

Danuta Molenda

MINING TOWNS IN CENTRAL-EASTERN EUROPE IN
FEUDAL TIMES
Problem Outline

1. A town may be considered a mining town when mining is its main basis of development, in which the majority of inhabitants make their living from mining either directly (production and processing of a mineral and its distribution) or indirectly (catering and services indispensable to mining). This is a rather general definition but the only possible one for covering all the towns in which mining was the main domain of economy. It may also have been relevant only to a particular period in its history if, because e.g. of stagnation in mining, the residents found different means of existence and the town lost its mining character.

In this context the formal criterion i.e. the possession of rights and status of a mining town seems inadequate. For some of the towns closely bound up with mining did not have such rights, others received them only after a long time had gone since they began to function as mining towns, still others had them despite the fact that they had gradually begun to base their existence on other branches of economy. It also happened that the charter of a mining town was granted "in advance" as it were to villages which, however, did not develop in accordance with the forecasts and never became mining towns.

The specific features of the mining industry in relation to other

branches of the feudal economy, differing from them in technique, socio-economic organisation, legal and administrative aspects, influenced the character of the towns connected with it. That is why they differed in so many respects from other towns of the same region; at the same time there were many similarities between the development of mining towns in various, sometimes distant countries.

The role of mining in launching and accelerating the processes of urbanisation is particularly clear during two periods of intensive and rapid development of mining in Central and Eastern Europe, *viz.* at the close of the 12th and in the 13th century, and in the second half of the 15th and first quarter of the 16th century.

Some mining towns became very important for their countries as e.g. Kutná Hora, one of the biggest towns in medieval Bohemia, or Goslar in Lower Saxony, one of the most important towns in the German Reich. There were also regions where the concentration of mining towns was very considerable. For instance, in the 14th–17th centuries there were 16 mining towns of vital economic and political significance in what was then Hungary and is now Central and Eastern Slovakia. Another such region in Central and Eastern Europe was that of the Erzgebirge. On the Saxon side of the range, from the close of the 12th to the 16th century, there were 29 mining towns. As many as 54 per cent of the towns founded there in the 15th and the first half of the 16th century were of mining origin. By the end of the 16th century, in the mining regions of the towns of Annaberg and Marienberg, 63 per cent of the population lived in towns. In the Bohemian part of the range, called Kruřm Hory, ten mining towns sprang up in 1516–1550 only. From the middle of the 14th century to the end of the second decade of the 17th century 24 towns, or 13 per cent of the number founded in Bohemia at the time, were established on this small and unfavourable stretch of afforested land. This intensity of urbanisation processes, stronger than elsewhere, was intimately connected with the development of mining.

Mining towns in Poland were neither so numerous nor were they as important because mining played a smaller role in our country's economy than it did in Bohemia, Slovakia or Saxony. None of them could be classed among big towns. Yet, at various

times they were quite important in the history of Little Poland and Silesia, two parts of the country where our largest mineral resources were concentrated. They were Bochnia, Wieliczka, Olkusz and Sławków in Little Poland, Bytom, Tarnowskie Góry and Miasteczko in Upper Silesia, and several towns in Lower Silesia including Złotoryja, Lwówek, Złoty Stok, Miedzianka, Boguszów, Srebrna Góra and other. Periodically, mining was quite vital in the development of a few other towns located in the region of deposits such as Chrzanów, Nowa Góra, Siewierz, Chęciny and Kielce. Although they are not mining towns properly speaking, yet the impact of mining in the various aspects of their life was quite evident.

The part played by mining in urbanisation processes and the specific, different character of mining towns did not escape the attention of historians and were taken account of, first and foremost, in studies on the history of settlement and German colonisation (e.g. H. Planitz, W. Kuhn, G. Schwarz). But the main interest was focused on the emergence of towns, less so on their development. Recently, the importance of mining in Central and Eastern Europe in the 13th–16th centuries has been presented in a broad spectrum of comparative material by M. Małowist who shows the strong influence exercised by the exploitation of mineral resources on the development of towns in the regions of the Sudetes and the Carpathians, and in the Balkans.¹ There is a great deal of literature on the history of particular mining towns. There are hundreds of articles, monographs, source publications and even, in the case of the biggest towns such as Goslar or Kutná Hora, whole series of publications and journals of a regional character. They were mostly written on the periphery of works on the history of mining and metallurgy of a given region but sometimes the town became the main object of study.

However, it is only recently that studies have appeared dealing

¹ M. Małowist, *Wschód a Zachód Europy w XII–XIV wieku [Eastern and Western Europe in the 12th–14th Cent.]*, Warszawa 1973, pp. 17–18, 24, 153–154, 232 and other; *idem*, *Górnictwo w średniowiecznej Europie środkowej i wschodniej jako element struktur społeczno-gospodarczych w XII–XV w. [Mining in Medieval Central and Eastern Europe as an Element of the Socio-Economic Structures in the 12th–15th Cent.]*, "Przełąd Historyczny", vol. LXIII, 1972, No. 4, pp. 569–604.

with whole groups of mining towns. Here we may mention the publications of the German historians A. Laube and K. Kratzsch, Czech J. Jancarek, Slovak P. Ratkoš and J. Vozar, Hungarian O. Paulinyi, Austrian G. Probszt.² Although they analyse only some aspects of the history of mining towns, yet they realise the different type of those towns which have many features in common due to their links with mining; this in itself is evidence of the fact that the type is worth investigating more fully both as regards its specific character and the role it played in the history of Central and Eastern Europe.

