

**Charles University**

**1<sup>st</sup> Medical Faculty**

**PhD- study programme: History of Medicine**

Summary of dissertation



“Analysis and contextualisation of the work and life of the pharmacologists W. Wiechowski, E. Starkenstein and G. Kuschinsky with particular focus on their contribution to modern pharmacology”

**Patrick Lukas Zawadzki**

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**Author:** Patrick Lukas Zawadzki

**Field of study:** History of Medicine

**PhD supervisor:** Prof. PhDr. Petr Svobodný, Ph.D

## Summary

“This dissertation explores three case studies of pharmacologists which had been the Chair of Pharmacology at the Charles University of Prague in the early to mid- 20<sup>th</sup> century and thereafter. Due to their different personal background and research interests, both their academic research work and also their personal lives are investigated, with regards to their contribution to modern pharmacology and also in terms of political victimization or preferential treatment.

The underlying methodological concept has to be seen in Heidegger’s hermeneutic phenomenological philosophy, drawing from the understanding of the individual’s experiences, adding an interpretative view to his teacher’s perception of phenomenology, Edmund Husserl.

Thematically seen, all three pharmacologists are being reviewed in terms of their academic biography, including professional influences or direct academic collaborations. To understand socio-political influences, also personal stances on philosophical issues as well as humanist interests have been considered, e.g. their ideas on public health or wider health policies, professional development of healthcare professions or their relations to the pharmaceutical industry itself. Based on a “thick description” (Geertz) the results of this research demonstrate implications of ideological interferences on academic careers, and also consider Ehrenreich’s and Cole’s “Perpetrator- Victim- Bystander- Model” “.<sup>1</sup>

The dissertation is structured into three main parts, firstly a theoretical introductory chapter dealing with methodological questions and putting it into the context of previous research. Within the second and main part all three cases are investigated with regards to the initially formulated research questions followed by the final third chapter that discusses each pharmacologist’s victimization by or involvement into Nazi structures and its effect on their research.

## Key words

Pharmacology- 20th Century- Phenomenology- Case Studies- Conceptual Framework of Victimization

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<sup>1</sup> ZAWADZKI PATRICK, Die Pharmakologie in Prag. Biographische Annäherung an W. Wiechowski, E. Starkenstein und G. Kuschinsky in: VIRUS – Beiträge zur Sozialgeschichte der Medizin (2022 currently in print)

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## 1. Introduction

Interferences on science by politics have been investigated within a variety of disciplines, particularly within dogmatic and autocratic political systems, such as the National Socialist Dictatorship from 1933 till 1945. Within the medical context, Nazi research was executed in a broad manner ranging from questions pertaining to neuroscience and psychopharmacology to infectious diseases, but also encompassed physiological and anatomical research endeavours to meet the fascist's overall goals to a standardized and efficient society according to the "biopolitical" and eugenic goals.<sup>2</sup>

Since the field of pharmacology comprises both natural scientific approaches in a laboratory context, but also clinical observations both in animals and in humans, which are then eventually linked to a therapeutical use, this research discipline naturally displays a variety of touchpoints with several other medical disciplines. This particularly holds to be true, as a certain pharmaceutical intervention is usually the case within the majority of medical interventions, however the current historical research on pharmacology as a distinct discipline is limited. While there is a certain body of research dealing with pharmacologists as victims<sup>3</sup> as well as perpetrators under the Nazi regime<sup>4,5</sup>, explicitly devoted research to pharmacological topics remains scarce in relation to other medical fields.

*Modern Pharmacology*, by contrast to other approaches to healing, such as *Materia Medica*, can be defined as a natural scientific and research based approach in order to generate evidence based pharmacotherapeutic concepts. To investigate the circumstances under which the development of this particular discipline before and during the German occupation at Charles University took place and what effects the prevailing socio-political currents had on the pharmacology in Prague back then, a micro-historical approach had been chosen. Within these examinations on a small-scale level, three pharmacologists that held the professorial chair for Pharmacology at the German University in Prague present the centre of investigation within this PhD project: Prof. Wilhelm Wiechowski, Prof. Emil Starckenstein, Prof. Gustav Kuschinsky. The overall aim, basing on the professional part of each pharmacologist's

