praha: Grada Publishing, 2015), 80.

<sup>115</sup> The temporary failure of the pasteurisation equipment is mentioned in the contemporary materials. For instance, in an article in *Květy* magazine and the documentary entitled *The Unknown Infection*. Miroslav Smetana, ‘Rožňava’, *Květy* 41 (11 Oct. 1956), 7; Slovenský filmový ústav, Bratislava [Slovak Film Institute, Bratislava], *Neznáma nákaza*, director: Kazimír Barlík, 1959. The fact that the pasteurisation equipment had not been working for some time was admitted to only in documents written for experts. See for instance: K. Raška, V. Bárdoš, E. Aldová, O. Havlík, C. Oravec, and J. Pečenka, ‘Epidemiologie rožňavské encefalidity [Epidemiology of Rožňava Encephalitis]’, Blaškovič, ed., *Epidémia encefalidity v Rožňavskom prírodnom ohnisku nákaz*, 99.



that brought about a major discovery in Rožňava. On the rhetorical level, however, references to Soviet science prevailed.

An article in the popular magazine *Květy*, for instance, published in 1956 and aimed at the general public, emphasised the Soviet contribution to the Rožňava discovery: ‘Even though this theory [of natural infection foci] has been confirmed many times in the Soviet Union, such consistent attention to the subject has never been paid elsewhere, and the general opinion was that it did not apply to densely populated areas.’<sup>116</sup> Blaškovič knew Pavlovsky’s theory from his study trip to the Gamaleya Research Institute in Moscow: ‘When he was assigned the task of resolving the mystery of the Rožňava epidemic, following thorough consideration he came to the conclusion that the only correct way to obtain the answer was the way shown by the academician Pavlovsky.’<sup>117</sup>

Blaškovič took an internship in the United States from 1946 to 1947,<sup>118</sup> but he never mentioned this in his texts for the lay public but, on the contrary, emphasised his internship in the Soviet Union. An important part of the Marxist advancement rhetoric was the introduction of scientific theories into practice, e.g. when Pavlovsky’s lessons on the foci of natural infections could be used in preventing diseases:

the entire staff . . . undertakes to uncover the possible foci of infections in the construction sites of our great structures of socialism. And it is exactly this combination of well-thought-out theory with the most important topics of our development practice as well as the effort to actively influence the actions of nature to eliminate the dangers that it could bring, thereby literally transforming it, that again makes the lessons of academician Pavlovsky a part, and one of the directions, of advanced Michurin teaching.<sup>119</sup>

Another example of the contemporary atmosphere is the flyer which was published during the epidemic in order to put the local inhabitants at ease and make them less likely to move away. It was published immediately after the meeting of experts held at the Rožňava hospital on 12 May 1951 and is a remarkable document, if only for the fact that it claimed that: ‘This is a well-researched infection which has a rapid and frightening onset but ends in full recovery.’<sup>120</sup> However, as the relevant authorities eventually admitted in the film documentary *The Unknown Infection* (1959), in the early days the experts knew nothing of the infection other than that they were trying to cure a disease caused by a virus which affects the brain. They tried to calm the public by saying that the disease ‘leaves no permanent effects’.<sup>121</sup> But they were not actually sure of that.

<sup>116</sup> In Czech: ‘Ačkoliv tato theorie [míněna o přírodních ohniscích nákaz – poznámka KK] byla v Sovětském svazu mnohokrát potvrzena, nikde jinde se jí nevěnovala soustavná pozornost a panoval názor, že pro hustě osídlená území neplatí’. Smetana, ‘Rožňava.’

<sup>117</sup> In Czech: ‘Když pak byl postaven před úkol rozřešit záhadu rožňavské epidemie, dospěl po bedlivé úvaze k přesvědčení, že k správné odpovědi lze jít jen cestou, kterou ukázal akademik Pavlovskij’. Ibid.

<sup>118</sup> Masarykův ústav a Archiv Akademie Věd ČR [Masaryk Institute and Archives of the Czech Academy of Sciences], Sběrka dokumentů, osobní spisy akademiků [Collection of Documents, Personal Files of Academicians], Dionýz Blaškovič, Box 112.