Works by Polish researchers, fairly modest if we leave aside popular publications, deal only with particular mining towns. It would seem useful and justified to undertake a broader and more universal study, to examine them comprehensively on a national scale and to compare them with mining towns in neighbouring countries.

The specific features of mining towns had their source in the economic foundations of their development. But these features were reflected also in other fields of urban life: in social relations, the administrative and legal system, the spatial layout and even culture (both material and spiritual) of their residents.

Here we must of necessity limit ourselves to pointing out only a few most characteristic features of mining towns.

2. The emergence of a mining town was always bound up with the exploitation of mineral deposits. The role of this factor depend-

² A. Laube, *Bergbau, Bergstädte und Landesherrschaft in Sachsen im 15. Jh.*, "Zeitschrift für Geschichtswissenschaft," vol. XVI, 1968, No. 12, pp. 1577-1591; idem, *Studien über den Erzgebirgischen Silberbergbau von 1470 bis 1546*, Berlin 1974; K. Kratzsch, *Bergstädte des Erzgebirges. Städtebau und Kunst zur Zeit der Reformation*, Munich 1974; J. Jancarek, *Města českého Krušnohoří. Příspěvek ke studiu jejich sociální struktury*, Ústí nad Labem 1971; P. Ratkoš, *Povstanie baníkov na Slovensku 1525-1526*, Bratislava 1963; idem, *Vznik a zdiatky banských miest na Slovensku*, "Historické štúdie," vol. XIX, under press; J. Vozar, *Banské mestá ako osobitý typ miest na Slovensku*, "Historický časopis," vol. XXI, 1973, No. 3, pp. 387-396; idem, *Die sozialen Folgen des Bergbaus für die Bevölkerung des mittel-slowakische Bergreviers im XVI. Jh. Der Aussenhandel Ostmitteleuropas 1450-1650*, ed. by I. Bog, Cologne, Vienna 1971, pp. 569-583; O. Paulinyi, *Eigentum und Gesellschaft in den niederungarischen Bergstädten*, *ibid.*, pp. 526-568; G. Probszt, *Die niederungarische Bergstädte. Ihre Entwicklung und wirtschaftliche Bedeutung bis zum Übergang am das Haus Habsburg (1546)*, Munich 1966.

ed on, among other things, the kind of mineral, an aspect which has been taken up in the literature on the subject.³ The processes of urbanisation were most often and in the largest measure launched or accelerated by the mining of ores of noble metals which were greatly appreciated at the time ; to a lesser degree, by the ores of copper, lead and tin. The impact of iron mining was the weakest and the emergence of a town was then connected more with the processing of the ore than its exploitation. Of importance to the emergence of towns was the exploitation of salt deposits and of brine. Apart from the kind of mineral, the richness and scope of its deposits also had their part to play. These two factors determined the worth of the mineral for the economy and decided about the rate and size of exploitation, and in this connection had a vital influence on the formation of the character of the mining settlement. Of some significance were also the methods of mining. Strip mining or mining by means of many, small and shallow holes which served as short-lived pits (this *dukla* method was mostly used in the first stage of mining ores of non-ferrous metals and very often in iron-ore mining) or by panning (in the case of gold or tin), which usually lasted throughout a season and stopped for winter, did not much favour the emergence of towns. But underground work was often conducted with an intricate technique and required long-term activity and considerable investment ; work went on irrespective of the season of the year, and even on holidays in the case of drainage. Surface and extensive working resulted in dispersed settlement, seasonal and comparatively weak. More intensive mining brought more numerous and more permanent settlement. The exploitation of minerals could be the main and even the only reason for a mining town to be born. Then it usually sprang up in a region of the country either not yet settled or with a few inhabitants only (Jihlava, Kutná Hora, Freiberg, Olkusz, Tarnowskie Góry), often away from transport routes, and sometimes even in an area difficult of access, mountainous and wooded (many mining towns in central Slovakia, Bohemian and Saxon Erzgebirge, in Bosnia and Serbia, Złoty Stok, Cukmantel

³ G. S c h w a r z, *Allgemeine Siedlungsgeographie*, vol. VI, Berlin 1961, pp. 218-220.

in Lower Silesia). These untypical circumstances accompanying the emergence of mining towns had their repercussions in their development. But often although mining had played a decisive role in the settlement of the area, later other factors contributed their part like the passage of trade routes through mining regions, the emergence there of exchange and trading centres for the mining products (particularly in the case of brine), strategic and defence aspects, the existence of political or administrative centres, etc. The joint action of these factors on town formation may be found in respect of Ślaskowice in Little Poland, Bytom in Upper Silesia,⁴ Złotoryja and Lwówek in Lower Silesia⁵, Bochnia and Wieliczka in Little Poland.⁶

The emergence of a town proceeded along two ways. Most often, like in the case of other towns, there was a long drawn-out transformation into a town of settlements inhabited by miners and, gradually, by traders, craftsmen and administrative officials of the ruler. Such a period, which may have lasted anything from a few score to several hundred years, separating the first mining settlement founded when the exploitation of the ore began from the mining town can be observed on the example of Goslar, Kutná Hora or Bytom. This was the way in which most of the mining

⁴ Ślasków—przeprawa przez Przemszę na drodze z Krakowa do Wrocławia, gród książęcy potem biskupi [Ślasków—Crossing of the Przemsza on the Road from Cracow to Wrocław, First Ducal, Later Bishop's Castle-Town]; Bytom—walory fizjologiczne terenu, powiązanie z siecią szlaków handlowych, gród i kasztelania [Bytom—The Territory's Physiological Assets, Connection with the Network of Trade Routes, Castle-Town and Castellan's Seat]; J. Szydłowski, *Bytom. Pradzieje i początki miasta* [Bytom—Pre-History and Beginnings of the Town], Bytom 1966, p. 122 ff.

