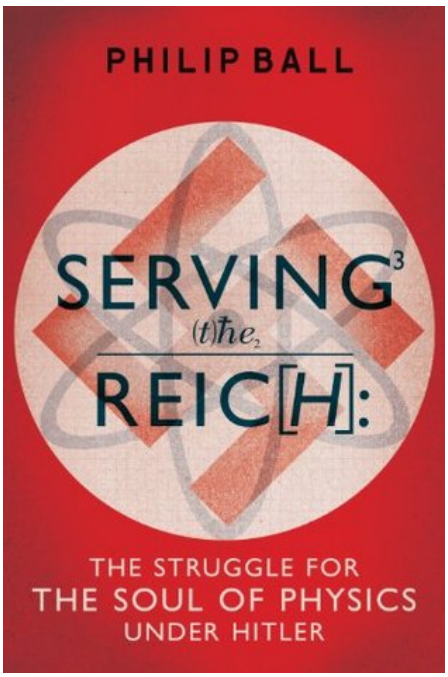

Serving the Reich: The Struggle for the Soul of Physics under Hitler

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Serving the Reich tells the story of physics under Hitler. While some scientists tried to create an Aryan physics that excluded any 'Jewish ideas', many others made compromises and concessions as they continued to work under the Nazi regime. Among them were three world-renowned physicists:

Max Planck, pioneer of quantum theory, regarded it as his moral duty to carry on under the regime.

Peter Debye, a Dutch physicist, rose to run the Reich's most important research institute before leaving for the United States in 1940.

Werner Heisenberg, discovered the Uncertainty Principle, and became the leading figure in Germany's race for the atomic bomb.

After the war most scientists in Germany maintained they had been apolitical or even resisted the regime: Debye claimed that he had gone to America to escape Nazi interference in his research; Heisenberg and others argued that they had deliberately delayed production of the atomic bomb.

Mixing history, science and biography, *Serving the Reich* is a gripping exploration of moral choices under a totalitarian regime. Here are human dilemmas, failures to take responsibility, three lives caught between the idealistic goals of science and a tyrannical ideology.

Serving the Reich: The Struggle for the Soul of Physics under Hitler Details

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From Reader Review Serving the Reich: The Struggle for the Soul of Physics under Hitler for online ebook

JQAdams says

This book explores the varied ways that physicists negotiated the rise of the Third Reich, focusing primarily (though not exclusively) on the cases of three major physicists: Max Planck, Peter Debye, and Werner Heisenberg. Or so the preface of the book presents things. Naïve, fogyish Planck and unctuous, opportunistic Heisenberg receive, in practice, a lot less attention than does Debye. That is perhaps not a surprise; when a book brings in a relatively obscure historical protagonist -- and though Debye was a Nobel laureate, the very first sentence of the book's introduction comments on his lack of renown -- that protagonist would face a situation that the author thinks is particularly worthy of attention. Debye's general lack of interest in politics (he did leave Germany for the United States before the war, but his motivations apparently stemmed more from his being a Dutch citizen than from any strenuous ideological objection to Nazi government) contrasts with recent, revisionist accusations of his collaborating with the Reich. This context allows the book to explore the ethics both of 1930s physicists as well as those who would judge those physicists from a later remove.

As that précis suggests, the book is much more concerned with morality than with science as such. Even by the time of Weimar Germany, much of physical science required vast, expensive equipment to test hypotheses, so any physicist who did not work exclusively in the theoretical realm probably found themselves reliant on government funding. Even theoreticians tended in Germany to be publicly supported, given the structure of German universities. Hence, almost anyone in this line of work faced choices of how to interact with Nazi rulers. Ball, somewhat unusually, barely touches on actual wartime acts where physicists began working on weaponry, especially nuclear bombs: it comes up, but mostly in passing when scientists later claimed that they had merely talked up military applications as an insincere tactic to attract more funding. Instead, the book's interest is more in actions before the war and, secondarily, on the honesty of those postwar apologias.

