

## Hard Times for Physics in Germany – The Work of the German Physical Society in Times of the Third Reich

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When discussing hard times or problems for science and other research one usually thinks about tight financial situations. Of course the common researcher will always complain about too little funding, because – let’s be honest – it could always be better. There might be a more effective machine for the job, the laboratory could be equipped better, air conditioning would be nice in the summer, and a new coffee maker would make my work obviously more effective. You get the idea . . . Now, I do not want to say that everything is great in German research institutes, but – let’s be honest again – it could be much worse.

When we were doing our first brainstorming about the current feature topic of JUNQ in an editorial board meeting, we quickly focused on developing countries, meaning countries that surely don’t have that amount of money to spend on research that Germany or other western countries can put into scientific investigations. In addition, we dealt with areas of our planet where natural disasters hit the population (many countries will be in both groups). Both issues don’t apply to German research nowadays. Today the government mostly doesn’t interfere with scientific investigations; apart from maybe ethical questions regarding animal or even human experimentation etc. So actually we are doing quite fine.

But: When dealing with our own history we came to the conclusion that also in Germany there have been difficult times for science. There were periods that did not allow research as we know it today. I am speaking of the Nazi reign. Hitler’s administration was controlling every part of life for the German citizens. The so called *Gleichschaltung* (i.e. coordination or making the same) was supposed to end pluralism of state and society. This was achieved by putting almost every public activity (unions, associations, etc.) under governmental control, increasing Hitler’s influence on every part of German life. This process also wanted to gain influence on science. In my text I wish to deal with the influence of the Third Reich on the *Deutsche Physikalische Gesellschaft* (Germany Physical Society, short: DPG). The DPG was founded in 1845 as *Physikalische Gesellschaft zu Berlin* (Physical Society of Berlin) and was and is one of the oldest societies of physicists worldwide. It was renamed in 1899 to DPG and gained more and more importance among physicists in the 1930s. In a research project the DPG tried to uncover its own actions during the twelve years of Hitler’s Reich.<sup>[1]</sup>

First of all, we can surely say that the German government wanted research to focus more on military projects, meaning that fundamental research was not funded any more (or at least less than before). Furthermore, *unwanted* elements

needed to be eliminated from German Physics. Since Jews were thought of as an inferior “race”, the German Physics sooner or later had to get rid of these undesired influences. A very prominent ex-ample for this is Albert Einstein. He had been president of the DPG from 1916–1918 and was one of the most prominent physicist at that time. In the beginning of Nazi reign the DPG did not force members to leave. But Einstein demonstratively left the *Königlich-Preußische Akademie der Wissenschaften* (Prussian Society of Sciences) and went into exile to the United States. Max von Laue, president of the DPG in 1933, stood by Einstein, but in a private letter he reproachfully asked him why he needed to become politically active.<sup>[1]</sup> This clearly shows that the physicists understood the situation, but obviously had no means to deal with them, apart from laying low.



Figure 1: Max von Laue.<sup>1</sup>

In late 1933, the German government eventually reached out to gain more influence over the DPG by putting Johannes Stark, Nobel Prize laureate in 1910 and a supporter of the Nazis as candidate for president of the DPG. He also was the president of the *Physikalisch Technische Reichsanstalt* (Physical and Technical Institute of the German Reich) after the seizure of power. In addition to that, Stark was a strong supporter of the “German Physics”, a movement that arose in the beginning of the 20<sup>th</sup> century, try-

<sup>1</sup>“Max von Laue 1914” by Nobel foundation – [http://nobelprize.org/nobel\\_prizes/physics/laureates/1914/laue-bio.html](http://nobelprize.org/nobel_prizes/physics/laureates/1914/laue-bio.html). Licenced under Public Domain by Wikimedia Commons – [http://commons.wikimedia.org/wiki/File:Max\\_von\\_Laue\\_1914.jpg](http://commons.wikimedia.org/wiki/File:Max_von_Laue_1914.jpg).

ing to cleanse the “pure and true” physics of Nordic scientists like Johannes Keppler and Isaac Newton from influences of “typical Jews” like Einstein. Followers of the German Physics said that Nordic or Aryan physicists were producing knowledge which is a matter of soul and life, whereas Jewish ideas are just an excrescence of a materialistic spirit. For example new models like Einstein’s theory of relativity were rejected as not descriptive enough and counter intuitive.<sup>[2]</sup>

Nevertheless, the secret vote left a defeated Johannes Stark (he only got two votes). A result of this slap in Stark’s face was the political marginalization of the DPG in the government, meaning that it was able to postpone its *Gleichschaltung* at least for now. For the next few years the physicists still worked together with their emigrated (i.e. gone to exile) colleagues and the membership list still contained many Jewish people. This first phase lasted until 1938.<sup>[3]</sup>

