



HARD COAL. MINING. MINERAL RESOURCES. ART.

GUIDE

PERMANENT EXHIBITION

DEUTSCHES BERGBAU-MUSEUM BOCHUM

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DEUTSCHES BERGBAU-MUSEUM BOCHUM

The Deutsches Bergbau-Museum Bochum – founded in 1930 – is one of eight research museums belonging to the Leibniz Association. It researches, teaches and preserves the history of the mining, processing and use of geo-resources across all of the relevant time periods. Its research areas include: archaeometallurgy, mining history, materials science, and mining archaeology, together with the research laboratory, and the Montanhistorische Dokumentationszentrum (the Mining History Documentation Centre, or montan.dok). Its research projects – frequently conducted in partnership with universities and non-academic institutions, as well as partners from the worlds of culture and science – have national and international relevance and impact.

The Deutsches Bergbau-Museum Bochum has undergone a transformation in the years between 2016 and 2019: The renovation of the museum was flanked by the redesign of the permanent exhibition. There will be four tours with more than 3.000 objects guiding visitors through the building: Hard Coal, Mining, Mineral Resources and Art cover the full range of the Leibniz Research Museum for Geo-resources. With its new exhibition, the Deutsches Bergbau-Museum Bochum is rising to the challenge of presenting the subject matter and results of its in-house research activities in an exciting, educational and informative manner, and to attraction the attention of the diverse target groups with a range of communicative approaches. Whether it be in the form of an interactive game, multi-media or hands-on exhibits – the aim is to communicate the content of the permanent exhibition in a sustained way.

The contents and the forms of communication and presentation for the thematic focal points of the new permanent exhibition were devised by a team of curators working in collaboration with exhibition designers and museum educators: the history of German hard coal, the people and the mining activity, presented across the various epochs, and with a multi-disciplinary stance, focussing on geo-resources as well as art and culture.

The visitor's mine and the pit descent simulator also provide glimpses into the diverse facets of underground mining activity at the Deutsches Bergbau-Museum Bochum. Stretching over 1.2 km, the underground network of passageways gives visitors an insight into everyday life underground and about historical technical developments in (coal) mining. The headframe of the erstwhile Germania colliery – the museum's largest exhibit – is a platform afford-ing far-ranging views across the Ruhr Area, and a region shaped by the colliery imprinted landscape.

Further information: www.bergbaumuseum.de

The renovation of the North Wing and the redesign of the Hard Coal and Mining tours were funded by the RAG-Stiftung as part of the "Glückauf Zukunft!" Project. The renovation of the South Wing and the redesign of the Mineral Resources and Art tours were funded as part of a joint national and state programme organised by the Federal Ministry of Education and Research and the Ministry of Culture and Science of the State of North-Rhine Westphalia. Both projects were further funded by the city of Bochum and the DMT-Gesellschaft für Lehre und Bildung mbH.



HARD COAL. THE MOTOR OF INDUSTRIALISATION

In 2018 the closure of the last mines in Bottrop and Ibbenbüren brought down the curtain on the active mining industry in Germany, and with that one of the most important chapters in German economic history. No other sector of industry formed entire regions on this scale. It established stability and an identity within the mining districts, and it shaped the living environment and the mentality of the people living there. The *Hard Coal. The Motor of Industrialisation Tour* aims to emphasize the special importance of this industry, and to create a memorial for hard coal in the Deutsches Bergbau-Museum Bochum.



The tour starts off by taking visitors back to the Carboniferous Period, greeting them with a 306-million-year old rootstock and the pictorial representation of a typical forest of this time. The tour focuses on two aspects; first there is the genesis of hard coal and second, hard coal as an actual material that forms the basis of countless production chains. Following a skip into the Early Modern Era, this hall - envisaged as a prelude - ends with the initial industrial use of German hard coal in the production of salt in the 18th century.

Then comes the main section of the tour, with its thematic sequence proceeding from the burgeoning industrialisation of the first half of the 19th century up to the present day. The central theme here is the regional-defining power of hard coal mining, which prompted the evolution of

the Ruhr Metropolitan Region and continues to mark it permanently. The spotlights are turned on the mining areas around Ibbenbüren and in the Saarland, in which the “black gold” was likewise mined under the umbrella of the Ruhrkohle AG corporation.