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<sup>2</sup> ECKERT WOLFGANG U., *Medizin in der NS-Diktatur. Ideologie, Praxis, Folgen* (2012)

<sup>3</sup> LÖFFELHOLZ KONRAD, *The Persecution of Pharmacologists in Nazi Germany and Austria*, in: *Naunyn-Schmiedeberg's Archives of Pharmacology* 383, pages 217–225 (2011)

<sup>4</sup> PRUSEK KATARZYNA / LABUZEK KRZYSZTOF, *Farmakolodzy w obozach III Rzeszy--część pierwsza* [Pharmacologists in the camps In the Third Reich--part one] in: *Pol Merkur Lekarski*, Oct;35(208):238-41(2013)

<sup>5</sup> ROELCKE VOLKER, *Nazi medicine and research on human beings*, in: *Lancet*, 364 Suppl. 1:s 6-7 (2004)

scientific work, is to identify their research focus while at the same time to establish their contribution to *Modern Pharmacology*.

Within the evaluation of their personal lives, questions regarding their victimization or extent of acting as a bystander or perpetrator respectively, display a major point of research, as suggested by the framework by Ehrenreich and Cole.<sup>6</sup>

Basing on the divers personal background, especially with regards to the fascist ideology, all three biographees are investigated with regards to their roles and scope for action within the sociological context they found themselves in. This is particularly relevant in the case of Starkenstein, being of Jewish descent and of Kuschinsky, being of German origin and gradually integrated into academic and political structures of the Nazi regime. As Wiechowski did not actively experience the German occupation of Prague, being deceased in 1928, this case serves as an example of a pharmacologist that underwent nationalistic currents before the German occupation and could thereby serve as a reference of how circumstances for researcher were in times of rising nationalism.

By merging evidence of the natural sciences, as being represented by the academic work of all three pharmacologists, while at the same time depicting their biographies in terms of personal affinities, involvement in academic but also political networks a as holistic as possible analysis of each case is aimed at. Through this process the author strived to describe all three cases not only as biographies in a cartesian- like manner, but rather to unravel them as phenomena in a Husserlian / Heideggerian way, to add to further knowledge and understanding of science within the subfield of pharmacology within this specific socio-political context.

The approach to screen all biographees also in terms of victimization (or preferential treatment respectively) additionally serves one crucial aspect of victimology<sup>7</sup>. This is to clearly point out past injustice and by doing so to counteract the oblivion of those victims both on personal and professional levels, and the structures that caused this injustice and terror.

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<sup>6</sup> EHRENREICH ROBERT / COLE TIM, The Perpetrator-Bystander-Victim Constellation. Rethinking Genocidal Relationships, in: *Human Organization* 64/3, 213–224 (2005)

<sup>7</sup> RONEL NATTI, Why victimology should stay positive: The ongoing need for positive victimology, in: *Temida*. 18. 5-16 (2015)

## 2. Hypotheses formulated within this research project

In order to grasp the philosophical concept and to practically approach it, hypotheses were formulated, reflecting initial assumptions that had been made with regards to each case:

- Prof. Wiechowski a case of a “normal” academic biography ?
- Prof. Starkenstein a case of personal and professional victimisation ?
- Prof. Kuschinsky a case of preferential treatment under the German occupation ?

The extent of discrimination by or the involvement into organisations of the National Socialist regime had been evaluated both in a private but also a professional context to answer these hypotheses also with considering the definitions of perpetrator, bystander or victim according to the Framework suggested by Ehrenreich and Cole. The guiding questions in terms of their academic work has been to establish each pharmacologists’ contribution to the development of *Modern Pharmacology*.

## 3. Methods used and materials employed

A case study format had been chosen in order to describe each pharmacologist and his work in terms of their academic and personal life in accordance with the formulated research questions. Case study formats are particularly appropriate to investigate phenomena in detail and also to establish the contexts in which they occur.<sup>8</sup> The design of the case study within this dissertation was conducted as a holistic single case study with a subsequent cross case analysis to compare and contrast each *Lebenswelt* depending on the categories that resulted within each case. Another reason for choosing the single case format can be justified by methodological reasons, as plenty of cases with varying contexts would be needed to gain robust results in a multiple case study approach, which is not applicable to situation of the three pharmacologists investigated.