The book is not especially dense or academic, but it also makes no particular concessions to popularity. Ball doesn't cater at all to the usual sources of public fascination with the Nazi era, and anyone expecting the "struggle" of the subtitle to be a heroic tale of derring-do and open resistance will be disappointed. (A few physicists went openly against the regime, sometimes quite aggressively. Ball notes this only to point out the hollowness of others' claims that their choice was the only possible one; these more clearly admirable-to-heroic types do not poise the ethical quandaries the book is interested in, and so are usually brushed off in a paragraph or a footnote.) I found it more engrossing than most books are, and indeed admired the lack of pandering to public tastes. But that means it's not something that will appeal to a very wide audience.

Fernando del Alamo says

Este libro está centrado en la historia de un personaje, un Premio Nobel de Física llamado Peter Debye. Todo esto sucedía en tiempos de Hitler. Todos aquellos físicos, aquellos científicos de esa época, trabajaban realmente para su país. Y las cosas que hacían tenían repercusión en la guerra. Entonces, el autor no para de preguntarse si realmente la ciencia es apolítica y podemos separar a los científicos del resto del mundo en estos aspectos.

¿Es criticable que aquellos científicos alemanes trabajaran para su país en tiempos del Reich? Desde el sofá y la seguridad de nuestras casas, es fácil criticarlos; pero como dice el autor, a ver quién es el que levanta la mano y afirma que lo hubiera hecho en aquellos tiempos mejor que ellos.

Es un libro muy riguroso, con numerosas fuentes y bien informado; y los dos capítulos finales, donde extrae las conclusiones son absolutamente maravillosos por su argumentación.

Si eres amante de la historia de la ciencia, este libro te gustará.

Robert says

I thoroughly enjoyed Philip Ball's book, Serving the Reich – The Struggle for the Soul of Physics Under Hitler. It examines the relationship between science and politics through the lens of the actions of Peter Debye, Max Planck, and Werner Heisenberg during the backdrop of Nazi Germany. Ball notes, "None of these three men were enthusiastic about Hitler's regime, yet all were leaders and guides of German science – managerially, intellectually, and inspirationally – and they each played a major part in setting the tone of the physics community's response to the Nazi era." (p.5)

It struck me that the regime in Nazi Germany arose because educated and concerned people lacked the will to take action to stop it . . . before it was too late. This situation in the mid-1930s seems to have parallels to the challenges President Obama faces as ISIS emerges in the Middle East to replace the remnants of Al-Qaida. Is it too late to stop such evil from rearing its ugly head again?

Ball highlights, "The encroachment of Nazi ideology in physics was not a state-sanctioned enterprise but an ultimately fruitless attempt at self-promotion by a few eminent yet embittered individuals." Political sycophants, who were generally poor-performing scientists, came to positions of authority in German science and by 1935, "1 in 5 German scientists (or 1 in 4 physicists) had been dismissed."

Ball adds, "The Nazis insisted not just on who did science, but on what science was done." Jewish scientists could not practice science and such religious intolerance forced scientists, such as Albert Einstein, to leave Germany for America. He wrote, on April 5, 1933, "I did not wish to live in a country where the individual does not enjoy equality before the law, and freedom of speech and training . . ." (p.76)

Anti-semitism was rampant in nearby German-speaking Austria too. Chelsea Wald, wrote in SCIENCE, in March 2013, "The [Austrian Academy of Sciences] may have been particularly hostile to Jews and nonconformists even before the Nazis arrived, said historian Mitchell Ash of the University of Vienna. After the Anschluss [the annexation of Austria to Germany in March 1938], only 9% of the regular members were forced out on 'racial' or political grounds, while nearly half of the University's faculty members were dismissed. That means membership was 'not entirely based on meritocratic, but also on folkish and anti-Semitic criteria,' even before the Nazi ideology took over, Ash said."

The Nazis were bad for Germany and Austria, and the Nazi regime was bad for German science too.

