



History of the Kaiser Wilhelm Society (KWS)

The founding of the KWS

The Kaiser Wilhelm Society was the predecessor of today's Max Planck Society. Founded in Berlin in 1911, it was based on an entirely new concept which introduced an institution of a kind previously unknown in the established scientific system: The Society was to be free to devote itself to basic research, operating its own institutes financed cooperatively by industry and state, at which leading scientists were to be permitted to pursue their own research interests, unhindered by any teaching duties. To find models of the new institution, it was necessary to look abroad, for example to the Institut Pasteur in Paris, as nothing comparable then existed in Germany.

Background: Industrialization and the advance of the natural sciences

The Industrial Revolution, which burgeoned in Germany in the mid-19th century, brought with it a wealth of new technologies, first among them the power of steam, and later electricity. The chemical industry produced dyes, drugs and fertilizers and became a thriving sector with an increasing thirst for new knowledge, new technology and new products. The level of theoretical understanding of the new techniques often introduced by practical engineers was frequently minimal, imposing limits on their expansion. Accidents regularly occurred as the power of machines was unleashed.

However, such was their interest in the potential of new and untried inventions and discoveries to improve the speed and efficiency of production, that the new class of industrialists also proved to be drivers of innovation. It was industrialists themselves who began to establish research laboratories for whose findings they had ready application.

The interests of German industry coincided with those of politicians. Kaiser Wilhelm II, who came to the throne in 1888, believed that successful research would also yield an increase in national prestige, thereby securing Germany's often invoked "place in the sun" and establishing the competitiveness of the German Reich.

In this climate, the Prussian push to develop science in its capital city of Berlin thrived. As early as 1909 the Berlin professor of theology and close Imperial advisor, Adolf (from 1914 'von') Harnack, had written a memorandum appealing to Wilhelm II in which he called upon the state to establish independent research institutes. They were to be built on the outskirts of the city where the state had vacant land at its disposal. With the support of the influential minister Friedrich Althoff, Harnack's proposal was implemented in a minimum of time, and on 11.1.1911 the Kaiser Wilhelm Society was duly founded at the Berlin Academy of Arts. It was structured as a registered association, thus paving the way for a public-private partnership. The Kaiser himself lent his name and safeguarded basic funding. This patronage from on high attracted prominent sponsors from business and industry who also provided financial support for the new Society. Harnack became the first President. In the years that followed, his central idea of advancing research by supporting outstanding scientists (the "Harnack principle") became the guiding tenet of

the Society and formed the basis for its interdisciplinary, as well as international orientation. Despite the large-scale participation of private sponsors, the KWS was able to operate relatively independently and engage in both application-oriented research and “pure” basic research aimed solely at the acquisition of knowledge.

Wartime origins. The first Institutes 1911-1918

As early as 1912, a year after its foundation, the KWS opened its first institute premises for Chemistry and for Physical Chemistry and Electrochemistry in the Berlin suburb of Dahlem. A few months later, the art collector Henriette Hertz left to the young Society her Palazzo in Rome in which she had built up an important library, with the request that the building be used as an art history research institute.

The senate of the KWS resolved to establish further institutes, a plan which was partly implemented despite the outbreak of war in 1914. The Institutes for Biology (1915) and for Experimental Therapy and Biochemistry (1913) were established in Berlin-Dahlem. The KWS now had its own research campus – Germany’s first scientific centre on a “green field” site. The first Institute outside of Berlin, the KWI for Coal Research, was established in Mülheim an der Ruhr in 1914, substantially financed by the prominent coal barons of this industrial region. Shortly before the outbreak of war, Max Planck had brought Albert Einstein to Berlin, and in 1917 he became Director of the new KWI for Physics which, however, initially had no premises of its own.

World War I brought major setbacks for the striving Society. Many of the scientists welcomed the war, as did many other German intellectuals. As predominantly nationalist and patriotically-minded citizens they were keen to place their work at the service of the state and focused their efforts on areas of research that promised to yield strategic military advantages. From 1915, the chemist Fritz Haber, who was born in 1868 to a Jewish family and converted in 1893, placed his KWI for Physical Chemistry and Electrochemistry at the service of the state. In close collaboration with the military, he developed poison gas weapons and tested them at the Front. Meanwhile, at the KWI for Experimental Therapy, work continued on the development of vaccines intended to protect German soldiers from typhus and cholera. However, Haber’s Institute was the only one to receive massive financial support for armaments research.