The category of the case studies can be described as both exploratory and descriptive both in terms of their academic work and personal lives, exploring the general categories of their research or personal traits initially, followed by a more detailed description of the case and the particular condition. Consecutively, after forming initial categories, each pharmacologist’s actions can be contextualised and described in a meaningful manner both with regards to the

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<sup>8</sup> YIN ROBERT K, The Case Study as a Serious Research Strategy in: Knowledge, 3(1), 97–114. (1981)

relevance of their work for pharmacology as a own distinct science on the professional level, but also in terms of their socio-political role, facing arising nationalism in Wiechowsk's case or a totalitarian regime in the case of Starkenstein and Wiechowski. The cross- case comparison serves to establish which field of research within their academic discipline they exactly focused on or which motives, believes or compulsions might have led to their patterns of behaviour, given the context they found themselves in.

As a major reference point to depict each case an interpretative approach to document analysis had been chosen, including natural scientific original publications from each pharmacologist within the investigation of their professional work and moreover personal letters, documents from State Archives, such as personal files, but also newspaper articles or written testimony, particularly in Kuschinsky's case.

Furthermore oral history was used in Starkenstein's case, executed in the form of a qualitative in- depth interview, preceding initial correspondence and exchange with his grandson Prof. Dr. Walter van Emde- Boas. Serving as a valuable information source, van Emde- Boas can be regarded as the most suitable purposive sample to answer questions about Starkenstein by proxy, as neither Starkenstein, nor his daughter Magdalene van Emde Boas, née Starkenstein can be interview any longer. The document analysis in the form of a narrative review also served as the basis for the topic guide which had been sent to Prof. van Emde- Boas prior to the interview and pre- discussed before the actual interview. By triangulating findings both from written sources with the oral evidence, a holistic as possible picture of Starkenstein's case was aimed at.

By doing so, the author strived for approximation to the principle of thick description by Geertz<sup>9</sup>, which has been used in a variety of academic fields , such as psychology or sociology. This manner of describing a case in multi-layered dimensions , e.g. personal interests and affinities besides natural sciences, social and political involvement but also each pharmacologist's relation towards the pharmaceutical sector also add to Heidegger's hermeneutic circle and the process of *Verstehen* each case in several dimensions.

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<sup>9</sup> GEERTZ CLIFFORD, Thick Description: Toward an Interpretive Theory of Culture in: The Interpretation of Cultures: Selected Essays, New York: Basic Books, page 312 (1973)



#### 4. Results

The contribution to *Modern Pharmacology* was assessed for each case on the contentual basis of their publications either investigating classical pharmacokinetic parameters, distinct areas of pharmacological or adjacent scientific areas such as toxicology, pharmacotherapy or pharmaeconomy. This in effect was then contextualised to wider clinical implications such as medical guidelines, pharmacopeia, professional development or even wider health policy related topics. Naturally all three pharmacologists shared within large sections of their research a comparable approach ranging from qualitative and quantitative pharmaceutical analysis, anorganic and organic chemistry but also animal research , either in vivo or on a organ and tissue level.

In Starkenstein's case the results of this dissertation demonstrate that he did not only generate an enormous amount of knowledge within the field of preclinical pharmacology, but in many cases matched his laboratory findings with clinical applicability and transferred them to practical therapeutic relevance. This can be demonstrated by his endeavors towards patient's care based on pharmaceutical drug safety via the systematization and standardization of pharmacopeia and medical guidelines, a rational evidence based pharmacotherapy and further public health aspects such as hygiene, education and migration and a prevention of infections and intoxications both in professional and personal contexts. It can be stated that overall Wiechowski research, compared to Starkenstein addressed more fundamental and less clinical research oriented questions, as also seen on other disciplines such as taxonomy, secondary plant metabolism or basic research within physiology and pathophysiology. Due to their close and efficient collaboration at the Pharmacological Chair in Prague, Starkenstein could in a way carry on and refined his mentor's research towards pharmacotherapeutic use in some cases. Kuschinsky's research did not entirely display public health as it is defined today, since some of his experiments did aim at the exhaustive capitalization of physical performance<sup>10,11</sup> instead of disease prevention, health education or other interests of his colleagues.