⁵ Szlak handlowy Wrocław-Zgorzelec zwany Wysoka Droga i jego odgałęzienia [Wrocław-Zgorzelec Trade Route Called Wysoka Droga and Its Branchings-Off]; M. Zlat, *Lwówek*, Wrocław 1961, pp. 7–8; B. Steinborn, *Złotoryja, Chojnów, Świerzawa*, Wrocław 1959, p. 17 ff. Recently on settlement connected with gold mining: B. Zientara, *Bolesław Wysoki* [Boleslas the Tall], "Przegląd Historyczny," vol. LXII, 1971, No. 3, p. 391; idem, *Z dziejów organizacji rynku w średniowieczu* [History of the Organisation of Medieval Markets], *ibidem*, vol. LXIV, 1973, No. 4, pp. 685, 687 ff.

⁶ *Trakty handlowe na Ruś i Węgry, składy soli* [Trade Routes to Ruthenia and Hungary, Salt Depots]; M. Książek, *Charakterystyka układu urbanistycznego Wieliczki i Bochni oraz wpływ górnictwa solnego na ich rozwój przestrzenny w wiekach średnich* [Characteristic of the Layout of Wieliczka and Bochnia and the Influence of Salt Mining on Their Spatial Development in the Middle Ages], in: *Studia i materiały z dziejów nauki polskiej*, D 1, Warszawa 1958, p. 165 ff.

towns in our part of Europe were created, especially in the 13th and 14th centuries. Sometimes, although it mostly happened in towns in whose birth other factors apart from mining had their say, the incentive for the final transformations may have been supplied by changes in mining, e.g. in Olkusz where exploitation was moved to deeper, richer deposits, or in Wieliczka and Bochnia where there occurred a shift from salt-panning to mining the newly discovered deposits of rock salt. In both cases it brought an increase in production which in turn contributed to elevating the place to a higher economic rank.

In the case of mining towns there was also another way in which they emerged, more frequent in the 15th–16th centuries and in those places where mining was the only urbanising factor. A town would spring up in a short time, a few years at most after the discovery of the deposits and the arrival of the first settlers. This was the case of the towns of Marienberg and Annaberg in the Saxon Erzgebirge, of Jachymov in the Czech Erzgebirge (or Krušné Hory) and Tarnowskie Góry in Upper Silesia.

The way in which a town was born affected not only its layout but later also other domains.

3. The sources of income of the residents of mining towns were directly or indirectly connected with mining. Here, the main economic factor was the mines and the allied auxiliary installations (e.g. water supply or drainage systems) and processing works such as washers, calcining plants and foundries at metal ore mines, salt-works at salt mines, coal plants etc. Sometimes there were also other plants for the further processing of the product (mostly mints in places where noble metals were mined). Transport was a very important branch of economy. For instance, ore was carried from the mine to the washers, from the washers to the calcining plants, from there to foundries and from foundries to the depots of the finished product. Big quantities were often carried over large distances between all those various establishments. Some mines were several kilometres distant from the town while the siting of washers and foundries was determined by the availability of water (natural or man-made network). Often it was recommended to build them far from the mines in order to protect the

latter from the danger of flooding. Calcining plants required high grounds, open to the wind. Tools, fuel, wood, etc., necessary for the functioning of all those establishments were mostly brought from the town where, for control purposes, the centre of supply was located, as well as depots of the finished products. In those conditions transport in the region of a mining town was a source of income for many of its residents.

Another source of income was connected with the sale of mining products : packing into barrels, weighing, carting away. Trade in mining products was usually only partly in the hands of the town dwellers ; generally, outside merchants engaged in it and sometimes dominated it entirely.

A vital factor caused by the mining character of the town was supplied by the administrative and control machinery, especially developed where noble metals were produced, and organised both by the mining authority and the producers. This machinery was much more developed in mining than in any other type of production. Mining offices with their agencies, mining courts, an intricate system of book-keeping and documentation of mining and metallurgical works, control of quantity and quality of the ore, of the metal smelted from it, sometimes also of the materials supplied to mines and foundries, and in the case of gold and silver, a strict regulation of their sales, all this required the employment of scores of people and provided their living to a considerable group of residents of mining towns.

Another important branch of their economy was that of supply and services indispensable for the operation of mining and metallurgical establishments. They needed constant supplies of wood, brown coal, tallow, tools, pipes, chains, ropes, hides, horses (as draught power in transport and driving power in lifts, draining installations, bellows, etc.) ; in foundries of noble metals also lead was needed. A break in deliveries might have meant work stoppage. Another problem was that of catering for the daily needs of the population (food, clothes, houses), often increasing very rapidly (see below), and the numerous groups of travelling merchants, drivers, seasonal labourers, etc. Local production could meet only part of that demand. Considerable quantities because of the amount of products needed and the high quality requirements in

respect of e.g. tools, had to be brought from distant parts. Particularly difficult and complicated was the provisioning of mining towns in hitherto deserted, often difficult of access mountainous regions. All this caused that this branch of economy had to resolve important questions of finance and organisation, on a scale unknown in other towns.

Crafts and trade, which in other towns formed the main branches of economy, here primarily served mining. That is why, apart from the crafts connected with food and clothes, those serving the mines and foundries such as smithery (tools, chains), carpentry (wooden lifts, sheds and wooden structures over the pits), wheelwright work and cooperage (containers, transport), shoemaking (leather bags), ropemaking, developed apace. As usual in towns with a large floating population, innkeeping and renting lodgings were profitable occupations.