Science in the “Golden Twenties”. The KWS in Weimar Republic 1918-1933

Even though the end of World War I in November 1918 also triggered the fall of Kaiser Wilhelm II, the KWS still retained its name. In the new democratic state, the Society was able not only to maintain but even to expand its role as an elite organization dedicated to supporting cutting-edge research. As “rational republicans” the overwhelming number of science managers accepted the new democracy and developed their cooperation with German industry within this framework. Despite great financial losses sustained through the loss of war bonds, the inflation of 1923 and the global economic crisis of 1929, research expanded. The KWS established additional institutes and enlarged existing ones with the construction of buildings that set new standards in laboratory technology.

This era in particular brought pioneering research successes, especially in Berlin where the presence of the KWS had always been strongest. Following Max Planck’s discovery of the Planck constant (1900), science broke new ground with the application of quantum physics, which to this day remains a future-oriented area of research. KWS scientists, among them Max von Laue, Albert Einstein, Lise Meitner and Otto Hahn, turned their attention to the atom in an attempt to decipher its physical laws.

Research in the biosciences, too, mastered a future-oriented field as scientists, not least at the KWIs for Biology, Cell Physiology and Biochemistry in Berlin, began to focus on molecular biology. The foundation of the Institutes for Cell Physiology in Berlin, under Otto Warburg, and Medical Research in Heidelberg proved to be milestones not only in the history of the KWS but in the development of bio-research itself, which had links with physics and chemistry and which, by building bridges with other disciplines, created a then new but by now firmly established canon of research. Between 1918 and 1932 alone, seven KWS scientists were awarded Nobel Prizes.

The KWS under National Socialism 1933-1945

The accession of the National Socialists to power meant radical change for scientific research, with the new “Law for the Restoration of the Professional Civil Service” taking effect at the KWS as well from April 1933. As a consequence, in the following years through to 1938 almost one-third of all active scientists was expelled, and even at an administrative level employees were forced out. Although only a very few KWS scientists joined the NSDAP, the Society quickly and consistently adapted to the Nazi state. In turn the state increased expenditure on KWS research projects that meshed with its racist ideological programme, particularly in the areas of armaments research and biological and medical projects. With funding for the Aerodynamic Experimental Institution, the Institute in Göttingen was developed into a major research establishment. Experiments using large-scale facilities such as water tanks and wind tunnels yielded information about flight and flow patterns that were fundamental not only to aircraft construction but also the design of torpedoes. The physicist Werner Heisenberg and his team worked on behalf of the Armaments Ministry on the German uranium project at the KWI for Physics – but ultimately without success.

Cooperation on the part of scientists with the inhuman regime was particularly extensive in the biomedical field. Scientists at the KWI for Anthropology, Human Heredity and Eugenics obtained blood and human tissue samples from Auschwitz concentration camp for use in their research work, while the German Research Institute for Psychiatry and the Kaiser Wilhelm Institute for Brain Research received brain specimens from mentally disabled victims who had been “euthanized”. Some scientists carried out their own experiments on humans or worked as consultant experts, thereby lending a veneer of scientific support to National Socialist crimes and the racist programme of the state. Nevertheless, the results of such research continued to be used after World War II by scientists in Germany and abroad and, for example, provided a baseline in human genetics.

The KWS was able even during the war to rely on the support of German industry, all the more so when Albert Vögler became President of the KWS in 1941. He was one of the most influential figures in German industry, and as Director General of the United Steelworks he forged links both between industry and the KWS, but also with the NSDAP, which he had begun to help finance as long ago as 1932. At the same time, the KWS also maintained its international position as a leading research organization. Nobel Prizes continued to be awarded to German scientists during the Third Reich, though it was not until 1945 that the laureates were able to receive them. Adolf Hitler had prohibited their acceptance after the Nobel Peace Prize for 1935 was awarded retrospectively to Carl von Ossietzky in 1936 – who at the time was under Gestapo supervision having been released from concentration camp as a sick man.

Further new institutes were also founded after 1939, branches were opened in territories occupied by the German army, and German scientists cooperated more or less voluntarily with institutions in conquered countries. However, as the war dragged on and German defeat became more likely from 1943, research became subject to limitations. In 1943, in view of the increased aerial bombardment, almost all the institutes were relocated out of Berlin and found temporary homes in the west and south west of Germany. Administrative headquarters also shifted to Göttingen. Bomb damage, the loss of technical facilities, buildings and employees absent on war service all combined to further restrict research. Nevertheless, even at this time, a whole series of institutes were able to carry on working, and for some the capitulation meant only a short interruption.