ECONOMY

The release of hard coal mining from state control in 1865 saw the industry undergo accelerated development. The Ruhr Area developed into the largest industrial agglomeration areas in Europe. After World War I, hard coal became the basis of the chemical industry.

GEOGRAPHY

From the very outset, the coal mining industry shaped the image of the mining areas. Collieries and spoil tips, steel-making plants and engineering works, railway lines and canals defined the structure of the region. This regional-defining strength is still evident to this very day.



WORKING WORLD AND TECHNOLOGY

The mine was home to extreme conditions, under which the miners had to perform hard physical labour. It was only in the mid-20th century that technical innovations made the work noticeable easier. Mines had long become large-scale technical systems.

SOCIAL LIFE

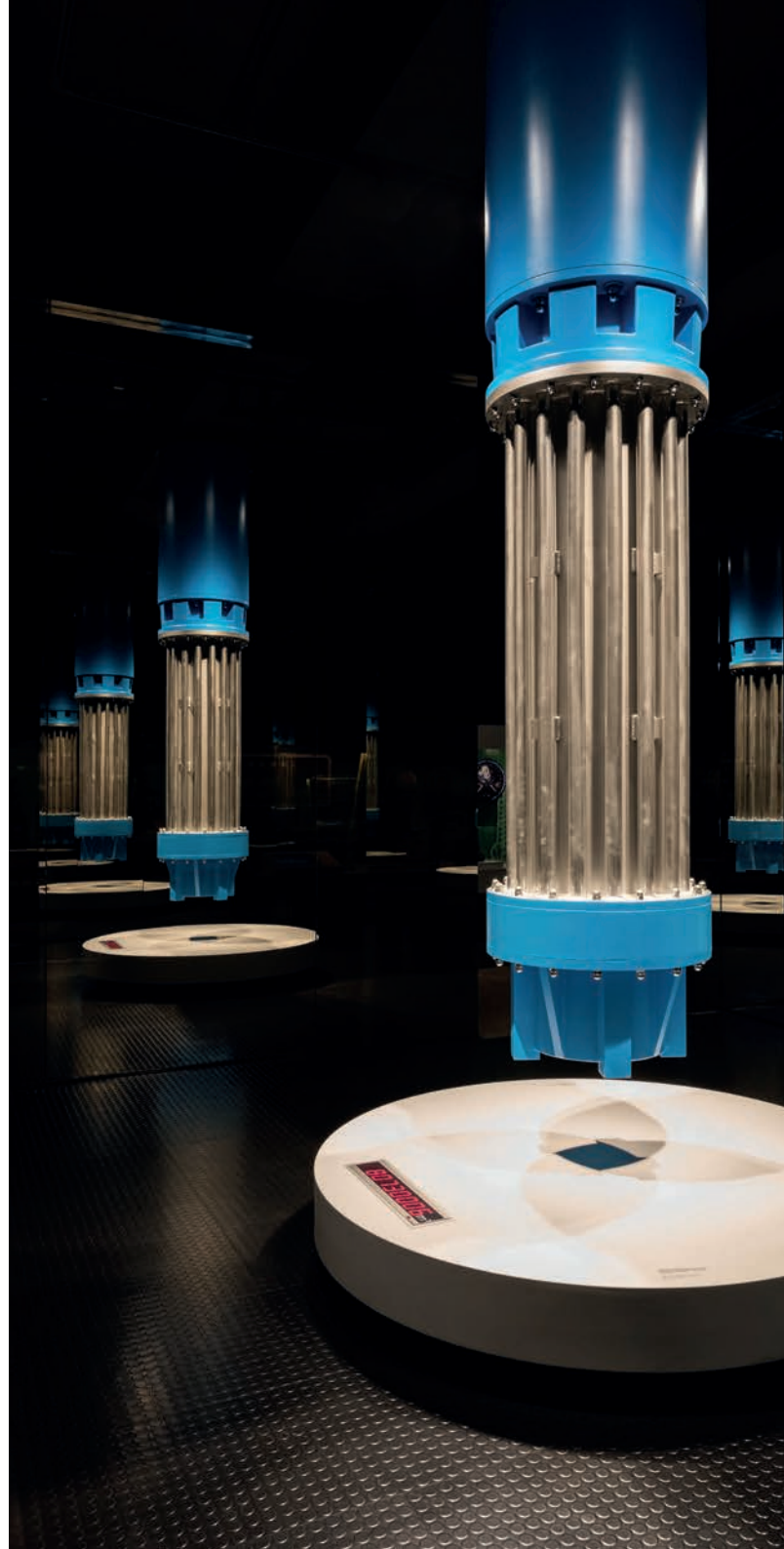
The history of mining is a history of migration. With a brief amount of time, the massive influx of workers transformed the original structures within the burgeoning economic centres. Wholly new forms of co-existence were created. While living conditions were frequently arduous, the great cohesion among miners was renowned.

