

***Serving the Reich***  
***The Struggle for the Soul of Science under Hitler***  
(Bodley Head, Autumn 2013)

It was customary for the president of the Kaiser Wilhelm Society, a semi-private institution that coordinated much of Germany's pre-war scientific research, to meet with any new head of state. So in May 1933 Max Planck, the most respected physicist in the country, went to meet Adolf Hitler in Berlin.

No one knows quite what transpired between the two men. Some later accounts suggested that, confronted with Planck's concerns about the purging of Jewish scientists from the universities, Hitler flew into a rage and the physicist meekly fled. Planck's friend Einstein even said he heard that Hitler had threatened Planck with the concentration camp. Other reports imply that the meeting was cordial throughout. Planck himself described his audience with the Führer after the war. He said that he tried to convince Hitler that "there were all kinds of Jews, some very valuable and others worthless to mankind", to which Hitler responded "That is not true. A Jew is a Jew. All Jews stick together like leeches."

But, Planck entreated, "it is self-destruction to force valuable Jews to emigrate because we need them for our science." Hitler's alleged reply left Planck in no doubt about the prospect now confronting German scientists: if Germany must do without science for a while, so be it. "They say I suffer occasionally from nervous disorders", Planck recalled Hitler telling him, "but that is slander. I have nerves of steel." He slapped himself on the knee, Planck added, spoke increasingly faster, "and whipped himself into such a frenzy that I had no choice except to fall silent and leave."

In this exchange at the dawn of Nazi rule in Germany are all of the features, the ambiguities and dilemmas and disturbing implications, that were subsequently to characterize the relationship between the German scientists and their political leaders until the Third Reich lay in ruins. First, whose version should we believe? Is even first-hand testimony reliable? (Planck's retrospective account was composed by his wife, owing to his frailty.) What do we make of Planck's comment that some Jews are "worthless to mankind" – did he really think that, or was he just trying to mollify and thereby extract concessions from the Führer? Was Planck's reluctance to expel the Jews a moral issue, or was it merely for the sake of German science? Was Hitler truly so heedless of the damage his racial policies wreaked on science, or did pragmatism eventually come to trump ideology? And was Planck really left with no choice but to "fall silent and leave" – to conclude that resistance was futile, and that the best he could do was to administer the new laws as gently as possible? What else could one realistically expect of Planck and his colleagues in these circumstances?

These questions have been plumbed by science historians for half a century, but there is no consensus about how they should be answered. Neither do they seem now simply to be matters of history, akin to academic debates about the origins of the First World War. The stains left by the Nazis on German science have not been expunged.

How readily and how brightly, for example, Michael Frayn's 1998 play *Copenhagen* re-ignited debate about the wartime career of another leading German physicist, Werner Heisenberg, in particular whether or not he attempted to supply the Nazis with nuclear power and atomic weapons. But perhaps nothing made more apparent the continuing emotive charge of questions about science in Nazi Germany than the argument that flared recently over the conduct of the Dutch physicist Peter Debye. Like Planck and Heisenberg, Debye was a Nobel laureate and a major figure in German physics during Hitler's reign. In the four decades since his death in 1966, Debye had been fondly remembered by nearly everyone who had known him as, in the words of one ex-student, "a brilliant scientist, a great teacher, a fatherly and helpful adviser, and above all, a happy man". But a 2006 book, *Einstein in Nederland* by the Dutch writer Sybe Rispens, painted a very different portrait, calling Debye an opportunist whose actions amounted more or less to explicit collaboration with the Nazis. Rispens advertised his book with an article in the magazine *Vrij Nederland* titled "Nobel prize winner with dirty hands."

In the Netherlands such accusations are still politically fraught. Even before professional historians had been consulted on the matter, the University of Utrecht responded by removing Debye's name from one of its most celebrated institutes of physics and chemistry (against the wishes of its researchers), while the University of Maastricht in Debye's hometown withdrew its support for an annual Debye Prize awarded for achievements in science. Investigations into the allegations were subsequently commissioned by the Dutch Ministry of Education and by Cornell University in Ithaca, New York, where Debye had worked since he left Germany at the start of 1940 until his death.

Those investigations were inconclusive, but not because they failed to answer the key questions. Rather, they unwittingly revealed that we still do not know even how to think about these questions. We are still not sure of the moral coordinates for assessing the responses of Planck, Heisenberg and Debye to the National Socialists in Germany.

*Serving the Reich* maps out this territory. In doing so, the book opens a window on the greatest crisis that twentieth-century science, in Germany and beyond, had to face: how to respond to the rise of totalitarianism at a time when fundamental physics promised to procure the most devastating weapons known to humankind. The work and the actions of these three scientists in Germany in the 1930s illuminates the starkest confrontation between the idealistic, universal goals of science in the service of humanity and the determination of a tyrannical ideology to impose itself on all aspects of cultural and intellectual life. Each of these men found a path through that perilous era. How should we now judge these trajectories?

In their contrasting situations and decisions, we can find some context for approaching this question. The lives of the three men intersected and interacted in many ways. Debye and Heisenberg shared the same mentor and worked side by side in Leipzig in the early 1930s. Planck encouraged the careers of both, and they saw him as a father figure and moral beacon. Debye insisted, against the wishes of the Nazis, on naming the physics institute that he headed in Berlin

after Planck. When Debye left for the USA after war broke out, Heisenberg was his eventual replacement.

All were leaders and guides of physics, not just managerially but intellectually and inspirationally. But each was a very different personality. Planck was the conservative traditionalist, a representative of the old Wilhelmitic elite who considered themselves to be custodians of German culture. Such men were patriots, confident of their status in society and conscious that their first duty was obedient service to the state. Heisenberg shared Planck's patriotism and sense of civic duty, but lacked his preconceptions about the prescriptions of tradition. For him, the hope for a resurgence of German spirit after the humiliation of the First World War lay with a youth movement that celebrated a romantic attachment to nature, to comradeship and frank engagement with philosophical questions. Just as Heisenberg had no qualms about shaping the revolutionary quantum theory that Planck had reluctantly helped to launch into a worldview that cast doubt on all that went before – even the notion of causality on which science had seemed to depend – so he felt little allegiance to the staid militarism of Prussian culture. And Debye is the outsider, who carved out an illustrious career in Germany while steadfastly refusing German citizenship for fear of compromising his freedom to manoeuvre. Faced with the interference and demands of the National Socialists, Planck fretted and prevaricated; Heisenberg sought official approval while refusing to recognize the consequences of his accommodations. Both have had their lives placed under the spotlight now that we have a clearer view of the frightful regime within which they worked. But Debye escaped such scrutiny, or did until recently. He is in many ways the most slippery and ambiguous of the trio, not because he was the most cunning but perhaps because he was the most bland, the least reflective: the 'scientist's scientist', for whom science itself seemed to supply the perfect alibi.

Yet *Serving the Reich* does not attempt to decide if Planck, Heisenberg or Debye was innocent or guilty of the charges that have been made against each of them. Rather, it aims to show that any such adjudication obscures the real and important lessons to be drawn from the lives of these scientists. Some have argued that Planck and Debye, at least, were blameless, upright men who did all that anyone may expect to avoid the injustices and immoral depredations of the Nazi regime. Debye has even been portrayed (on thin evidence) as a possible informant to the Allies on German military research. Others, meanwhile, have called both Heisenberg and Debye opportunists whose only real concern was to advance their own interests even if that meant turning a blind eye to – perhaps colluding with – the corruption around them. Both positions merely validate the complaint made by historian Mark Walker, an authority on German science in the Nazi period, that “the fundamental problem for our understanding of science under National Socialism is the persistent and virulent use of the Janus-like combination of hagiography and demonization, the black-and-white characterization of scientists.”

Yet even a third position, which comes closer to the essence of the matter in characterising Debye as “an ordinary man in extraordinary circumstances”, will not quite do either. For one thing, it turns the scientists into Everymen who

behaved only as most others would have done – and thereby implies that there is little to be gained by examining their actions and motives too closely. It is not hard to understand how Planck and Debye, and even Heisenberg, could have done what they did without being monstrously callous, selfish, or blinded by patriotism. It certainly makes no sense to condemn any of them as Nazi stooges. But that should not prevent us from asking hard questions. Were their actions reprehensible, and if so, in what way? Why did they make the choices they did? How did others feel about them? What else might they have done, and what would the effect have been?

Moreover, we should be wary of assuming that the situation in Nazi Germany was an extreme anomaly, created by the kind of coercive regime rarely found in other times and places and therefore of little relevance to the environments in which science and technology mostly operate today. The recent historiography of Hitler's Germany quite properly refuses to seal it off from what came before and after. Just as the Nazi regime must be seen as a pathology of pre-existing social and political currents within a basically democratic society, so the response of German scientists can be considered to amplify and therefore in some ways make more apparent the interactions and tensions between science and society in less harrowing times. The choices made by the German physicists illuminate how scientists frame their ethical, moral and social obligations in general. As historian Kristie Macrakis has put it, "Many of the ways in which the social order influences science in turbulent times are present in dormant forms in science organizations, science policy, and the practice of scientific research in normal times, or in a democracy." It is unwise to criticize or condemn Planck, Heisenberg or Debye unless we are prepared to acknowledge that they responded as many other scientists, both then and now, would and did respond to political pressures and moral dilemmas. The fate of physics in Nazi Germany shows that, for all its claims to intellectual abstraction and objectivity, the pursuit of modern science has an ineluctably political dimension.

The stories of Max Planck, Werner Heisenberg and Peter Debye force us to ask how the majority of German scientists, and of citizens more broadly, who were not wholly sympathetic to Nazi ideals or objectives reconciled themselves to their situation and even, in some instances, thrived within it. Was there, as some claimed after the war, a culture within German physics of active resistance to the demands of the National Socialists? Or was the response closer to passive accommodation, and in some respects to actual collusion? These questions become especially acute in regard to the development of nuclear power and the atomic bomb in Germany, which affected the careers of Debye and Heisenberg in particular.

The cases of these three men have more to tell us about the factors behind the dominance of the Nazi state than does an examination of the obvious heroes and villains. Such a regime becomes possible not because people are powerless to prevent it, but because they fail to take effective action – indeed, to perceive the necessity of doing so – until it is too late. It is for this reason that judging Planck, Heisenberg and Debye should not be concerned with whether a person's historical record can be deemed 'clean' enough to honour them with medals, street names and graven images. It is about whether we can adequately

understand our own moral strengths and vulnerabilities. As Hans Bernd Gisevius, a civil servant under Hitler and covert member of the German Resistance, puts it,

One of the vital lessons that we must learn from the German disaster is the ease with which a people can be sucked down into the morass of inaction; let them as individuals fall prey to overcleverness, opportunism, or cowardliness and they are irrevocably lost.

### What Serving the Reich will do

- Presents the first detailed account of a highly controversial episode in the history of science – the ‘Debye affair’. The book will present a non-partisan description of this debate, set solidly in its historical context.
- Offers an engaging narrative about the pressures, compromises and challenges faced by prominent scientists under the German National Socialists.
- Uses the stories of three famous physicists to examine broader questions both about the social and ethical responsibilities of science and scientists in general, and about how these issues were manifested in the particular historical context of Nazi Germany.
- Critically examines the claims both that German scientists under Hitler engaged in active resistance to the regime and, conversely, that they were complacent and collusive.
- Brings fresh light to the question of whether German physicists aimed to develop an atomic bomb during wartime.