After World War II, many scientists remained in denial over what happened, including the horrors of the Nazi treatment of prisoners and even the Holocaust. Werner Heisenberg, of Uncertainty Principle fame, exemplifies this denial of the past. "He was apt to refer to 'the bad side of Nazism,'" as Ball writes, "with the implication that there was a 'good' side too." Heisenberg argued that the Nazis would have become civilized

if they had won the war – give or take 50 years.

What compels highly trained people to ignore the atrocities around them? Ball believes, in this case, “What seems most to have compromised Heisenberg was a craving for approval – even that of a corrupt regime whose methods and principles he disdained.” Maybe keeping your nose to the grindstone and waiting for kudos is not the way to halt evil in its tracks.

Elder statesmen in the physics community, Max Planck, was “paralysed by a predicament for which his conservative education had never prepared him. He is,” as Ball depicts, “. . . a genuinely tragic figure. Planck found it difficult to challenge authority in a German society were maintaining structure and taking orders unquestioningly from the political leadership was ingrained.

Meanwhile, a solid scientist like Peter Debye was simply “an ordinary man in extraordinary circumstances.”

The question Ball asks, “What could Planck, Heisenberg, and Debye done differently?” As it turns out, nothing!

I recommend that this period piece about 1930s-era scientists dealing with an oppressive regime be read. It forces us to think about what we would do in such circumstances. It brought to light some notions that Ball attempts to address for us and the global scientific community of the 21st century:
1. It’s a delusion of some scientists that reason and moral virtue go hand-in-hand.
2. Scientific training rarely incorporates an ethical dimension.

Enjoy the read!

Steve Jones says

This is a difficult book to evaluate. On the face of it, it investigates what happened to physics under National Socialism in the Third Reich, concentrating particularly on three scientists, viz. Max Planck, Peter Debye and Werner Heisenberg. However, my reading of it is that Philip Ball's primary motivation in writing this book was to investigate the question of what responsibilities scientists owe society as a whole under any form of government, and in particular, the role that moral choices play in this regard. Towards this end, he looks at the most extreme example of this dilemma, namely the response of German Science to living under the Nazi regime. A book with the title "The struggle for the soul of science" won't have much appeal; a book with Hitler , specifically, and Nazis, implicitly, in the title is going to sell much better. The difficulty with the book is figuring out what Ball is trying to say. On the one hand, he correctly points out that the belief that only democracies can nurture scientific creativity (a view that many in the science community would concur with) is a myth. The historical record clearly shows that scientific creativity can flourish under totalitarianism (both left and right) and dictatorships. Nazi Germany may have failed to develop nuclear weapons, but it did develop rockets and jet aircraft. During the Cold War, when state oppression in the Soviet Union was more extreme than in Nazi Germany, Soviet scientists were capable of inventive scientific research. Today's Chinese scientists are proving that, despite the rote learning of China's traditional education system, democracies have no monopoly on creativity. On the other hand, he also puts the case that scientists have a moral and professional responsibility to society as a whole beyond just being responsible for the calibre of their research, or formally responsible in a bureaucratic sense when in administration. As for his own position, it is not easy to ascertain, although he does drop hints here and there.

As for the three German scientists investigated in the book (although many more are mentioned throughout the narrative) the picture is mixed. Max Planck's case is a tragic one; he was what one would call of the old school, cautious, conservative, traditional and nationalistic. His nationalism was nothing like that of the Nazis; not jingoistic, instead he was dedicated to the service of the state and homeland. Tragically, the nature of his character meant that open defiance to constituted authority was unthinkable. Consequently, he was tempermentally unable to provide any effective opposition to the National Socialist regime after 1933. Coupled with the loss of one son in WW1 and another in WW2, he died in 1947 a broken man. The case of Peter Debye is uncertain. Dutch by birth, he spent over three decades working in Germany, and only escaped to the US in 1940 when the Nazis gave him an unacceptable ultimatum: convert to German nationality to be able to continue to work in Germany. During the war, he did not work on the Manhatten Project mainly because his security clearance did not come through until 1945 (some people suspected him of being a German spy). In 2006, a Dutch journalist wrote a book accusing him of Nazi collusion. An examination of the record shows that there is nothing to this accusation. Nevertheless, questionmarks remain, mainly because of his character: intensely private (he kept no diary), he cared only about science, and nothing about politics. Consequently, he was politically naive, with the result that the least worst accusation made about him was to be guilty of opportunistic behaviour. The problem is that we don't know why he did what he did; this leaves us with the anomalous Scottish verdict of "not proven". The case of Werner Heisenberg is clearer: like Planck, he was conservative and nationalistic, but without moral scruples. He was only concerned with the "honour" of German physics and possessed the ego to believe that only he could "save", or preserve, it. Consequently, he was prepared to cooperate with the Nazi regime and never apologised for this after the War, instead proceeding to perform (along with others) a "whitewash" of the reputation of German physics. He is not a sympathetic character.

In conclusion, this is an interesting book, which has been marked down because of the uncertainty about what the author is trying to say. Nevertheless, it does raise important questions about the responsibilities of science to society as a whole under any type of regime.

Mark says

There is much to think about in this book, and much that could have been added. Detailed data about funding levels and distributions, comparison between actual spending levels in the US and Germany on nuclear fission research during WW II are missing, though the levels are compared, and the intra-Germany distribution of research spending is also missing.
Scientific research, I expect, follows the money, as it cannot be done without funding, though 'hot' areas may also draw funding to them.

Mishehu says

A nuanced essay on a subject of great relevance. Ball is less sparkling a historian of science than he is a science popularizer. But he's certainly a thoughtful one, and the book in review is important. I didn't learn much reading it that I wasn't aware of already, but I was encouraged to a subtler and more critical reading of "the facts" than I'd previously done. For that, kudos to the author.

Robert Daniel says

Very serious, well researched book. Would have liked to understand what drove the author to undertake such a massive project. Couldn't find any insight into that inside the book. Maybe I missed it? You have to be into physics to really enjoy this. Was not for me at this point in time.

Lorne Dmitruk says

An interesting analysis of the morals and implications of the physists who worked during the Third Reich years. Philip Ball takes us on a journey through the life's and times of these scientists, what they did, and the legacy of their work. In the end he shows us that there are no simple answers or easy explanations and that we must strive to understand the complexities of that time period. In short there are no clear answers and not everything is what it seems.

Brian Clegg says

Subtitled ‘the struggle for the soul of physics’, Philip Ball’s book takes us deep into the conflicted (and conflicting) stories of how German physicists responded to the growing power of the Nazis, their attitude to Jews, and their responses to the strictures of the Second World War.

In principle Ball does this by examining the lives and work of three physicists – the old guard Max Planck, a Dutch immigrant Peter Debye, and the seemingly amoral Werner Heisenberg – but in practice we see the impact of the regime and culture on many other physicists from intense supporters of the Nazis to those who did their best to oppose the regime.

Over the years these German scientists have been portrayed as everything from enthusiastic supporters of the Third Reich to secret saboteurs who did all they could to slow down the German development of nuclear weapons. Ball resolutely refuses to paint them either black or white, instead giving us every possible detail of shades of grey.

This is, without doubt, the fairest and most honest approach, given the lack of concrete information, but sometimes Ball’s concern to remain neutral and portray history as it was, rather than the usual ‘as the historian wants it to be’ can make the book a bit of a hard slog. Reading a Philip Ball book is a bit like attending a lecture by a scientist who absolutely knows his stuff, and is prepared to go off on lots of interesting side diversions, but nonetheless is very pernickety and precise, insisting on weighing everything up from every possible angle, so that just sometimes not only is the moral position of the scientists entirely grey, so is the storytelling.