POLITICS

While it initially constituted the energy basis for West Germany in the wake of World War II, the coal mining industry experienced a serious crisis from 1958 onwards. One from which it never completely recovered. The coal mining companies were merged into one single corporation, Ruhrkohle AG. Under its management, active coal mining operations were phased out at the end of 2018. The post-mining responsibilities remain.

But what remains of the coal mining industry in the Ruhr Metropolitan Region after 2018? The exhibition ends with an epilogue comprising forty stories about the contemporary and future life of the Ruhr Area, including an installation about the issue of mine water management.

Text: Timo Hauge





MINING. STONE AGE WITH FUTURE

From the time of prehistory to the far-flung future, the development of mankind is inconceivable without the mining of natural resources. The *Mining. Stone Age with Future Tour* takes visitors on a journey across all the ages of human history during which mining activity took place by various means and methods, but always maintaining its indispensable role.



MINING ACTIVITY FROM PREHISTORY TO ANTIQUITY

The people of the prehistoric era were experimenters. From the initial small mineworks, to producing enough for your own personal needs, to commercial underground mining - the journey was a long one. The Stone Age, Bronze Age and Iron Age - all named after the materials coveted and used during those times. Man put tremendous efforts into mining not only salt, so crucial to life, but also gold, which had always been so greatly treasured. Nine darkened building sections form the stage for presenting the prehistoric mining of all these raw materials in all its vivid detail.

Mining was transformed during ancient times. The Romans in particular needed natural large quantities of natural resources, which they sourced from all over the known

world. A mine was a place where thousands upon thousands of people worked alongside one another. The aftermath of Roman mining methods is still evident to this very day. The focus here is on the many years of archaeological and archaeometallurgical research performed by the Deutsches Bergbau-Museum Bochum. The exhibits from the institution's own collection are augmented by items on loan. These and much more besides, provide an insight into 30,000 years of mining history.

MINING IN THE MIDDLE AGES AND EARLY MODERN PERIOD

The fall of the Western Roman Empire in the 5th century AD precipitated the loss of a large part of the mining know-how. This knowledge had to be developed afresh during the Middle Ages and the Early Modern Period. Areas such as commerce and trade, technology and science, power and dominion, as well as life styles and natural environments all tell of the growing influence of mining during these periods, and of the way it shaped society.

It increasingly became the practice to document knowledge in writing. Illustrated documents and books such as Georg Agricola's "De re metallica libri XII" and the "Mining Book of Schwaz" are outstanding examples of this. The design of an original shaft dating from the 13th century, together with the ten-metre long faithful depiction of an early modern mine, a work known as the "Flach'sche Riss", reveal intriguing insights into the work performed during the period.