The towns, which owed their existence mainly to mining, shared their destinies with it. Depending on the length and development of exploitation of mineral deposits they existed several hundred or a dozen years, degenerating into small villages. A decline in mining, its stagnation or complete disappearance exercised a decisive influence on the fate of those towns whose economy rested exclusively on mining. One such town was Olkusz. In the 16th century its residents were wont to say that "this town hath no food but that provided by mines." The town flourished together with the mining of the local lead ores with an admixture of silver in the 13th and 14th centuries and in the second half of the 16th and beginning of the 17th century, and went through periods of stagnation when the mines experienced difficulties at the turn of the 15th and in mid-16th centuries. With the decline of mining dating from the beginning of the 17th century, throughout the 18th, 19th and the first decade of the 20th centuries, Olkusz languished as a small depressed town until the exploitation of the local deposits was resumed after the war.⁷ Another example is that of Bytom in Upper Silesia where stagnation of the local mining at

⁷ D. Molenda, *Górnictwo kruszcowe na terenie złóż śląsko-kra-kowskich do połowy XVI w.* [*Ore Mining in the Region of Silesian and Cracow Deposits up to the Mid-16th Cent.*], Wrocław 1972; *Zarys historii górnictwa powiatu olkuskiego* [*Outline History of Mining in Olkusz District*], in: *Katalog zabytków budownictwa przemysłowego w Polsce*, vol. III, fasc.

the turn of the 14th century visibly affected the development of the town.⁸ Kutná Hora, which at the peak of development of its silver mines was one of the largest towns in Bohemia, when mining declined from mid-17th century, was reduced in the 19th century to the rank of a small provincial township.⁹ A similar fate befell Jachymov in the 17th century.

But there were also towns which after the decline of mines maintained their status. They lost their character of mining towns but found other economic foundations. The origin of this phenomenon lay in an earlier period, in a more all-round development of a mining town, in links forged with the economy of the neighbourhood, the livening up of the region through them. For instance Złotoryja and Lwówek in Lower Silesia from their very beginnings fulfilled the function of trading centres for the neighbouring mining villages, becoming the centre of the local market.¹⁰ After the fall of gold mining, from the end of the 14th century, commerce and textile trade became the basis of their existence and Lwówek developed into one of the biggest Silesian towns. Tarnowskie Góry in Upper Silesia, during the stagnation of the local mines from the end of the 16th and in the 17th century, turned into a small but important economic regional centre which made good use of its location on the border of Silesia and Little Poland.¹¹ Jihlava in Bohemia, after its gold deposits became exhausted, developed its earlier contacts with the neighbourhood and textile crafts and trade,¹² as did some small mining towns in the Bohemian Erzgebirge.¹³ The character of the links between the mining towns and the surrounding region and their influence on the country's economic development are truly among the most interesting and important research subjects.

4, part 1: *pow. Olkusz, zabytki górnicze [Olkusz District, Mining Monuments]*, Wrocław 1971, pp. 13-30.

⁸ J. Szydłowski, *op. cit.*, p. 52.

⁹ J. Kořan, *Dějiny dolování v rudním okrsku kutnohorském*, Praha 1950; E. Matějková, *Kutná Hora*, Praha 1962.

¹⁰ B. Zientara, *Z dziejów organizacji rynku...*, p. 687 ff.

¹¹ *Tarnowskie Góry. Zarys rozwoju powiatu [Tarnowskie Mountains. Outline History of the District]*, Katowice 1969, pp. 93-117.

¹² J. Mezník, *Jihlavské privilegium a počátky města Jihlavy*, "Sborník Archivních Prací," vol. IV, 1954, No. 2, pp. 27-28.

¹³ P. Jančárek, *op. cit.*, pp. 41-42.

4. The specific features of mining towns were reflected also in their population development and social structure.

The rapid pace of population increase in the initial stage, not experienced on such a scale in other towns, was a characteristic feature of mining towns. Remarkable in this respect was in the Middle Ages Kutná Hora which had no counterpart elsewhere as concerns its rate of development. In the nineties of the 13th century the famous "sbeh ke Kutne" (rush to Kutná) occurred, and in mid-14th century the town numbered 18,000 inhabitants. Freiberg, founded at the close of the 12th century was in the early 13th century one of the bigger towns of Meissen. Among the mining towns of Little Poland founded in the later half of the 13th century, Bochnia ranked third after Cracow and Sandomierz in the 14th century, and in 1386 three of those towns, Bochnia, Wieliczka and Olkusz, were classed among the six major towns of Little Poland. Only 15 per cent of towns in the kingdom of Casimir the Great had defence walls, among them were all the four mining towns in Little Poland (the fourth was Sławków).¹⁴ Particularly rapid was the demographic development of mining towns founded at the end of the 15th and beginning of the 16th century. Eight years after its foundation at the close of the 15th century (and 16 years after the beginning of the exploitation of the local silver ore deposits) Annaberg had 8,000 inhabitants, and in 1540 the figure rose to 12,000, making it the largest, after Leipzig, Dresden and Freiberg, town in Upper Saxony. In 1516, Jachymov in the Czech Erzgebirge numbered 1,000 residents, 5,000 in 1520, 13,500 in 1525, and some 20,000 in the 1530s.¹⁵ In Upper Silesia, Tarnowskie Góry, founded in the twenties of the 16th century had 2,000 inhabitants a few years later and preceded, as concerns the number of population, such older Upper Silesian towns as Bytom, Gliwice, Koźle and Toszek, becoming one of the biggest towns in Upper Silesia, second only to Opole and Racibórz.