This is a fascinating period in the history of physics, and it is indeed interesting to see how these well known (and less well known) characters played their part. Often the answer is ‘in a human, if rather detached, way – wanting as much as possible to get on with life, even if it meant ignoring some difficult truths.’ There is a feeling that somehow scientists should be more able to face reality – but in fact, in many ways they can be even more withdrawn than a typical citizen. Either way, with such ambiguous circumstances, combined with attempts after the war to modify the record to make things look less unpleasant, the result is inevitably a messy history that can never definitively tell us what happened. So don’t expect to come out of this with a

clear picture – but do expect to know a lot more about the thinking of these key figures outside of their work in physics.

John says

Really interesting read about the place of science and scientists in politics; gives perspectives of 3 people who under normal circumstances would have been seen as exceptional scientists (and they were) but were compromised by an impossible situation. Lots to think about.

Davide Nole says

The book is quite interesting, and its aim is to write a definitive account on the situation of three major figures in both Quantum Physics and Germany. Both Plack and Heisenberg are studied extensively in other books and magazines, but it's the first time I've read an account on Debye as well, probably because he's one of the most controversial physicists who have worked under the regime. Overall the book is well written and addresses both questions about physics and history, trying to cast a light on the most important aspects of quantum mechanics. The fact that it deals only with those aspects that are necessary to the dissertation is a plus, for me, as the other phenomena, despite their obvious physical importance, are of no use for a discussion about politics. The only problem I could find in the book is that the approach is quite repetitive, thus it ends up being a bit boring after a while, especially if you know already a big chunk of what the author is talking about.

Danièle says

I'm sorry that I'm not able to rate this book more highly. It is well-researched, addresses an important topic, and made me think - a lot - about things that have been and things that currently are. But it just isn't that well written, such a shame.

Historical books - whether fact or fiction - can suffer from the need to introduce a multitude of characters that can be hard to tell apart due to the fact that we are concentrating on what they did, rather than who they were. (I found this a particular problem in the first half of Hilary Mantel's Wolf Hall, compounded by the fact that they all seemed to be called Thomas.) In this particular instance we are following what happened in the world of German physics throughout the 1920s, 30s and 40s. There were a lot of very eminent physicists about in Germany in that time, doing very clever things that even as a chemist I struggle to understand all of. And while many (Planck, Haber, Debye, Heisenberg, Einstein, Schrodinger) are famous enough in the world of science, the multitude of additional figures who I had not previously heard of made it rather difficult, over the course of the book, to tell one's Laue from one's Weizsacker from one's Franck, and to remember who had done, said or intended what. In a book that discusses the actions of these people under the Nazi regime - including to what extent they might have sympathised with the removal of Jews from the field of science - being able to remember who's who is a matter of great import. Even a section of short profiles as an appendix would have been a useful reference point.

An additional problem is that there is no clear signal to the reader at the beginning of the book, or even throughout the early chapters, what the line of the story is going to be. The old adage of non-fiction writing

'say what you are going to say, say it, say what you have said' has gone out of the window here. Chapters launch into topics without a clear indication of where they are going, jumping around the chronology, revisiting figures and events at different points in the text, ultimately causing a great deal of confusion. I'm not one to put down a non-fiction book as there is always something to learn - this book, indeed, has much to offer - but I can imagine a less persistent reader, particularly one without a science background, giving up.

That is such a shame because, as I said, this is an important subject, and Ball has clearly done his research very well. The subject is important for many reasons. Firstly, because it illustrates the importance of science - particularly physics - in World War II. The development of the atomic bomb was of crucial import in the development and final ending of the war, and it could so easily have been the other side who got there first. Secondly, it is important because it examines the actions of the Nazi party in excising Jewish scientists from scientific practice, and the extent to which the remaining scientific community may have colluded with, resisted or ignored this process. The important thing for me is that it is so hard to judge in retrospect. These people cannot be judged against our own current standards, with our benefit of hindsight, and the greater freedom in our culture (I'm speaking as a pretty gobby UK citizen) to speak out against authority. Ball actually does a very good job of presenting different sides of the argument, but leaving it to the reader to come to their own conclusion. I can say that this leads to very good book group discussions. Finally, this book makes the point that what happened in the German physics community in that period cannot be seen as a contained thing, a product of its time and place that would not happen again. Rather, the point is that science - while it presents itself as objective, free from political interference, free from bias - is inextricably linked with society. Science is performed by people, and people are influenced by other people, by ideology, by their private motivations, by fears and dreams. Science can never be free from that, which is important to remember.

TG Lin says

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René says

Una excelente investigación acerca de muchos de los nombres más controvertidos de la ciencia Alemana durante el periodo del Tercer reich y el ambiente en el que la misma ciencia vivía bajo el totalitarismo nacionalsocialista

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Nacho Martín says

Un libro de pobre gente que, además, son físicos, pero sobre todo son pobre gente que no hace prácticamente nada (con alguna excepción) respecto a los nazis. Muchas páginas muy bien documentadas analizando cartas, discursos, el testimonio de alguien que pasaba por allí, alguien que oyó algo, buscando si hay alguna traza de no estar conforme con el régimen nazi, o de ser antisemita. No sabemos, quizá sí, quizá no, quizá esta expresión denote que era un poquitín nazi... y en general a uno le deja la sensación de que eran todos pobre gente, que a veces se imaginaban que hacían algo en un sentido o en otro, pero que no hacían mucho.

Y claro, la pregunta es siempre ¿acaso habría hecho usted más, se habría alzado contra el Tercer Reich? Pues desde luego después de leer este libro no, porque te deja el espíritu chafado, listo para freír un sanjacobo congelado y poco más.

El remate de la pena es Heisenberg encargado de las investigaciones atómicas, que ni sabe cuánto se tardaría en hacer una bomba, ni sabe cuánto uranio haría falta y está perdido. Le capturan y ni se plantea que le hayan puesto micrófonos en la habitación. Luego ve la bomba de Hiroshima y cree que es un cuento, que no es posible que la hayan construido los americanos. Y al final penurias de posguerra intentando convencer de que estuvo poniendo palos en las ruedas de Hitler cuando resulta que no consiguió hacer la bomba porque no vio claro que pudiese conseguirlo.

Salvando a los físicos tiene reflexiones que valen la pena, como esta:

"Esta perspectiva cuasi-mística de la teoría cuántica que los físicos parecieron alentar se acoplaba al reciente rechazo, durante la era de Weimar, de los supuestos males del materialismo: el comercialismo, la avaricia y la invasión de la tecnología."

o

"El culto cosificado a la naturaleza (que es lo contrario a respetarla), siempre ha estado al borde de una ideología fundamentalmente fascista".

Y otras cuestiones como si el alemán es capaz de tener una libertad personal, íntima, introspectiva, generar un mundo interior en el que es libre, mientras a la vez es absolutamente obediente a la ley. Si el alemán es capaz de hacer esto y por tanto capaz de una sumisión total al orden mientras conserva un espacio interior, un mundo dentro de su teutona cabeza.

De estas perlas hay varias por aquí y por allá, y uno se las apunta y sale mejor de lo que entró.

Uno acaba con la certeza de que habría sido mucho mejor, y más fácil, que estos físicos se hubieran dedicado a lo que realmente Hitler y Himmler querían investigar, que es la sandez de la Cosmogonía Glacial. El Hielo Cósmico, una tontada que te conecta con los atlantes. Si algunos físicos, en lugar de estar ahí debatiéndose entre si firmar las cartas con Heil Hitler o no, se hubieran entregado en cuerpo y alma a la gilipollez del Hielo Cósmico todo habría ido bien. Sus superiores, encantados; contribución a la ventaja nazi en la guerra, cero o negativa, y habrían dejado una bonita historia, porque es una pena muy grande que pongas a un chorro de premios Nobel en un libro con nazis y te salgan tan pochos.