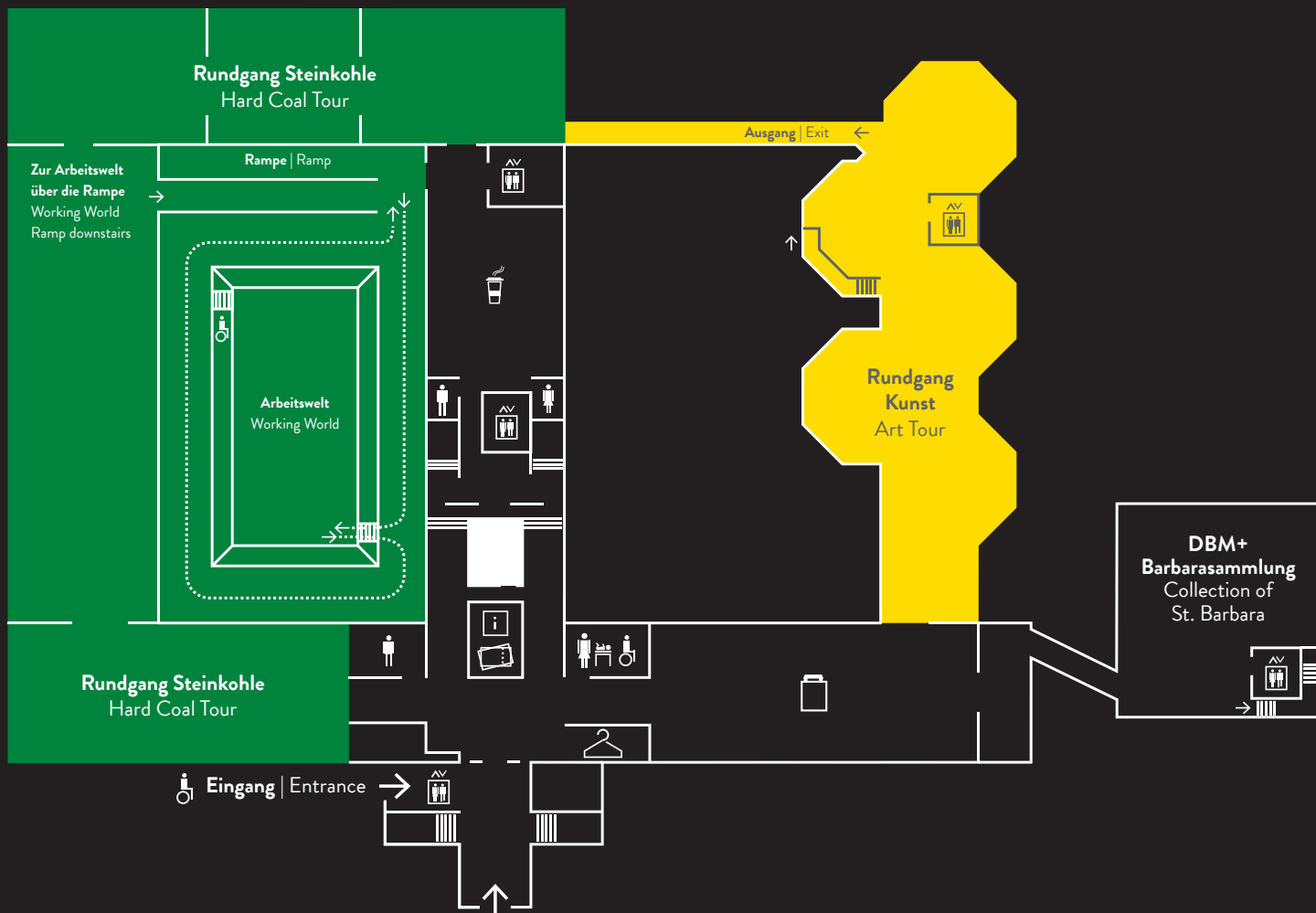
MINING SINCE THE AGE OF INDUSTRIALISATION

The emergence of industrialisation saw mining progress into hitherto unseen dimensions. Technical advances saw natural resources output increase by leaps and bounds, and the influence on commerce, trade, politics and the environment grew. Each of the exhibits illustrate the mining of a diverse range of raw materials, and the influence this exerted on society all over the globe. They tell of the risks and challenges presented by working in mining environments.

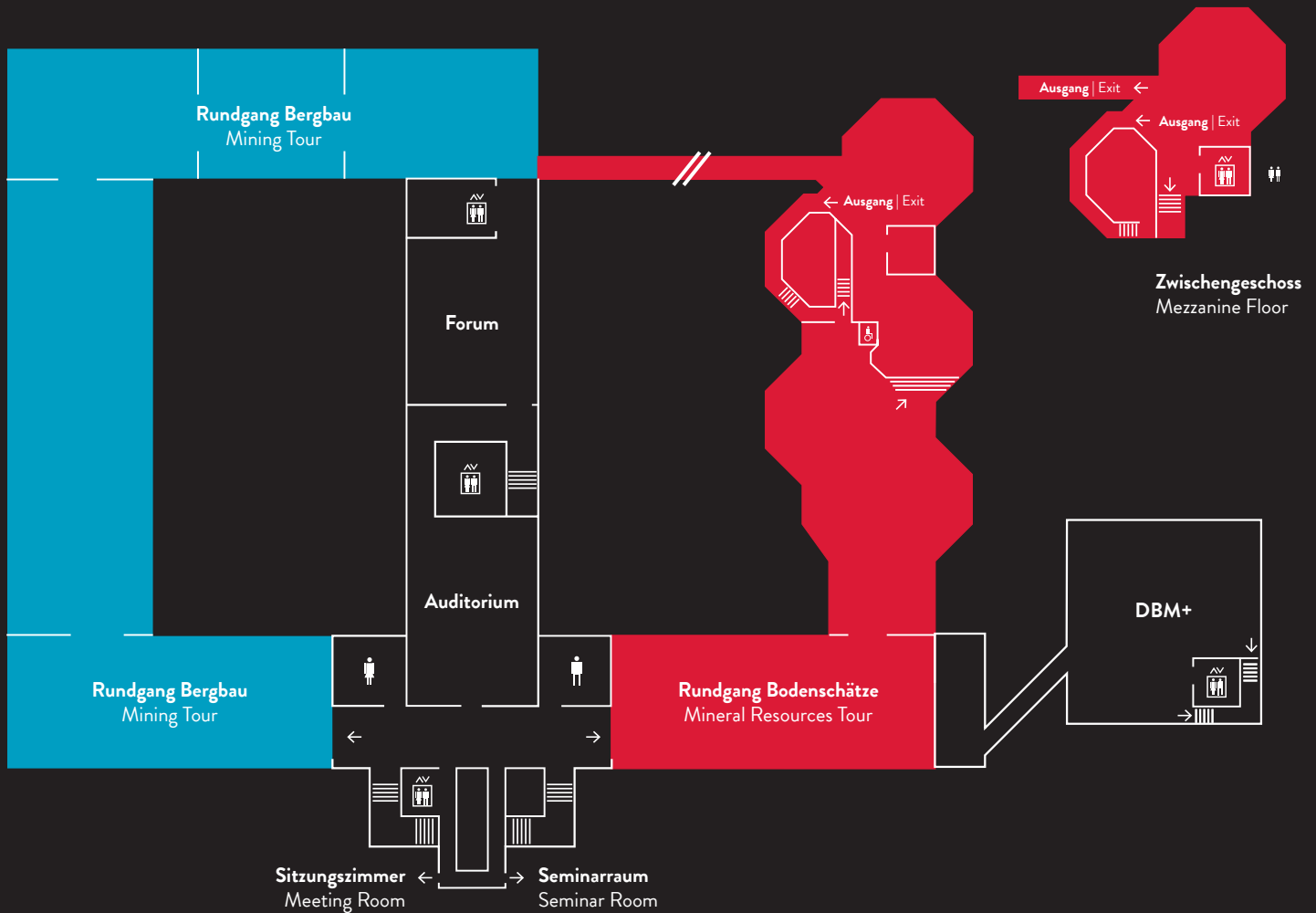
But just how will mining develop in the future? How do we tackle the finite nature of the natural resources under our feet? The tour ends with a look at some of visions of the future of mining.

Text: Timo Hauge & Manfred Linden





The Forum area features a digital game on a 180° screen, where visitors can experience the ways in which the finite resources of our planet can be managed. Players learn about the direct correlation between living standards and the use of resources.





MINERAL RESOURCES. TREASURES OF THE EARTH

The Earth provides us with her mineral resources. Mineral resources and fossil fuels are finite. We cannot create them ourselves, and they do not renew themselves within a time period conceivable to us. Together with regenerative energy sources and bio-resources, natural resources make up what are known as the Earth's geo-resources.

Mineral resources are of great importance to us as people. Without them, our technology-driven everyday lives would be impossible to imagine. Nevertheless, specific natural resources are hard to identify in the products we use day-to-day. *The Mineral Resources. Treasures of the Earth Tour* provides a broad overview of the diversity of the raw materials we use, and the manner and means by which we use them.



MINERAL RESOURCES UNDER THE MICROSCOPE

In order to understand why some raw materials are especially valuable or rare, the tour starts by providing some fundamental and requisite knowledge of geo-sciences: How old is the Earth? What are minerals and rock? How are mineral deposits formed, and where? Armed with this basic knowledge, the life story of a (mineral) deposit is examined under the microscope. From prospecting, to detecting, to mining and the ensuring post-mining activities, visitors will discover the steps undertaken by man to access these coveted raw materials. The important roles played by commerce and politics are also explained.



INSIDE THE RAW MATERIALS LAB

The Raw Materials Lab concerns itself with mineral resources and how these are used. The raw materials are examined in detail at six lab tables, and visitors can perform research work at one of the "have-a-go" stations. There's even a game where visitors are challenged to make their own everyday object. The necessary raw materials have to be collected from large shelves. Players only find out what they've made when the answer is revealed at the end. And after all that activity, the Energy! Room is a welcome space in which to relax. A series of short artistic films tell visitors of the many natural resources that can be used for producing energy. However, every use we make of a natural resource has both positive and negative effects, particularly for our environment. It is up to us to decide what is acceptable for us and for our world, and what we could better do without.



GEO-RESOURCES SHOWCASE

The final stop in this tour is the Geo-resources Showcase. There is a quite special exhibition format on view here. It is there that the Deutsches Bergbau-Museum Bochum, together with a research partner, presents the current findings revealed by projects examining the multi-faceted subject of geo-resources. The Leibniz Research Museum for Geo-resources run by the Leibniz Association, gives partners the opportunity to present their organisations and the research they perform. And because each of these special exhibitions will be on show for several years and not just a few weeks, it will be possible to update and follow projects for their entire duration.

The *Mineral resources. Treasures of the earth Tour* with its natural sciences basis, establishes the link between the historical-technical and historical-cultural tours of the Deutsches Bergbau-Museum Bochum.

Text: Stefanie Biermann



ART. IDEALS AND REALITY

Mining and the arts are seen as closely affiliated, even though mining was never a central theme for the visual arts. During the 17th and 18th centuries, mining was extremely important to the courts of the sovereign rulers, resulting in the production of a wealth of mining-themed ceremonial and decorative centrepieces. During the age of industrialisation, the focus shifted towards the people performing the work, and on the burgeoning industry. Works of art were created not only because of a sense of connection with the sector, but frequently came in the form of commissioned pieces too.

The *Art. Ideals and Reality Tour* is arranged according to the characteristic features of mining, and harnesses these as a theme. It is linked together by a sculpture showcase featuring outstanding examples of the type. Sculptures, paintings and graphics are displayed as examples of works of the visual arts and are augmented with arts and crafts and artisanal items.

The bandwidth of exhibits from the 17th to the early 21st century ranges from works by renowned artists to amateur art. The tour does not present the art in any hierarchical structure. Instead, it concerns on investigating the importance of these artistic works for particular groups of individuals. This places the focus on the varying interests and motivations in creating, commissioning and exhibiting art.



BODIES

There are both idealistic and realistic sculptures of miners to be seen here. Exaggeratedly tall renderings of miners with powerful, muscular bodies that seemingly perform the underground work effortlessly, are contrasted with tired and drawn looking counterparts. Characterised by the severity of their labour, these workers nevertheless appear proud and dignified.

EVERYDAY LIFE

The focus is on specific mining activities and work processes. Break-time scenes not only convey an idea of the working conditions and the working environment, they also relate the perceptions of working men and woman during their day-to-day lives. After-work scenes featuring family life and recreational activities, frequently also examine the entire mining universe.



COMMUNITY

As long ago as the Early Modern Period, miners comprise a strong, cohesive collective. A unique style of dress was one important representative feature of parades and processions. Honorary awards also strengthened the sense of community and were a guarantee of stable business relations. The lines of tradition that ran from the Ruhr mining industry to the Ore Mountains of Saxony underline how mining had a visual imagery that was shared across time and territory.

VENTURE

The terror of mine disasters, reciprocal assistance and solidarity was as much the subject of artistic exploration, as the moments of prayer and the hopes and fears of making it safely through the working day. As the patron saint of mining, St Barbara was depicted in a whole range of artistic realisations, while over the course of the 20th century her original attributes – spire tower and chalice – were increasingly substituted for mining symbols.

POWER

Mining activity is only possible with considerable physical strength and mechanical power. Technical developments and the application of machines ignited the interest of artists. The functional operation of a mine, with the intertwining branches of its subterranean world was also a source of fascination, and was depicted in hand-crafted objects and in folk art.

INDUSTRY

The industry permanently altered the landscape over a period of some 150 years. Upswings and booms, the demonstration of industrial power and productivity were as equally portrayed in artistic depictions, as were the processes of de-industrialisation and structural change.



WHITE GOLD

At the centre of the tour is a porcelain cabinet containing a unique collection belonging to the Achim and Beate Middelschulte Foundation, comprising over 100 mining-themed pieces.

Text: Anissa Finzi

ADDRESS & DIRECTIONS

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