Kuschinsky's pharmacological research was, in comparison to his two predecessors at the Pharmacological Chair of the German University in Prague rather focussed on cardiovascular and hormonal research processes with regards to this subject specific research. By contrast to

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<sup>10</sup> KUSCHINSKY GUSTAV, Die Verhütung von Erschöpfungszuständen des Herzens durch Digitalissubstanzen. in: Klinische Wochenschrift 24, 502–503 (1947)

<sup>11</sup> KUSCHINSKY GUSTAV, Über die Wirkung von embryonalem Herzextrakt auf Herz und Nebennierenhypertrophie im Schwimmversuch in: Naunyn - Schmiedebergs Archiv für experimentelle Pathologie und Pharmakologie 205, 424–428 (1948)

Starckenstein and Wiechowski, Kuschinsky did not investigate phytopharmaceutical and allied pharmacological questions in a comparable manner, nor did he hold a Professorship for Pharmacognosy. A certain level of similarity between Kuschinsky and Wiechowski however can be seen in their interests in metabolic research, in Wiechowski's case in a biochemical context and in Kuschinsky's in a cardio-renal, hormone driven context. Also with regards to methodological considerations both researchers display a certain overlap, as both included their methodological considerations, e.g. mathematical and statistical ones into their research.

Another criterion used within the evaluation of each case's relevance for *Modern Pharmacology* is their level of contribution to modern clinical trials and Phase I-IV studies. All pharmacologists contributed to the comprehension of pathophysiology and identification of pharmacological targets, which had been accompanied by experiments involving animals and their organs, which together can be seen as preclinical research. By contrast to both Starckenstein and Wiechowski, Kuschinsky did not engage in self-experimentation to test potential drug candidates or to establish pharmacological effects, however he did also not engage in any unethical experimentations with human probands, to the author's knowledge.

It has to be considered that Kuschinsky's research implied from 1945 onwards additional techniques and methods, that had not been available at the time of Wiechowski or even Starckenstein, whose life and academic career had been cut short due to his assassination in the KZ Mauthausen. However both pharmacologists did already apply "modern" aspects of drug research, e.g. applying the 3R principle with regards to laboratory animals or particularly in Starckenstein's case the investigation of pharmacokinetic and – dynamic parameters<sup>12</sup> with human subjects as it is also done today in Phase 0 studies, alongside with substudies relevant parameters such as age appropriate dosing in pediatric patients<sup>13</sup>. Prof Wiechowski tested marketed drugs on consenting patients comparable to non-interventional studies or Phase 4 studies, as well as casuistries or clinical experiences within a real life setting in the case of cannabis experimentation and medical charcoal.

The results in terms of the pharmacologists' personal lives with regards to socio-political involvement and the relation to the pharmaceutical sector also displayed a variety of differences, particularly regarding political aspects. Whereas both Wiechowski and Starckenstein got involved in liberal political ideas and humanist interests, Kuschinsky's party-

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<sup>12</sup> STARKENSTEIN EMIL, Wasserhaushalt und Durststillung in: Klinische Wochenschrift (1927)

<sup>13</sup> STARKENSTEIN EMIL, Die Entstehung der endogenen Harnsäureausscheidung als Grundlage für die Bemessung der Arzneimitteldosen im Kindesalter in: Archiv für experimentelle Pathologie und Pharmakologie (1937)

political interests seemed to be rather have been motivated by career ambitions, possibly also perceived external pressure and opportunism. Higher education policies played a role within Prof. Starkenstein's considerations, involving pedagogic issues and professional development, both within the medical but also pharmaceutical profession. Besides these and interests in health policy, Starkenstein has rather to be seen as a publicly a-political person certainly in terms of party politics, that Wiechowski and Kuschinsky- albeit diametrically opposed- engaged in. Out of all three cases Starkenstein was the most outspoken towards overriding commercial interests of the pharmaceutical industry, while Wiechowski advocated for affordable production of drugs at times. Like his two pharmacological colleagues Kuschinsky also collaborated successfully with the pharmaceutical industry and received a certain amount of support for his research, also during the German occupation. Although Kuschinsky also uttered criticism against "*me- too products*" such as Starkenstein, he rather seemed sceptical against alternative approaches in medicine and did also engage less in ancient healing traditions or even in phyto-therapeutic approaches throughout his career than Starkenstein.

Eventhough Kuschinsky published a memoir about his life and also within the field of the History of Medicine, his humanist interest within the fields of art, wider historical sciences, literature etc. are much less pronounced than in the case of Starkenstein, who devoted a noteworthy part of his publications to those topics. Also in comparison to Wiechowski, he did rather almost exclusively focus on his academic career, also with subsequent concessions he was willing to make with regards to Nazi party politics.

Kuschinsky had been involved both in domestic but also foreign policies, particularly in terms of governmental structures, such as a Nazi Party membership or several medical function under the German fascist regime. In return, he could rely on a favourable support in in terms of career or a regular income or support of research that was of interest for the National Socialists.

## 5. Discussion

The review of each case had been executed in consideration of the initial working hypotheses but also the perpetrator- victim bystander constellation according to Ehrenreich and Cole.

Wiechowski does not meet the criteria of being either a bystander, victim or perpetrator as he did not even experience the German occupation, having been deceased in 1928. Although aspects of his biography such as his academic career could be considered as a classic one, and thus “normal” in this respect, particularly his anti- nationalistic, pro- feminist and pacifist mindset, especially his opposition to nationalistic ideas have to be labelled as exceptional. This is also due to his party political involvement for the Social Democrat Party which is a far off topic from his original pharmacological research interests and thereby, combined with his artistic interests and also social idiosyncrasies, particularly towards the end of his life. His devotion to his research , which involved notable amount of self- sacrifice as seen on potentially hazardous and painful self-experimentations for the sake of knowledge generation but also his altruistic efforts and solidarization with Jewish scholars such as Starkenstein or Steinhertz facing nationalist movements of rising nationalism paint a picture of a researcher that went the extra mile for his believes and interests. Being a multi-faceted character caring and altruistic on the one hand, Wiechowski also displayed personal features of belligerence, social reclusion and poor percipience for his own state of health on the other one, rendering him to quite a exceptional character- in his personal life.

Both Starkenstein and Kuschinsky do actually meet the criteria for being assessed with regards to the categories within the framework, as both researchers faced the direct influence of the National Socialist regime, though this happened in totally opposed ways. Due to the ideologically framing and categorization of the Nazi ideology , Starkenstein was already from the outset assigned to a marginalized group within the fascist ideology, being of Jewish descent. This marginalization and discrimination against him was harshly put into practice, starting at his unjustified expulsion from the Pharmacological Chair and then forced migration and exile in the Netherlands, that tragically ended in the concentration camp of Mauthausen and the murder of Starkenstein by the National Socialists, involving primarily personal but certainly also professional victimizations against him. Kuschinsky on the other hand allowed himself to be systematically incorporated into various NS organisations such as the *NS Dozentenbund* or the *NSDAP*, probably driven by career ambitions and financial incentives.

At the same time he did, on a small scale level advocate for marginalized scholars at times and rather displayed an open interest for other nations or cultures, as seen on his time in China or other countries and also being described as fair and collegial with Czech colleagues at his time in Prague. Due to this fact and also a certain reluctance to join official organisations of the Nazi regime, or actively leaving them and most importantly not conducting any unethical or extreme experimentation within his research, Kuschinsky is rather a beneficiary of the German occupation and a bystander within Ehrenreich and Cole's suggested framework. The category of a perpetrator is not met, since he did not- to the best of the author's knowledge- take actively part in the destruction process also with his research, which can only be seen as little to moderately useful towards the National Socialist agenda. It must be clearly stated however, that he is a bystander being flexible with his actions towards a changing political situation and a strategical two- sided profile rather than a fanatic involvement in Nazi policies or agendas.

It is undisputable that Starkenstein had been a victim of the Nazi terror, as he had been murdered in the KZ Mauthausen, after having been forced to leave Prague with all negative implications that have to be seen as victimization on a personal level (psychological distress, the loss of his and his family's home and social connections up to physical strain, loss of financial resources etc.) and ultimately the loss of his and his son's Walter's lives. The victimization does also include another level, which has to be seen in Starkenstein's professional victimization, that did not only refer to his expulsion from the German university but even more so in the induced suppression of his research activities but also the publication of his results during the Nazi occupation. This can be proved to be true basing on the fact that he was forced to publish in a variety of foreign speaking journals<sup>14,15,16</sup> during his exile in the Netherlands and is further confirmed by the fact that previously published books, had not been re- edited and have fallen into oblivion, and thereby can rightfully be seen as *disappeared science* as suggested by Šimůnek.<sup>17</sup>

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<sup>14</sup> STARKENSTEIN EMIL, L'action excitante de la quinine expliquée par la neutralisation d'une inhibition Préexistante (1939)

<sup>15</sup> STARKENSTEIN EMIL, L'azione „Eccitante“ della Chinina spiegata con la neutralizzazione di una inibizione preesistente in: Archives Internationales de Pharmacodynamie et de Thérapie Vol. LXII, fascicolo II Gand Parigi (1939)

<sup>16</sup> STARKENSTEIN EMIL, La Accion „Estimulante“ de la quinina puesta en claro como supresion de una inhibicion preexistente in: Archives Internationales de Pharmacodynamie et de Thérapie Tomo. LXII, fasc. II Gand Parigi (1939)

<sup>17</sup> ŠIMUNEK MICHAL, Disappeared Science Biographical Dictionary of Jewish Scholars from Bohemia and Moravia – Victims of Nazism, 1939–1945 in: Verlag: Pavel Mervart (2014)

## 6. Summary and conclusion

Due to the overarching phenomenological perspective this dissertation does not per se aim to deliver directly transferable nor generalizable conclusions, but it does instead reconstruct detailed and as authentic knowledge as possible about individual experiences on several levels within the subfield of pharmacology.

In line with previous research it does examine not only each pharmacologists individual contribution to his field in a thematic manner, it does also take into account socio-political influences on science in general and also implies the limiting effects of totalitarianism, as executed under the Nazi dictatorship. Those effects can be noticed particularly in the case of Starkenstein, which was not only limited in his research by the Nazi regime, but also Kuschinsky's research focus, that was clearly less wide- ranging at his time at the German University in Prague under German occupation compared to both predecessors.

Although this might have also been due to personal interests and affinities within pharmacological research, certainly the amount of humanist topics such as medical ethics, Jewish cultural history wider health policy issues or liberal political thoughts such as feminist topics, were much more represented within Starkenstein's or Wiechowski's body of work. The findings gained from the in- detail investigation of those cases, match previous findings as seen within the cases of other victimized pharmacologists or the ones who participated in political or research structures dominated by the National Socialists.

As also shown by Löffelholz<sup>18</sup> and other researchers the victimization of so called "non-*Aryan*" scientists was common practice by the Nazis, as seen on the prevention from executing their research, loss of income and research funding as well as forced exiles. This is consistent with the findings of this dissertation, as the scope of possibilities to escape this terror was quite limited to the victims.

Seen and interpreted on a superordinate level, all three examples could also constructively be utilized either in demasking differences in treatment based on ill-founded criteria or also evidencing which destructive and limiting effects ideologies can have on both the individual's life but also the freedom of science and research.

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<sup>18</sup> LÖFFELHOLZ KONRAD, The persecution of pharmacologists in Nazi Germany and Austria in: Naunyn-Schmied Arch Pharmacol 383, 217–225 (2011)

## **7. A choice of sources and literature used within the dissertation**

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## **8. Publications of the author with regards to this dissertation**

- ZAWADZKI PATRICK**, Die Pharmakologie in Prag. Biographische Annäherung an W. Wiechowski, E. Starkenstein und G. Kuschinsky in: VIRUS – Beiträge zur Sozialgeschichte der Medizin (2022 currently in print)