The size of the population of mining towns, especially those

¹⁴ J. Widawski, *Miejskie mury obronne w Polsce do początku XV w.* [Town Defence Walls in Poland up to the Beginning of the 15th Cent.], Warszawa 1973, p. 526.

¹⁵ J. Majer, *Těžba stříbrných rud w Jáchymově w 16. století*, "Sborník Národního Technického Muzea," vol. V, 1968, p. 136 ff.

which based their economy exclusively on mining, was subject to considerable fluctuations. This was partly due to the seasonal character of some jobs in the mines and ironworks, and sudden increases in demand for labour for a few weeks or months only when launching new big projects.

A typical feature of those towns was the migration of their inhabitants during periods of stagnation in mining. In 1497, according to old chronicles, only one-fourth of the Olkusz population remained in the town, the rest went looking for jobs in villages and other towns. From the 1530s to 1600, the number of the inhabitants of Jachymov dwindled ninefold (from 18,000 to 2,000).

The social position of the particular groups of the population in the mining towns was conditioned mainly by their jobs in mining and metallurgy. The ownership of building lots and houses in the town was of secondary importance.

The two main groups of the residents consisted of contractors and workers.

The contractors in mining and metallurgy differed much from one another and the wealthiest were separated from the poorest by a deep social gap. A majority of that group was formed by medium and small businessmen who had shares in single mines and metal works (usually the property of a company). A small group of the richest formed the patriciate who held the municipal offices and often the mining ones as well. They were the owners of shares in the richest mines, metal works and auxiliary establishments, sometimes of the local forests which provided fuel for the mining regions. Often they controlled the trade in mining products, organised supplies for the town, owned the slaughter houses, licensed taverns, etc. The composition of those groups varied somewhat in different towns, for instance in Kutná Hora it was made up of the wealthiest merchants who bought the ore from mine owners (middle-class), smelted it in their own foundries and had a monopoly for the sale of the silver obtained from it to the mint. The group included also royal officials who managed the mines, foundries and mints, and resided in the town. In the towns of central Slovakia the group also comprised the Ringbürgerers who came from companies of mining contractors operating at the time of the emergence of those towns. They owned the best land in the

centre of the town and monopolised the ownership of the local forests. In the mid-16th century they accounted for from one to three per cent of the residents of those towns. There were differences between them, too, as, for instance, in Banská Štiavnica, where eight of them produced over 90 per cent of silver obtained in that area.¹⁶ In Kremnica the patricians concentrated in their hands the foundries and mills milling the gold ore.

Along with the development of mining towns changes occurred in the ownership of mines and foundries, the effect of which was visible and important. In the first stage, in the 13th and 14th centuries, the owners were, as a rule, town dwellers. This was even reflected in some mining rules and regulations which granted the right to exploit deposits and work the ore to citizens of a mining town only. This caused that persons from outside the town, or aliens as they were called in the documents of the time, who wanted to undertake mining, even if they did not settle in town, would buy property in it and become its citizens. In some areas there were also mines which belonged to the mining authority. As the work became more intricate and required increasing financial outlays, often exceeding the possibilities of the local population (even its wealthiest group), the financing of mining and metallurgy was in the 15th and 16th centuries taken over, to a large extent, by people from outside the town, by big merchants and financiers. Their investments became the precondition of the continued operation of mines and foundries and this in turn made them obtain appropriate privileges from the mining authority, which freed them from the obligation of taking the town's citizenship. Moreover, by lending money they made small and medium, and even many big local contractors dependent on them. This led to a further differentiation within that group and to a weakening of its economic and social position in the town. Thus, the mining town would gradually lose its importance and in the extreme cases became simply a purveyor of labour, supervision and lower echelons personnel in the administration of mining and metallurgy controlled by outside capital. The profits from the exploitation of the local mineral resources were siphoned out to other centres,

¹⁶ O. Paulinyi, *op. cit.*, p. 528 ff.

often abroad. This process was not uniformly strong in all the mining towns for it depended on the scale of financial requirements, the economic strength of the patriciate in mining towns and also, in a large measure, on the policy of the mining authority. But it was an important factor in the development of certain mining towns like Olkusz, controlled first by Cracow merchants, and later by businessmen from the gentry and the aristocracy, or Banská Bystrica which became entirely dependent on the companies of the Fuggers, Turzons and many other.

The most numerous population group in mining towns was formed by the workers employed in mines, foundries, washers, coal depots and transport. Part of the petty contractors should be classed with them, the poorest among them working personally or having only a few assistants. For instance in 1524, in Jachymov 9 per cent of mining companies was in the hands of such petty contractors who worked alone while 45 per cent employed 1-3 assistants. In Banská Štiavnica, in the mid-16th century, two-thirds of such contractors belonged to the worker population group. The majority of workers lived on their pay (cash and partly in nature, e.g. in food), only a few owned small modest houses with, sometimes, gardens, lying as a rule on the town outskirts. Studies in this matter conducted with regard to central-Slovak towns have established that in the mid-16th century in Banská Bystrica as many as 82 per cent of its citizens were lodgers, and in Banská Štiavnica 57 per cent. In Kremnica the situation was different, there only 27 per cent of the population rented their lodgings which means that the majority of the workers had managed to have their own roof over their heads. Perhaps this was due to exceptionally well developed suburbs. There were many young single skilled miners in that population group, who had come from distant places hoping to make quick money. They were usually content with hiring their lodgings. The most numerous were unskilled workers who were employed mostly in underground and surface transport. A characteristic feature of ore mining was the considerable percentage of women workers employed at windlasses, washing and sorting of ore. Whole families used to work in mines and washers : husbands, wives, adolescent daughters and sons.

There were no formal barriers between those two groups of

mining town dwellers. In the Middle Ages the miner's work was held in high esteem; a feeling of separateness from other trades in a feudal society has formed here quite early on. Every miner who worked personally could try his luck by founding his own small mine and if he chanced on a rich vein he could even become a medium contractor. On the other hand, there are known examples of a once wealthy mining contractor going bankrupt (because of flooding, fall of roof, etc.), of loss of invested funds, indebtedness and gradual moving to the group of workers. In view of the nature of mining work, such phenomena were much more frequent and on a bigger scale than in other branches of production.

In comparison with other towns, in the mining ones the role of the artisans and merchants apart from the traders in mining products, was (numerically and socially) smaller because of the subordination of their area of activity to mining. The mining and metallurgical contractors in many towns functioned also as merchants while the craftsmen were to a large extent employed by the mines where they had commissioned jobs.

There was always a large number of non-residents in the mining towns who did not have citizens' rights. They were casually employed in seasonal jobs, rather typical of mining. Among them were also beggars, tramps, and various unattached people. They formed a restless, mobile and turbulent group, susceptible to radical slogans. This was very much in evidence during the social movements in the first part of the 16th century in which mining towns played a very significant part. It was those people who, next to hosts of workers having no homes of their own, were the most unstable and susceptible to fluctuations part of the population of a mining town, and would leave it even during some temporary stoppage in mining.

In the 17th century, in Wieliczka and Bochnia the municipal authorities forbade the employment in mines of nonresidents because "when the town has any burden to bear, these people take their bundles and get out."

Especially in the initial stage of their existence the population of mining towns was extremely varied from the nationality point of view. Here, this phenomenon was much stronger than elsewhere and was the effect of the international, as it were, nature of

mining, the mobility of mining experts who sometimes travelled in groups from centres steeped in mining tradition to new localities founded near the recently discovered deposits. This movement was either spontaneous or organised and launched by the rulers who exercised authority over the newly found deposits. Miners from German lands with developed mining flocked to newly discovered mines in Bohemia, Slovakia and Transylvania. In Bosnia and Serbia the word Saxon (Sas) became the synonym of a miner. Apart from specialists the population from far and near would flock to the developing centres as well as merchants and burgesses from other home and foreign towns. Many of them would settle down for good. In result of all these migrations the mining towns presented a very varied mixture of nationalities. In the 14th century, the population of Kutná Hora was made up of Czechs, Hungarians, Poles, people from Pomerania, Meissen, Banská Štiavnica. In Jachymov, in the 16th century, apart from Czechs there were settlers from Saxony, Harz, Tyrol, Rhineland and Sweden. The earliest arrivals in Slovak mining towns came from Bavaria and Alpine countries, the later from Saxony, Poland, Moravia, Frankonia and the Rhineland. In Little Poland and Silesia, next to the local population, Italians, Germans, Czechs, Hungarians and even Dalmatians took up residence. Tarnowskie Góry had three main groups of population: Polish from Silesia and Little Poland, Czech and German from Frankonia. This national mixture, often connected with differences in the social and financial positions, later played an important role in social struggles in mining towns.

5. The different character of mining towns was also reflected in their legal pattern. Two matters seem the most characteristic here: the privileges of mining towns and the scope of their rights and authority over mining.

The mining towns usually possessed special privileges exceeding the ordinary municipal rights and defined as the rights of mining towns. *Ius municipale et montanum* of Jihlava and Freiberg from the mid-13th century became a model for many mining towns in the neighbouring countries. But often mining settlements would be granted town charters and only later were their rights,

connected with their mining character, defined more precisely. In Bohemia, the Jihlava charter was granted mainly to centres of exploitation of noble metals. In Poland, mining towns were usually granted the Magdeburg (Złotoryja, Lwówek, Olkusz, Sławków, Bochnia) or the Frankonian (Wieliczka) charter, and after special rights had been added the whole was called *ius theutonicum magdeburgense et montanum*. But the mining towns founded at the end of the 15th and beginning of the 16th centuries were usually granted the mining town charter at the very beginning.

The granting of broad privileges to mining towns was a symptom of the will of the rulers exercising authority over mining to intensify the economy of their lands. The resignation from part of the profits may be considered a form of long-range investment. The economic and legal incentives created conditions which increased the profitability of production. This encouraged the residents to undertake exploitation even when the conditions were not very favourable and the costs high. Thus, the economic policy of the ruler was of vital importance to the development of mining and mining towns. Here it is worth recalling that the centres of exploitation of noble metals: Złotoryja, Lwówek, Bruntal and Opawa were the earliest towns in Silesia (first half of the 13th century) while all the mining towns in Little Poland (Bochnia, Wieliczka, Olkusz, Sławków) and the Upper Silesian Bytom received their charters in the second half of the 13th century and were the earliest towns in that region. Recently, historians have emphasized the important role of the Wettin dukes, particularly the Ernestine and Albertine lines, in the development of mining in the Saxon Erzgebirge at the end of the 15th and beginning of the 16th century, especially by their decisions in the matter of new towns to be founded immediately upon the discovery of rich silver deposits. The decision would be followed by the setting up of commissions for selecting a suitable place, demarcation of the future town and the granting of privileges for its future residents.¹⁷

Among the privileges of mining towns the main one was the right to exploit the local deposits. They were also exempt from

¹⁷ A. Laube, *op. cit.*, p. 1581 ff.

