

The Shoe Factory Bata

A Forgotten Pioneer of Lean Production in Czechoslovakia



(Workers at Bata 1935. Source: Marovian Museum Zlín)

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1 Introduction

Following the mainstream, if the concept of lean production is traced back to the Toyota production system of the 1950s, the Bata production system in Czechoslovakia in the 1920s is left out. This is not justified, however, as the entrepreneur Tomas Bata was historically the first to link rationalised production on a large scale with the idea of loosely coupled small, semi-autonomous units. This happened in the shoe production sector, which Bata transformed from an artisanal state to a factory operation in Zlín.¹ With this approach he was able to make shoe production much cheaper and thus achieve great market success on the sales side.

Identifying the elements of lean production in Bata's historical material is difficult because the representations of the Bata production system are based on the affirmative autobiographies of Tomas Bata (Senior) and his son Tomas Bata (Junior), as well as on critical statements by the Berlin publicist Rudolph Philipp (1928, 1936) as trade union struggle pamphlets. A scholarly reappraisal of the Bata archive has been largely absent. Recently, Anne Sudrow (2010) analysed this archive, but with a view to Bata's foreign expansion, without exploring the aspect of lean production. The Bata University in Zlín continues to produce largely affirmative material to this day, without offering any progress in knowledge (Koncitikova and Ales 2012). The report written by Paul Devinat (1930) on behalf of the International Labour Office in Geneva seems reasonably useful. Devinat was able to spend three weeks at the Bata factory in Zlín for his research. Also standing out is the work of Hana Cygonkova (1998), who found access to Czech studies.

¹ The transition from artisanal to industrial production of shoes also took place in Germany in the 1920s with the formation of the large companies Salamander and Tack, see Bräutigam 1997 and Kallai 1936, p. 81.

2 Innovations in remote Zlín

Bata's success was also helped by the fact that Zlín was far from the Moravian capital Brno and that he could draw his labour force there from the reservoir of the Moravian rural proletariat, who until 1918 had to work for Austrian landowners, who were described as very frugal and willing to adapt and did not demand trade union representation (Bata 1990, Philipp 1928).² In Prague, on the other hand, Bata would have had to reckon with the unionised shoe workers, where the shoemakers' cooperative demonstrated against Bata (Philipp 1928, p. 378). In remote Zlín, Bata was able to act in an autocratic manner; he rejected collective wage negotiations with trade unions (Devinat 1930, p. 185). It can be argued here that Zlín's peripheral location enabled the great innovation of Bata's production system.

² Devinat (1930, p. 64) emphasises that the characteristic of the workforce in Zlín was their youthfulness and rural origin. For the Zlín site he gives the proportion of male workers under 21 as 13% of the total number of workers, and of female workers under 18 as 13%, i.e. a quarter of the workers were youthful and could thus be paid less.

3 Bata as an event in architectural history

The Bata factory plant in Zlín, Moravia, was built in the avant-garde style of modernism and grew rapidly in the 1920s. It included the preliminary stages of leather tanning and dyeing, cutting leather and rubber soles, and finally the finishing workshops. Comparable to Henry Ford, Tomas Bata pursued a concept of social engineering. He expanded the factory complex in Zlín to include housing for the workers, sports facilities, educational institutions and a department store.³ Tomas Bata thus made Zlín a model city of modernism and a pilgrimage site for the architectural avant-garde of the 1930s. The congress of CIAM, the International Congress of Modern Architecture, was held there in 1935. As an extremely successful entrepreneur, Tomas Bata advanced to become the model entrepreneur of the young Czechoslovakia and Zlín the pride of the country; President Beneš visited Zlín in 1936. To this day, there is fierce publicity in architectural history, urban studies and urban sociology about Zlín as a laboratory of modernism.⁴

³ Surprisingly, the workers were not allowed to grow vegetables in the gardens of their model houses, even though they came from the countryside and were not city people. Modernist purism tolerated only grass in the gardens (see also the photos of the Bata housing estates in other locations on Flickr). The workers were forced to get their vegetables from the supermarket (Vacková and Galčanová 2009, p. 319). In contrast to Bata, Ford obliged his workers to grow vegetables (Nevins and Hill 1954, p. 542ff).

⁴ Cohen 2009, Nerdinger 2009A, Moravcikova 2004, Pybersky 2011, Riha 2009, Sedlakova 2009, Steinführer 2002, Vacková and Galčanová 2009, Ondrej Sevecek and Martin Jemelka 2013.

4 Bata as a loosely coupled production system

However, the managerial aspects of the loosely coupled units in Bata's factory as a precursor of lean production were forgotten. Of the standard works on the early history of lean production, such as Jürgens et al. 1989, Piore and Sabel 1984, Womack et al. 1992, Bonazzi 2008, none mentions Bata as a precursor, nor does the study by Elis (2009) on the Japanese beginnings of lean production. Of course, the question of the extent to which Bata influenced the Japanese concept of lean production is highly intriguing. The editor of the English edition of Tomas Bata's autobiography (Senior), Professor Milan Zeleny of York University in Ireland, even claims Bata's influences on Japan in the 1930s, but without evidence (Bata 1992, p. V). Bata's global expansion does not make a Japan contact unlikely. First, Jana Gerslova (2011) pointed out the innovative approach in Bata's decentralised business organisation. However, she did not draw a connection to lean production.

During his travels in the U.S., Tomas Bata became acquainted with the architectural principle of concrete frame construction and adopted the US grid measurement of 20 feet in his factory buildings in Zlín with the modular measurement of 6.15 metres. Following the growing sales - in 1923 Bata sold 8,000 pairs of shoes per day, but already 75,000 per day in 1930 (Devinat 1930, p. 49) - he gradually built new factory buildings for final production in the 1920s. These were not giant units, however, but merely three-storey buildings measuring 80 by 12 metres.⁵ Each of these factory buildings housed two workshops for final production. In this way, Bata was already given small, manageable workshop units through the architecture. Each workshop employed 150 to 200 workers and had an output of about 2000 pairs of shoes per eight-hour shift. Devinat (1930, p. 57) gives 40 female workers in the sewing room and 108 male workers on the assembly line per workshop. Six workshops could therefore be accommodated on the three floors, so that a factory building could therefore produce 12,000 pairs of shoes per day. If this figure is applied to the 75,000 pairs of shoes produced daily in 1930, this could be done in six to seven factory buildings.

⁵ There are differences in the literature regarding the widths of the factory halls. They vary between 12 metres in Devinat (1930), over 20 metres in Nerdinger (2009A) and up to 25 metres in Philipp (1928).

Like the workshops for final production, the preliminary stages of production, the supply facilities and the ultra-modern department stores'⁶, which was based on the novel idea of self-service, were also organised according to the principle of the profit centre or cost centre, i.e. the units had to make a profit under given general conditions. The units, of which there are said to have been up to 250, were in exchange with each other in the form of customer and supplier relationships and were able to work inwardly with partial autonomy. "The mutual exchange of both semi-finished and finished products takes place in the form of a real business: through sales...The mutual relationship of the individual departments and plants is regulated by mutual trade contracts. In the contracting and handing over of work, individual enterprises act like foreign counterparties (offers with estimates, delivery terms, storage interest, penalties...in case of non-compliance with the contract, etc.)", reports Bata (1936, p. 66f). Gerslova interprets this approach of Bata as follows: "The decentralised business organisation aimed to identify a specific person responsible for each individual service provided in the enterprise" (2011, p. 284). In production planning, the individual units were coordinated. For the half-yearly planning of production, the heads of the units had to indicate their production capacity, which became obligatory in the plans on a weekly basis (Cygonkova 1998, p. 47).

⁶ The department store was organised as a self-service department store - a principle that Tomas Bata (Senior) had become familiar with on his trip to the USA. In the 1930s, the Osnabrück merchant Eklöh also experimented with self-service in the grocery trade in Germany, see Vahrenkamp (2012, p. 53).

5 The role of profit in factory management

The unit leaders were supposed to make a profit, which they could only secure through economical management and critical examination of incoming and outgoing materials. They could distribute the profit among the workers in the unit according to a pyramid system. The workers were divided into five different categories, with those in the three lower categories being mere wage earners and not entitled to a share of the profits (Bata 1936, p. 67), so that not all workers actually shared in the profits. Philipp (1928, p. 208) states that he had even come across units with 180 workers, of whom 170 workers did not share in the profits at all. However, if the units made losses, these could be passed on to all workers as wage cuts. Thus, the profit model was more about propaganda than really supporting the workers, especially since 50% of the profit was not paid out at all but retained by Bata and put into a "savings account" for the worker with 10% interest (Devinat 1930, p. 174). In order to show how the workers in Zlín would have suffered under the "dictator" Bata, Philipps (1936, p. 115) compares this compulsory saving with the compulsory bonds which workers in the Soviet Union had to subscribe to on the orders of Stalin and which had an amount of one month's salary. The offsetting of profits against incurred losses made it almost impossible to estimate wage levels, as they depended on numerous variables in an extremely complex manner (Devinat 1930, p. 175). Keeping the workers' wage accounts thus generated high administrative costs.

Bata's idea was that profit-sharing would turn wage earners into highly motivated "co-workers" who would also bear entrepreneurial responsibility. In contrast to the piece-rate system, which Bata rejected as too individualistic, the profit-sharing model addressed the workers as a group and could thus release motivational potentials of the group. Workers in a unit were highly motivated to do good work because they knew that poor quality would reduce their "profit". With this approach, Bata solved the problem of quality control, which now took place internally in the work group, whereas in classical Taylorism this function was assigned to an external specialist. In contrast, Philipp (1928; p. 209) believed that the unit managers were not entrepreneurs but mere agents who managed external material, machines and equipment and received bonuses for their actions. Their scope for decision-making was also limited, as Bata set limits for the buying and selling prices of a unit. Philipp (1928, p. 212) also describes how the construct of quality was used opportunistically in the Bata network to adjust

the output of the units to the fluctuations of the sales market. Controllers appointed by Bata but independent of the units watched over the quality of products exchanged internally. When the sales market was booming, low quality was accepted. Conversely, production was curbed by recognising only high quality. Bata's focus on quality, which can already be found in the 1920s, corresponds to one of the objectives of lean production, as King et al. pointed out in 1999. Cygonkova (1998, p. 45) states that in the workshops, wages are largely based on a group wage. The performance of the group determines the wage, so that group pressure keeps the individual worker to perform.

6 The cost of control in Bata's factory system

It was not until the 1980s that institutional economics raised the initially naïve question of why firms existed at all if all producers could act individually and exchange their products on the market (Williamson 1985). With this question, institutional economics arrived at the concept of transaction costs, which consist of coordination costs and the control costs of exchange processes. Coordination costs arise when the contracting parties negotiate conditions for quantities, prices, delivery dates and quality. Control costs arise because compliance with the contracts must be monitored. The formation of firms lowers transaction costs compared to individual producers - this is the thesis of institutional economics. However, transaction costs can become a problem in large firms if control costs increase sharply due to the size of the firm. First, economists associate firm size with economies of scale. If the increase in productivity with increasing firm size is greater than the increase in control costs, the firm becomes more productive through economies of scale. But if control costs grow faster than economies of scale, then two small units are more productive than one large unit.

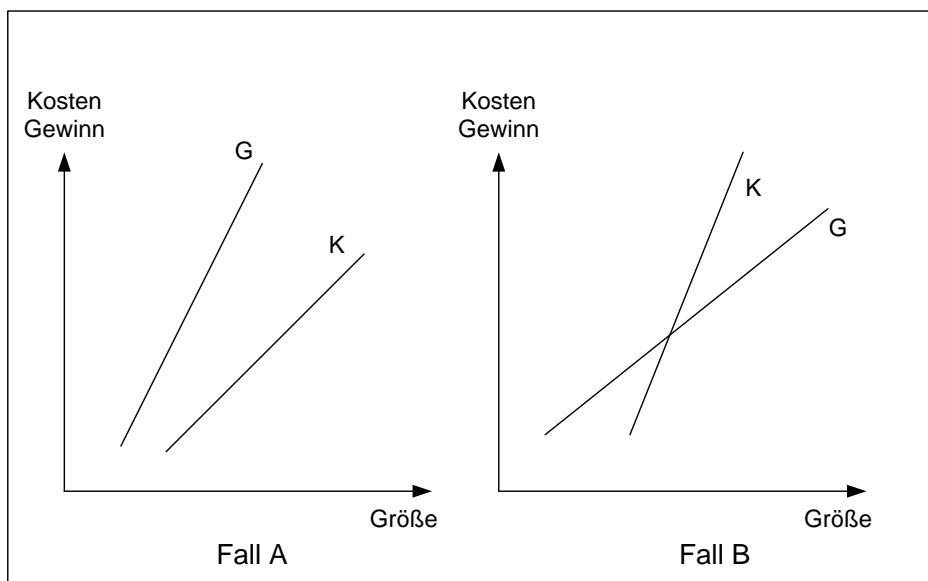


Figure 1: Profits G through economies of scale grow faster than the control costs K (case A) or more slowly (case B).

Bata had recognised this connection illustrated by Figure 1 and implemented his idea in such a way that he divided the final production into 36 small, parallel units, while Salamander ran a large factory in Kornwestheim with a daily production of 24,000 pairs of shoes (Sturm 1967, p. 332). With this, Bata designed with astonishing innovative power a counter-model to the belief in the special productivity of large units that was

prevalent in economic policy, especially in the 1920s. In 1915, for example, the one-storey metalworking factory building in the famous Ford auto works in Detroit was a huge 40,000 square metres with 5,500 machine tools (Arnold and Faurote 1915, p. 38). Trusts and corporations dominated the economy as guiding principles.⁷ As Chandler (1977) demonstrates in his work, the emergence of modern management theory was due to the control problems of the dominant large companies. A change in perspective with a focus on decentralised organisations did not take hold until the end of the 20th century.

⁷ In the Nazi era, promoters of air armament raved about giant factories for bombers, see Budrass (1998). The economy of the USSR failed because of the control problem of giant factories, as Siegelbaum (2008) describes using the example of car factories. Piore and Sabel (1984) could not really convincingly elaborate the control problem in their critique of large enterprises. They speak somewhat woozily of "bureaucratisation" (p. 38).

7 Mass sales with vertical integration

Bata combined the mass production of shoes with a vertically integrated system of mass sales. This was done through 450 of his own shoe shops in Czechoslovakia (Devinat 1930, p. 51). He also built up a network of sales outlets in other European countries, as well as in Asia, Africa and America. In Germany, Bata initially distributed the shoes through the German shoe manufacturer Tack in Burg near Magdeburg. Then, from 1930 onwards, he set up 150 of his own sales outlets in Germany (Bräutigam 1997, p. 39), used a great deal of advertising to make his shoes a well-known brand and standardised the outlets to such an extent that they had a high recognition value for customers (Bata 1936, p. 73). The head office managed the shops with strict guidelines for furnishing and advertising. In this way, Bata moved within the framework of how retail chains were set up and managed in Europe in the 1920s (Vahrenkamp 2011, p. 37).

In the Czech Bata branches, the managers and salespersons were employees of the Zlín headquarters.⁸ However, the managers could operate independently within a narrow framework set by Bata. They received 9% of the turnover and had to cover the running costs of the business, including salaries for the salespersons, as well as other charges to Bata, such as costs of 2 per mille of the turnover for central advertising campaigns, but also to cover losses resulting from price reductions ordered by the head office (Silbermann 1934, p. 33). The managers had to send weekly statements of stock, sales figures and cash in hand to the head office in Zlín (Philipp 1928, p. 134). The cash receipts were transferred to the head office daily by post. The delivery area of Czechoslovakia was divided into ten regions ("rayons") headed by regional directors. The formation of the regions followed the railway lines, so that for each region the branches were lined up like a string of pearls on a railway line and could thus be supplied by a goods train in one day from the central warehouse in Zlín (Cygonkova 1998, pp. 65-68). Bata did not rely on the service of the Czechoslovak railways. Rather, a Bata employee supervised that the wagons from Zlín were coupled to the correct goods trains.

⁸ Contract with the managing directors, according to Philipp 1928, p. 126. However, the managing director had to remunerate the sellers (*ibid.*, p. 129).

The economic incentives that Bata set in the contracts with the managers for rapid sales - such as the deposit and its interest, interest on the stock, price reductions and interest on the non-amortised investments in the branch - were bordering on gagging contracts, so that high control costs were incurred for the management of the 450 branches in Czechoslovakia.⁹ The complexity of controlling the branches can be seen in the numerous detailed regulations for managing a branch that Philipp (1928) published. The control costs that Bata saved in production reappear in distribution. The complex set of rules could easily be applied in a business world with computer support and electronic data transmission of the year 2000. In the 1920s, however, in a time without computers, the set of rules required immense administrative effort in controlling the implementation of the orders. This shows that Bata's rationalisation was one-sided in the production of goods and the flow of goods in distribution, but Bata could not find simple models in branch control to reduce high control costs. The control costs can be illustrated by one of the numerous circulars on special promotions from the Zlín headquarters to the 450 Bata branches in Czechoslovakia published by Philipp (1928, p. 146):

Circular No. 241/C, Zlín, 29 May 1926

Downgrading of the 5137s and 9137s variety

We have dispatched you:

"We are reducing 9137s and 5137s from Kč 69,- to Kč 59,-",

which we hereby confirm. The reduction will be at the expense of the executives. We will book it to a separate account and only after the end of the spring season, in the 32nd week, and at the expense of the executives. However, we give you the opportunity to recover the amount necessary for the reduction, namely: we list weeks 22 to 32 as the prerequisite of the income, which amounts to a total of Kč 7 million 18000,-. If you achieve 100% of this requirement, I will reimburse you 50% of the reduction; if you achieve 110% of the requirement, I will reimburse you 65%; if you achieve 120%, I will reimburse you 80%; if you achieve 130%, I will reimburse you 100%.

However, the sales of the individual branches could be evaluated relatively easily with the tabulating machines that were widespread in large companies in the 1930s.¹⁰ The branches delivered weekly records of their sales and repeat orders to the central warehouse, which, after invoicing the orders, passed the records on to a computer centre where the sales were transferred to punch cards. These could then be used to easily generate overviews of sales by model, branch, region and time period, using the report function of the Powers tabulating machines (Cygonkova 1998, p. 69). In the

⁹ Philipp 1928 published a contract with the managing directors, pp. 126-147.

¹⁰ For the tabulating machines, see Vahrenkamp 2017.

1930s, Bata's sales branch was probably one of the first trading companies in Europe to use tabulating machines to control its branches, since at that time this technology was mainly used in the industrial, banking, insurance, railway and public administration sectors.¹¹

The low prices of Bata shoes were not only based on the rational production methods of mass production and the low wages customary at Bata, but Bata also reduced the retail margin of the shops from the then customary 50% to 20% (Cygonkova 1998, p. 76). In this respect, Bata's slogan "shoes at factory prices" was not entirely taken out of the air. By reducing distribution costs, Bata came close to the strategy of cost leadership. The import pressure of low prices faced abroad triggered heated debates in many countries about the allegedly exploitative Bata system among all political camps, joined by both local shoe factory owners and trade unions (Cygonkova 1998, p. 73).¹² In Germany, Salamander offered a standard shoe for 12 Mark 50, whereas Bata set its price at 4 Mark 90 (Sudrow 2010, p. 64). Sudrow (2010, p. 127) reports numerous lawsuits against Bata in Germany for dishonest business practices. The demand for import duties on shoes was raised and also enforced in all European countries.

¹¹ Black (2001, p. 110) gives a corresponding list of industries with tabulating machine use, which is also confirmed by reports in Hollerith-Nachrichten magazine in the period 1931 to 1935.

¹² Devinat (1930, p. 15) gives a reference to the debates of 1928: Kuno GROHMANN: "Bata", in: Veröffentlichungen des Ausschusses für Wirtschaftlichkeit in der Textil-Industrie, Supplement der Mitteilungen des Allgemeinen deutschen Textilverbandes, Reichenberg, 15 Jan. 1928. "Europa gegen Bata", in: Die deutsche Volkswirtschaft, 29 June 1928. "For and against Bata", in: Tagesbote, Brno, 6-7 Aug. 1928. "Bata", in: Die deutsche Volkswirtschaft, 24 Aug. 1928. "Das Problem Bata", in: Kölnische Zeitung, 10-11 Oct. 1928. Arthur KORNHÜBER : "Von Schusterlehrling zum tschechischen Ford", in: Münchener Neueste Nachrichten, 19 Nov. 1928. Rudolf SCHWENGER : "Das System Bata", in: Soziale Praxis, 29 Nov. 1928.

8 Bata's expansion abroad

This was Bata's response. In a second step of his foreign expansion, in order to circumvent import duties, he built his own manufacturing plants abroad, modelled on Zlín as integrated work and living facilities, partly departing from the mere three-storey factory buildings in favour of taller structures, as photos on Flickr show. These factories produced standard shoes, while the fashionable, high-priced models that could better clear customs barriers were still supplied by Zlín (Cygonkova 1998, p. 75). Bata kept the stock of finished shoes low. To avoid producing goods in stock, the export sector's orders to the production sector at the Zlín headquarters had to be backed up by orders from foreign sales agents or branches (Cygonkova 1998, p. 73). The goal of low inventory in the central warehouse, which Bata was already aiming for in the 1930s, corresponds to one of the objectives of lean production. Railway freight wagons travelled weekly from Zlín to the export ports of Trieste, Marseille and Hamburg.

Bata set an astonishing pace of global expansion in the midst of the Great Depression of 1929 to 1933; it remains open how he was able to raise the large amount of capital needed for expansion. By 1939 he had sales companies in 33 countries (Cygonkova 1998, p. 71). Foundations of foreign factories¹³ took place in Germany (in Ottmuth near Krappitz¹⁴ in Upper Silesia in 1929, Ota Schlesische Schuhwerke Ottmuth AG), Poland (in Chelmek 1930), Switzerland (in Möhlin 1930), France (in Hellocourt 1931¹⁵ and in Vernon 1931), Yugoslavia (in Vukova on the Danube in Croatia, 1931), British India (in Konagar-Betangar 1932), England (in Tilbury 1932), Holland (in Best 1932) and the USA (in Belcamp, Maryland 1940) (Cygonkova 1998, p. 72, Sudrow 2010, p. 143).

¹³ Photos of Bata's factory sites can be found on Flickr.

¹⁴ Today the Polish town of Krapkowice.

¹⁵ You can watch a Bata film about Hellocourt on Youtube:
<http://www.youtube.com/watch?v=XqIbBn0T7Ik>.

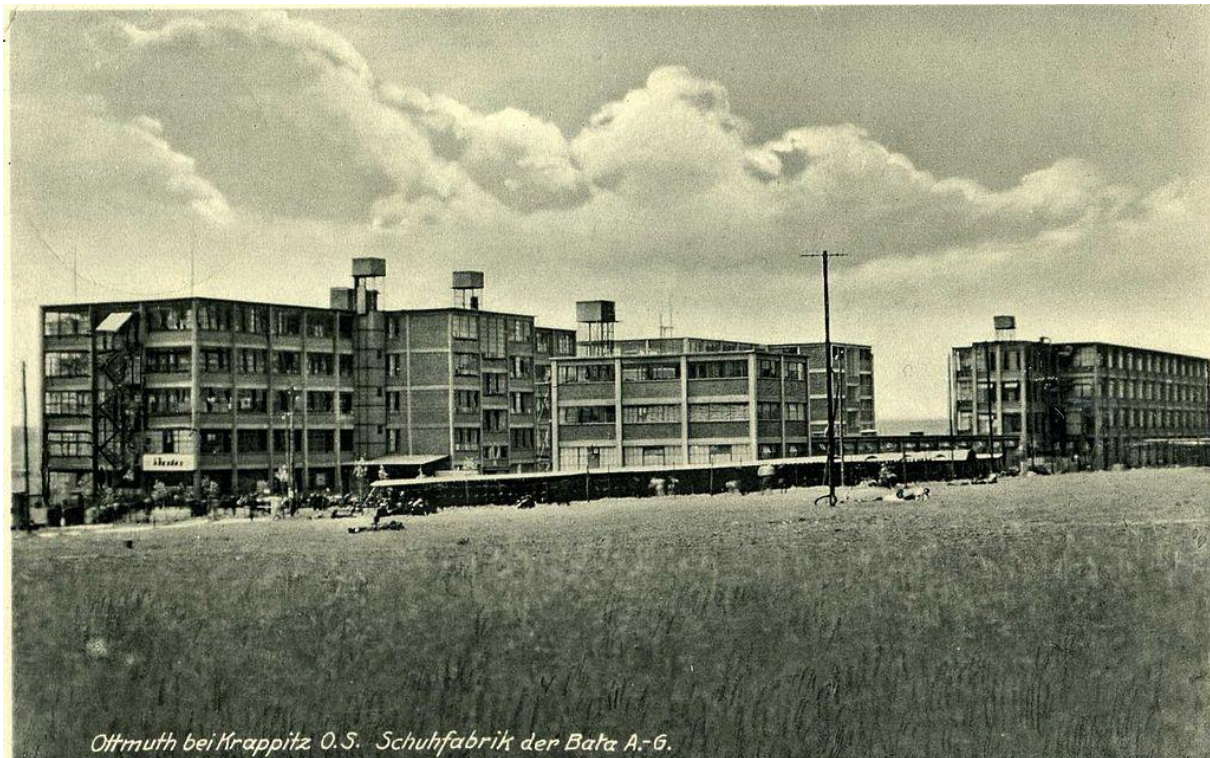


Figure 2: The Bata footwear in Ottmuth 1939¹⁶

Figure 2 shows the Ottmuth shoe factory. It also seems surprising why Bata was able to expand so strongly in the middle of the Great Depression. Zeleny (2010) describes this ability to weather the global economic crisis well as a built-in resilience in the Bata organisational concept of decentralised units, but without really being able to prove this convincingly. Sudrow's study (2010, pp. 123-143) shows that Bata chose its foreign production sites in Germany, England and the USA in rural regions with high unemployment, following the Zlín model, and employed mainly young workers there, whom it could pay less than adults.¹⁷ In addition, he disregarded the workers' statutory rights to minimum wages and the length of the working day, which in some cases led to years of legal disputes.

¹⁶ Source: Website of the city of Krapowice. Released according to Wiki Common. Author: sludgegulper.

¹⁷ The Hellocourt site was also rural, as the Bata film on the Hellocourt site shows, *ibid.* Devinat (1930, p. 64) gives the proportion of male workers under 21 years of age as 13% of the total number of employees for the Zlín site, and of female workers under 18 years of age as 13%.

9 The journalism of Bata

Like Henry Ford, Bata also developed a fierce publicity campaign to publicise his model factory and to be celebrated as a benefactor and "Czech Ford". He placed many advertisements in the Czech newspapers and thus won the favour of the press. Criticism of his model was not even possible in the press (Philipp 1928, p. 364). Critics outside the press were subjected to libel suits. He even attacked sceptical members of parliament with texts in newspaper advertisements. When the Berlin journalist Rudolph Philipp dared to publish a polemic against Bata in Berlin in 1928, Bata had the book banned (Devinat 1930, p. 15).¹⁸ Numerous foreign delegations visited Zlín and wrote travelogues for the press of their home countries from the material of Bata's press office.

The reports were probably superficial because the visitors could not interview workers in Czech due to their ignorance of the Czech language. The numerous films about his works and model cities also contributed to the spread of the Bata idea.¹⁹ The trade union press fought Bata and raised accusations of exploitation and of exceeding the eight-hour day prescribed by law in Czechoslovakia (Devinat 1930, p. 168). Prague saw large demonstrations by master shoemakers who claimed that Bata was bringing disaster to the 60,000 shoemakers in Czechoslovakia. As shoe production in other countries was also moving from artisanal status to the phase of industrial production in the 1920s, and at the same time Bata was undercutting the competition, the Bata concept caused a sensation and rejection throughout Europe.

¹⁸ Philipp's book (1936) is a variant of the 1928 book.

¹⁹ The films are available on Youtube today. Gerslova (2011, p. 289) reports on the establishment of a film studio at Bata.

10 Bata's Legacy

The question remains why Bata's decentralised organisational concept was forgotten in the second half of the 20th century despite his intensive publicity and why it was not recognised as a precursor of lean production. No doubt the biographical peculiarity of his early death in 1932 also contributed to this. Had he lived longer, he might have published a book like Henry Ford's *My Life and Work* for the general reading public. Two further interruptions interfered with the further development of the Bata company and hindered Bata publishing: the occupation of Czechoslovakia by German troops from 1938 to 1945 and the communist rule until 1990. Tomas Bata (Junior) recognised in time the danger that Hitler's Germany posed to Czechoslovakia and his company. He made the Bata foreign subsidiaries independent in order to protect them from the Nazis, withdrew first-class employees, over 1000 machines and large sums of money from the company in Zlín and relaunched Bata Shoe Works in Canada in 1939. From his Canadian headquarters, he expanded Bata into a global corporation with manufacturing plants and distribution companies outside the communist sphere of power (Bata 1990, p. 52).

Ironically, the approaches pursued by the capitalist entrepreneur Bata in Zlín were in broad agreement with communist ideas:

- The linking of working, living and housing on a campus with the resulting interdependencies,
- the housing estates without places of worship,
- the instrumentalisation of Labour Day celebrations on 1 May to represent the unity of the workforce and company management²⁰,
- the cult of personality around Bata and
- the belief in the "New Man".

There were major differences in the assessment of the optimal factory size alone. While Bata favoured small, semi-autonomous units, communist planners took the concept of the large factory as their starting point, in which economies of scale could be found. Because of the broad agreement, the Bata factories in Zlín were able to pass almost seamlessly into communist rule when they were nationalised under the name Svit in 1949. Philipp (1936, p. 108) even explicitly compares Zlín with factories in the Soviet Union: the Soviet shoe proletarian, like the Bata proletarian, was a co-owner of the factory, but in the event of dismissal he would be faced with nothing: "If he is

²⁰ See the photos of the May Day celebrations on Flickr.

dismissed, he loses the right to housing, the right to food in the cheap factory canteen, the right to obtain cheap goods from the cooperative, just like his fellow Zlín proletarian." Following the Soviet cult of personality, in 1949 the city of Zlín was even renamed Gottwaldov after the Czechoslovak president Gottwald (Sedlakova 2009, p. 174). The names Bata and Zlín, which were important for the transmission of the Bata story, were thus extinguished (Pribersky 2011, p. 132)²¹, and Bata fell into oblivion. The communist belief in the economies of scale of large-scale enterprises interrupted the steady flow of finished products from the factory to the sales outlets. Instead, a huge central warehouse for shoes was built in Zlín in 1955, where the products disappeared (Nerdinger 2009, p. 193).

11 Literature

- Arnold, Horace und F.L. Faurote: Ford Methods and the Ford Shops, New York, 1915.
- Bata, Tomas (Junior) und Sinclair, Sonja: Bata – Shoemaker to the world, Toronto 1990.
- Bata, Tomas (Senior): Knowledge in Action, the Bata System of Management, [reflections and speeches], Amsterdam [u.a.], IOS Press, 1992.
- Bata, Tomas (Senior): Wort und Tat, bearbeitet von A. Cekota, Zlín 1936.
- Bauer, Reinhold: PKW-Bau in der DDR – Zur Innovationschwäche von Zentralverwaltungswirtschaften, Frankfurt 1999.
- Berger, Peter und Andreas Resch: Die vielen Gesichter des wirtschaftlichen Wandels: Beiträge zur Innovationsgeschichte, Berlin 2011.
- Black, Edwin: IBM und der Holocaust, München 2001.
- Bonazzi, Giuseppe: Geschichte des organisatorischen Denkens, Wiesbaden 2008.
- Borscheid, Peter : Die Tempomacher: Die Rationalisierungsbewegung und die Beschleunigung des Lebens in den Weimarer Jahren, in: Zeitschrift für Unternehmensgeschichte, 41. Jahrg.,H. 2. (1996), S. 125-138.
- Bräutigam, Petra: Mittelständische Unternehmer im Nationalsozialismus: Wirtschaftliche Entwicklungen und soziale Verhaltensweisen in der Schuh-und Lederindustrie Badens und Württembergs, München 1997.
- Budrass, Lutz: Flugzeugindustrie und Luftrüstung in Deutschland 1918 –1945, Düsseldorf 1998.
- Cekota, Anton: Bata – Neue Wege, Brünn 1928.
- Chandler, Alfred: The visible hand: the managerial revolution in American business, Harvard UP 1977.
- Cohen, Jean-Louis: „Unser Kunde ist unser Herr“. Le Corbusier trifft Bata, in: Winfried Nerdinger (Hersg.): Zlín – Modellstadt der Moderne, Architekturmuseum der TU München, München 2009, S. 112-147.

²¹ After the communist takeover, the Bata name was also erased in Yugoslavia at the Bata factory site in Vukovar, Croatia, see www.hnkborovo.webs.com/cetvrta.en.htm.

- Cygonkova, Hana: Thomas Bata – Vom Schuster zum tschechischen Ford, Diplomarbeit, Wirtschaftsuniversität Wien 1998 (Im Internet verfügbar).
- Devinat, Paul: Working Conditions in a Rationalised Undertaking: The Bata System and its Social Consequences, in: International Labour Review 1930, Heft 1, S. 45-63 und Heft 2, S. 163-185.
- Dicke, Thomas: Franchising in America: The Development of a Business Method, 1840-1980, Chapel Hill 1992.
- Doleschal, Reinhard: Ist der Fordismus passe? Neue Tendenzen in der Automobilindustrie, in: Michael Hafemann und Detlef Schlüpen (Hersg.): Technotopia, Weinheim 1986, S. 31-58.
- Doleschal, Reinhard: Wohin läuft VW?, Reinbeck 1982.
- Eifert, Christiane: Antisemit und Autokönig. Henry Fords Autobiographie und ihre deutsche Rezeption in den 1920er Jahren, in: Zeithistorische Forschungen/Studies in Contemporary History, Online-Ausgabe, 6 (2009), H. 2.
- Elis, Volker: Von Amerika nach Japan – und zurück. Die historischen Wurzeln und Transformationen des Toyotismus, in: Zeithistorische Forschungen/Studies in Contemporary History, Online-Ausgabe, 6 (2009), H. 2.
- Ford, Henry mit Crowther, Samuel: Today and tomorrow (being a continuation of 'My Life and work'), Garden City, New York : Doubleday, 1926.
- Gerslova, Jana: Der Schuster, der die Welt erobert – Die tschechoslowakische Firma Bata als Paradefall eines innovativen Unternehmens (1894 - 1948), in: Berger und Resch 2011, S. 227-295.
- Hachtmann, Rüdiger und Adelheid von Saldern: »Gesellschaft am Fließband«. Fordistische Produktion und Herrschaftspraxis in Deutschland, in: Zeithistorische Forschungen/Studies in Contemporary History, Online-Ausgabe, 6 (2009), H. 2.
- Heide, Lars: Punched-Card Systems and the Early Information Explosion, 1880–1945, Johns Hopkins University Press, 2009.
- Hofmann, Wilhelm: Stadt als Erfahrungsraum der Politik: Beiträge zur kulturellen Konstruktion urbaner Politik, Berlin 2011.
- Kallai, Paul: Die wirtschaftliche Lage und Entwicklungstendenzen der deutschen Schuhindustrie unter besonderer Berücksichtigung der Bata-Schuhwerke, Diss. Genf 1936.
- King, Rick, Michael Gildea, Rick L. Edgeman, George Mansfeld, Pavla Macurová, (1999): A window on quality improvement in the Czech Republic, in: The TQM Magazine, Vol. 11, Iss. 1, S. 8 – 11.
- Koncitikova, Gabriela und Gregar Ales: Corporate Social Responsibility in Bata a.s. from 1894 to 1945 and its Heritage for the Current Business Environment, in: Proceedings of the 1st WSEAS International Conference on Economics, Political and Law Science, