

GHE030-P01

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Mines and thinkers of Germany

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"Kann es auch einen schönen Bergbau geben?" It is a word of Novalis, who is a poet of the German romanticism in the 18th century. According to German Legends of Brothers Grimm, a sprite which had mystic force or an ancient goddess lived in a mine. Mines aren't only places of tiresome physical labor for Germans. One can say that is a symbol of soul. Those issue from a basis of scientific view originated in ancient Greece.

For example, huge discussion had been done since the ancient Greece to the Middle Ages, whether minerals were organic matters or inorganic ones. Thales and Pythagoreanists considered that stones had souls. Plato and Aristotle figured out that stones had anima. In the view of nature in the Ancient Rome, people believed that leaving mines without mining for a certain period would let them be refilled. In the Middle Ages, the relationship between minerals and magic was discussed, and they considered stones have anima and jewels have magic. This thought was succeeded by alchemists. And, the knowledge of minerals and jewels became inevitable ones for them. Thus, minerals were thought as "lives" in organic matters instead of inorganic ones.

From the Middle Ages to the Renaissance, a mining was thought to be a filthy occupation, through which they gouged entrails of the land. But the intellects' attitudes toward mines and images of them had began to change, since De Re Metallica (1556) of Georg Agricola had been published. Leibnitz, a Mathematician and a Philosopher, aimed at developing windmills and dams for keeping the stable energy. Goethe, a German classical poet, redeveloped a silver mine with introducing the newest water pump. Novalis had a high salt production technology. Since then plenty of intellects in Germany have taken the courses of mining and visited mines. And the mines appear in their works as a place where something sacred lives and which is an entrance to another world.

It is a very interesting fact that philosophers, thinkers and poets were engaged in mining as developers to which newly developed technology at that time was introduced. In our presentation, picking up the following thinkers in particular, we trace the transition of (1)mining technology of their period and their views of natural science, (2)their thought which should have been influenced by mines, and (3)their images of mines.

German Legends of Brothers Grimm

A. T. Paracelsus 1493-1541

Martin Luther 1483-1546

Georg Agricola 1490-1555

Gottfried Wilhelm Leibniz 1646- 1716

Goethe 1749-1832

Novalis 1772-1801

These days, in some towns in Germany, mines are open to public and popular as tourist sites. Not only museums and surface plants, but you can also take a 1-2 hours' tour in the tunnel within 20 Euros. It is crowded with couples and families there.