the majority of national taxes, which the other towns had to pay, and from the ordinary military service. Instead, they had special less troublesome obligations as regards the defence of the country. Sometimes there were other privileges such as a moratorium or complete cancellation of debts for those settling in a mining town. Among the most important were facilities in supplying the towns with foodstuffs and other products for mines and foundries thanks to customs exemptions for the town's citizens or for the goods brought there and the mining products taken out. More favourable conditions for plying various crafts, trading in meat, beer, organising fairs were also created. The town's citizens were granted the right to exploit the local woods, waters, roads for the needs of mines and foundries, sometimes even at the expense of the landowners. All these privileges, strictly related to and conditioned by the running of mines by the burgesses, were so profitable that the town, fearing their loss, would oblige their citizens to pay for the maintenance of sometimes insignificant mining works when exploitation was proving unprofitable because of, for instance, the richest veins becoming exhausted. It was worth doing because it helped keep the rights facilitating economic undertakings in other fields which, in the new situation, were becoming the real foundation of the town's existence.

The scope of the rights and authority of a town over mining depended on the form in which the owner of the mining regality who benefited by right from the income provided by mining assured himself of that income, how he organised the work and how he controlled that income.

When exploitation was conducted directly by him, as in the case of salt mines in Wieliczka and Bochnia which were a royal enterprise, the mining authorities operated independently of the municipality ; what is more, in many domains the town was subordinated to the mining administration which came directly under the king.

The situation was different in ore mining regions. There the right to exploitation was often ceded to the mining town (e.g. Lwówek, where the duke "gave the town all the mines") which thus enjoyed monopoly rights in the use of the deposits. Some mines were run collectively by the municipality, but mostly they were

distributed among individual town residents and a miner was equated with a citizen (*cives et montani*). In such a case the town exercised authority over mining or at least had a considerable share of it. The fact that ore mining in the feudal times had a specific and intricate administrative and legal organisation had a strong bearing on the social structure of towns. The relationship between the mining and municipal authorities developed in various ways. It has for a long time been the subject of interest of the historians of the mining system and law, particularly in the case of Goslar, Freiberg, Jihlava, and Kutná Hora.¹⁸ Among the most important questions are: the emergence of municipal communities and mining communities, the territorial and legal scope of their authority, the forms and degree of authority of the municipal over the mining administration (e.g. in Olkusz the town council acted as the court of appeal from sentences passed by the mining courts). In many regions there were no clear regulations concerning the mutual competences and the division between the mining and the municipal administration; despite the frequent issues of increasingly precise regulations, this was the cause of many conflicts.

At the end of the 15th century, and even more in the 16th century, essential changes occurred tending to restrict the municipal authority over mining. New trends emerged in the policy of rulers towards developing a strong, centralised administration, subordinated directly to them, and running the whole process of production in detail. These trends coincided with the processes in which capital from outside towns tended to take over the financing of mining. The big merchants and financiers dealt directly with the mining authority establishing the conditions of their share of mining which would assure them a profitable investment. Now it was they, not the mining towns as hitherto, who became the ruler's partners in his undertakings designed to intensify mining. They subordinated themselves to his mining authorities but not to the municipal ones. The town council in Olkusz lost in practice its significance as the court of appeal, and the sentences

¹⁸ Out of a large body of literature on this subject mention is due to the study by M. Unger, *Stadtgemeinde und Bergwesen Freibergs im Mittelalter*, Weimar 1963.

passed by mining courts began to be appealed from directly to the king. The efforts of the mining towns to maintain the principle that only a town's citizen may own mines in its vicinity proved in vain. The residents of mining towns who owned mines or worked in them came exclusively under the mining authorities in all matters connected with mining. Thus the municipal authorities were not only eliminated from the co-administration of mines but also had their rights curtailed in respect of the population. This process differed in intensity in various centres but was particularly acute in the towns of central Slovakia and the Saxon Erzgebirge.

6. The mining towns differed from others also in their spatial layout which was imposed on them by their function. Some people consider even the difference in their urban development, conditioned by mining, as a criterion of their belonging to that type of town. Among the many problems connected with this question we shall mention two: the shape of the town at the moment of its foundation, and the changes during its development.

Generally speaking, a regular layout was sought when a mining town was being founded just as was the case with other towns. But numerous factors played their part in the carrying out of such a concept. The site of the mining towns being decided primarily by the distribution of the deposits, it was often unsuitable, contrary to the principles governing the choice of a territory. The most glaring examples are those of Jachymov and Banská Štiavnica, lying in narrow valleys of mountain streams, spread along the sloping main street, with houses climbing up the steep hillsides. Another example is provided by Bochnia near Cracow, built in less unfavourable conditions but also on uneven ground, hemmed in by hills, with sloping streets. If there were also other factors operating in the foundation of a mining town, they could influence the choice of a site and specific shape of the new settlement. For instance, the already existing trade route would become the town's main axis or the market would lengthen towards the main through road (Złotoryja, Lwówek).

The opportunities for town planning were better where the town was being founded on a territory not directly included in mining work. This was the case of e.g. Banská Bystrica and Lubie-

tova which were founded as the centres of two mining regions in central Slovakia, of Sławków, Olkusz (which the mining work did not reach until some time later), Lwówek, Złotoryja founded on a highland plateau. Convenient sites were also chosen for Annaberg and Marienberg, two big mining towns in the Saxon Erzgebirge, which lay outside the mining area and were assured a proper supply of drinking water.

The town builders found the situation much more difficult where the town was being founded at the site of mining work. For instance, in Kutná Hora and Tarnowskie Góry pits and foundries lay in the centre of the town, in Lüneburg salt springs and salt-works, in Bochnia and Wieliczka pits and salt stores. These elements had to be merged into the layout and this disturbed its regularity.