<sup>119</sup> In Czech: ‘celý komplex pracovníků [...] se ujímá prací na odkrytí možných ohnisk nákaz na staveništích našich velkých staveb socialismu. A právě i toto spojení důsledně promyšlené teorie s nejdůležitějšími otázkami naší budovatelské praxe a současně úsilí aktivním zásahem do dějů přírody odstraňovat nebezpečí, které by mohla přinášet, a tím ji doslova přeměňovat, činí opět učení akademika Pavlovského součástí, jedním ze směrů pokrokového učení mičurinského’. ‘Prívet predsedu biologickej sekcie ČSAV, akademika I. Málka na konferencii o prírodných ohniskách nákaz v Bratislave 2.–4. 11. 1954 [An Introduction by the Chairman of the ČSAV Biological Section Academician I. Malek at a Conference on Natural Infection Foci in Bratislava on 2–4 Nov. 1954]’, in Blaškovič, Dionýz, ed., *Prírodné ohniská nákaz: Zborník prác o prírodnej ohniskovosti rôznych nákaz človeka, zvierat a rastlín v zmysle učenia akademika J. N. Pavlovského*, ed. Dionýz Blaškovič (Bratislava: Vydavateľstvo Slovenskej akadémie vied, 1956), 12–13.

<sup>120</sup> In Slovak: ‘Ide o náказu dost prebádanú, ktorá sa vyznačuje tým, že má síce prudké a prestrašujúce začiatky, ale sa končieva vyzdravením’. ‘Letáčik, ktorý slúžil pre prvú informáciu obyvateľstva o “rožňavskej chorobe” [A Small Flyer to Provide Primary Information to the Inhabitants about the “Rožňava Disease”]’, Blaškovič, ed., *Epidémia encefalitídy v Rožňavskom prírodnom ohnisku nákaz*, 134.

<sup>121</sup> In Slovak: ‘nezanecháva trvalé následky’. Ibid.

It was necessary to create an illusion of control over an unidentified enemy. The flyer contained strict measures on how to treat food and how to protect it from rodents. The recommendations were to boil water, milk and tea and minimise the consumption of raw food, including vegetables. The scientists had actually determined food to be the source of infection at the beginning of the epidemic. The sick were asked to complete an epidemiological questionnaire in which they were asked, besides other questions, whether they had picked mushrooms or come into contact with forest animals, what they had drunk when out of the village, and where and how they usually had their meals.<sup>122</sup> They also had to respond to questions on possible insect bites, especially ticks, where they purchased their food, etc. The questions were conceived relatively accurately, making the questionnaire one of the means that helped experts to determine the Rožňava dairy as the source of the infection.

### Conclusion

Not only did the ‘Rožňava disease’ in the spring of 1951 highlight hygiene and nutrition-related issues, but it also contributed to the establishment of epidemiological procedures in post-February 1948 Czechoslovakia. One of the causes of the epidemic was the late reporting of a mass disease, from which doctors should have learnt a lesson.<sup>123</sup> But it also influenced the Czechoslovak scientific community.

The approach taken by the central institutions, namely the Ministry of Healthcare, regional councils and district councils, to the epidemic in Rožňava was shaped by ideological processes acquired from the Soviet Union, such as promoting the field research. It was the first time in Czechoslovak history that an interdisciplinary team was set up across various institutions to investigate the causes of a disease on the spot. From the Second World War onwards, Czechoslovak scientists became familiar with the prevailing scientific theories in the Soviet Union during their scholarships in Moscow, whether it was Lysenkoism or Pavlovian medicine, and incorporated them into their scientific practice. By consciously adopting the methodology of Soviet science, they participated in ideological transfer. As a direct consequence, by using Pavlovsky’s theory of the natural foci of infections, they opened the way to the worldwide discovery of the possibility of tick-borne encephalitis transmission through non-pasteurised milk.

Later, by participating in the creation of the ‘catchy’ narrative about the ‘Rožňava disease’, Czechoslovak scientists gained not only financial support for their further research, but also a firm place in the public sphere, whether on TV or in popular magazines. Along with the establishment of the Czechoslovak Academy of Sciences, scientists obtained their own institutional support, and the position of non-academic institutions, such as hospitals, was also strengthened. The Czechoslovak authorities created the illusion of controlling the unknown enemy and made public declarations that the infection was under control. The manner in which the epidemic was spoken about in the public space, whether in popularising articles (*Květy* magazine, *Rudé právo* daily) or on television (*The Unknown Infection*, *Good Morning*, *Professor Blaškovič*), illustrates the approach humans took to the surrounding environment at the time. This had to be fully recognised and understood through the narrative, translated into human language and, ideally, adjusted to suit the life of people. Hence, if shrubs near pastures might pose a health risk for the locals in the region (the tick lives in shrubs, which might infect or become infectious for goats, which can transmit the infection to humans), they had to be burnt.

The ‘Rožňava disease’ and its scientific discovery show how fear of an unknown disease could promote the scientific research in a broad public and political context. By using the results of the Soviet science in both a practical and an ideological sense, Czechoslovak scientists were able to

<sup>122</sup> Ibid.

<sup>123</sup> Blaškovič, ed., *Epidémia encefalitidy v Rožňavskom prírodnom ohnisku nákaz*, 8–9.

significantly advance their own research and institutional infrastructure while making an important discovery.

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