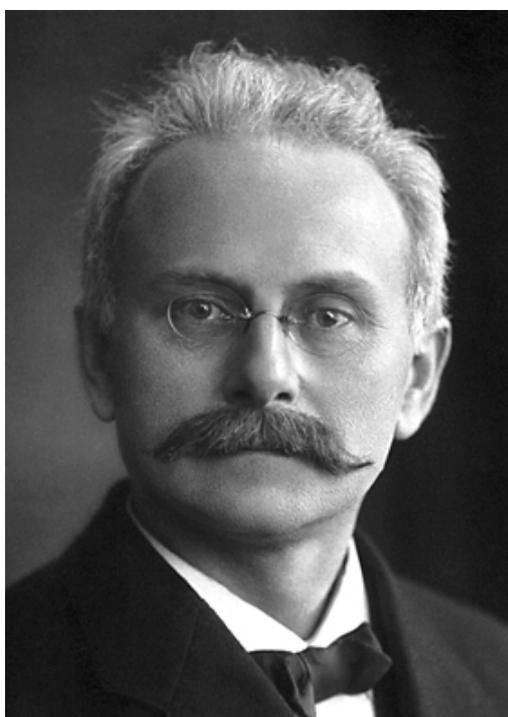


Figure 2: Johannes Stark.<sup>2</sup>

The second phase began in 1938 when the DPG could no longer hinder the influence of Hitler’s Reich. Pressure arose from outside as well as from inside the society forcing the DPG to revise their bylaws to conform to Nazi ideals, i.e. to deal with Jews and other non-Aryan people. This led to a circular letter from the president of the DPG at that time, Peter Debye, in December 1938 in which he bowed to the governmental demands:

“Under the compelling prevailing circumstances the staying of German Jews in the Ger-

man Physical Society cannot be maintained anymore in respect to the Nuremberg Laws.

In accordance with the executive board I ask all members, which fulfil this clause, to hand in their resignation of the society.

Heil Hitler! signed P. Debye, president”<sup>[1]</sup>



Figure 3: Peter Debye.<sup>3</sup>

The first sentence of his letter was used to criticize Debye in Nazi Germany, since *only* “under the compelling prevailing circumstances” it was no longer possible to keep the “beloved” Jews in the society, as Herbert Stuart, Nazi official, stated.<sup>[1]</sup> In 1940 Debye finally left Germany, which was the starting point of the next attempt of a takeover by the Nazis. Carl Ramsauer became president of the DPG. He was an industrial physicist and – even though he was no strong supporter of the Nazis – led the DPG to a more Nazi friendly behavior, meaning also friendlier in military industrial terms.<sup>[1]</sup>

Under Ramsauer’s presidency the DPG left its niche existence and became more active in the social and political life of the Third Reich. The first step in this was a memorandum claiming that theoretical physics was strongly neglected and physical institutes were dangerously underfinanced. He said that Anglo-American enemies were far ahead in their research and asserted that physics was essential for mobilization of the German war machinery.<sup>[1]</sup>

<sup>2</sup>“Johannes Stark” by A. B. Lagrelorius & Westphal, Stockholm – Published in 1920 in Sweden in Les Prix Nobel 1919 (p. 121) with a credit to A. B. Lagrelorius & Westphal, Stockholm, web version. Also Britannica. The American Institute of Physics credits the photo to A. B. Lagrelorius & Westphal (Swedish company used by the Nobel Foundation for most photos of its book series Les Prix Nobel). Licenced under Public Domain by Wikimedia Commons – [http://commons.wikimedia.org/wiki/File:Johannes\\_Stark.jpg](http://commons.wikimedia.org/wiki/File:Johannes_Stark.jpg).

<sup>3</sup>“Debye100” by Unknown – <http://chem.ch.huji.ac.il/~eugeniik/history/debye.html>. Licences under Public Domain by Wikimedia Commons – <http://commons.wikimedia.org/wiki/File:Debye100.jpg>.



Figure 4: Carl Wilhelm Ramsauer.<sup>4</sup>

This was the first time for the DPG to take direct influence on physical research and politics. By these means the DPG under Ramsauer's direction moved closer to the military

and industrial ambitions of the Nazis. It might be blamed on Ramsauer's industrial background that he finally began (or no longer postponed) the *Gleichschaltung* of the DPG. Still, the society (and Ramsauer) needed a basis for both possible ends of the Second World War – for the final victory and for the defeat.

In the absolute surrender of Germany the DPG and every other German institution, party, and organization was disintegrated. In 1946 various regional societies were re-founded that combined in 1950 as *Verband Deutscher Physikalischer Gesellschaften* out of which in 1963 the *Deutsche Physikalische Gesellschaft* emerged.<sup>[1]</sup>

In summary one can say that the history of the DPG consisted of two phases. The first one from 1933–1940 in which it passively distanced itself from the Nazi powers, leading to isolation and marginalization of the society. After that and until the end of World War 2, the DPG moved towards the German government, in which it not directly took influence on the Holocaust or other horrific crimes of the Nazis, but by opportunism was kind of an accomplice.<sup>[1]</sup>

## References

- [1] D. Hoffmann, M. Walker, *Physik Journal* **2006**, 5, 53–58.
- [2] S. H. Lehnigk, in *Eine deutsche Katasrophe 1933–1940*, Band 5, Verlag Empirische Pädagogik, Landau, **2010**, pp. 54–55.
- [3] D. Hoffmann, *Phys. Perspect.* **2005**, 7, 293–329.

<sup>4</sup>“Bundesarchiv Bild 102-05559, Carl Wilhelm Ramsauer” by Unknown – This image was provided to Wikimedia Commons by the German Federal Archive (Deutsches Bundesarchiv) as part of a cooperation project. The German Federal Archive guarantees an authentic representation only using the originals (negative and/or positive), resp. the digitalization of the originals as provided by the Digital Image Archive. Licensed under Creative Commons Attribution-Share Alike 3.0-de via Wikimedia Commons – [http://commons.wikimedia.org/wiki/File:Bundesarchiv\\_Bild\\_102-05559,\\_Carl\\_Wilhelm\\_Ramsauer.jpg](http://commons.wikimedia.org/wiki/File:Bundesarchiv_Bild_102-05559,_Carl_Wilhelm_Ramsauer.jpg).