The possibilities of planning the future town depended on siting it not only in respect of the mining work but also of the existing settlement. The most favourable conditions were created where it was founded "on raw roots" or in an area as yet unsettled (which was quite frequently the case), or near existing old mining settlements traces of which are provided by, e.g. Old Olkusz near Olkusz, Kopacz near Złotoryja, Staré Město near Banská Štiavnica or Stara Kremnička near Kremnica. Such a location would make possible the most regular layout of the new mining towns. Recently, attention has been drawn by the uniqueness and modernity of Olkusz's town plan.¹⁹ Annaberg at the end of the 15th century and Marienberg in 1521 were planned by a special ducal commission which also measured out the terrain and demarcated the plots. Marienberg has the most regular layout of all the towns in the Erzgebirge (square and symmetrical, a visible sign of Italian influence).

But many mining towns emerged as a result of the urban development of the existing villages, mostly mining or inhabited by craftsmen and traders, or sometimes of a fortified settlement: Goslar, Freiberg, Novo Brdo and other mining towns in Serbia and Bosnia, as well as Bytom and Wieliczka, where there were pits in the pre-town village. The most difficult thing was to plan a

¹⁹ J. Widawski, *op. cit.*, p. 325.

town which had sprang up on the site of a spontaneous and chaotic settlement in the vicinity of mines. Altenberg in the region of tin ore mining was a chaotic medley of residential houses, pits, washers and foundries. Schneeberg in the Saxon Erzgebirge is an interesting case for there, after 23 years of uncontrolled settlement, an effort was made to introduce some system into it. In Poland Tarnowskie Góry is a case in point with its irregular layout, intricate network of streets, meandering, with sharp bends and changing width, with haphazard junctions.

Thus many mining towns had, from their very inception, a specific layout adapted to their specific functions. In the process of the development of mining the town usually underwent further alterations. Particularly where exploitation expanded rapidly, the original layout would conflict with the new production, technical, social and economic needs.

Often mining and metallurgical work encroached upon the town, and this resulted in new pits, foundries and buildings as well as lifting and draining installations. This caused disturbances in the layout of streets which, e.g. left the market place in a chequerboard pattern and further on had to be deflected. Even today it is possible to read the siting of old works in Kutná Hora from the pattern of its streets. The metal and salt depots, timber and coal yards, stores of lead for foundries, the municipal weigh-house, which were typical of the mining towns, became important centres of the town's economy. For instance, in Bochnia and Wieliczka the salt markets formed alternate town centres. The rapid enrichment of the residents of Jachymov was instrumental in the emergence of a new centre up the valley with wealthier, more imposing residences. The transfer of the municipal authorities, change in the localisation of the town hall were frequent occurrences.

Of importance to the spatial changes in mining towns was a sudden large inflow of people, sometimes in the nature of a population explosion. It happened sometimes, as e.g. in the Erzgebirge, that soon after the demarcation of the city area there was not enough plots for all who wanted to settle down there. The solutions to this problem would vary. The plots were built up more densely, various annexes, attics and superstructures being added

which narrowed the streets and increased the chaotic built-up. In the 16th century, in Jachymov, Banská Bystrica and Banská Štiavnica 15–17 persons lived in one house, the majority of them lodgers.

Sometimes the town area would be increased. For instance a few suburbs were incorporated in 1529 into Jachymov founded only in 1520. Krasno and Horní Slavkov, centres of tin mining, absorbed the neighbouring villages of tin washers, and later other areas along the stream. Even separate market places were laid out. Recently, a hypothesis about the extension of the town was made in respect of Bochnia.²⁰ Also the suburbs were being developed. The record was broken by Kremnica which had as many as nine, some of them with their own church and hospital. The same thing happened in Poland in Tarnowskie Góry and Olkusz where in the 17th century the population of the suburbs outnumbered the town residents.

The links between a town and the mining industry resulted in many consequences bearing on the appearance of the town and its buildings. Exploitation carried out under it caused the splitting and sometimes even the fall of walls and ceilings in houses, churches and city walls. Because of the pits located in the town, detailed regulations were necessary concerning their safety. The presence of foundries increased the threat of fire and polluted the air. This deterioration of the living conditions in mining towns was compensated by the early introduction of sewage and water mains facilitated by the presence of experts employed by the mines, washers and foundries. Hard surfaces made of slag were laid early on streets.

7. A different social and intellectual type of culture evolved in mining towns. Of significance here were the activities of the corporations of professional diggers, frame sawyers, winders and coalies, which were entrusted with the care of the old, the disabled and cripples, as well as the development of the health service and schools. The municipal hospitals and schools were subsidised by the contractors and the workers (obligatory contributions), and in

²⁰ M. Książek, *op. cit.*, pp. 170–172.

some centres, from the 16th century on, by the administration of the mining authority. The rhythm of work in the mines and foundries necessitated an accurate time measurement (clocks in mines, bells announcing the beginning and end of the working day). This exercised a strong influence on the rhythm of life in mining towns. The mentality of their residents was in a large measure shaped by mining legends, the cult of mining patron saints (SS Daniel, Anne, Nicholas, Barbara, Joachim, Catherine, and St Prokopius in Bohemia). Mining had a strong impact on church and secular art and on the architecture of mining towns, and this has attracted the attention of art historians for a long time and continues to be a subject of interest.

The culture of the mining towns contained many international features because of the international character of the trade. Yet the native traditions of the country and the local ones of the region where the town had been founded and where it developed played an important part in the process of its creation.

(Translated by Krystyna Kęplicz)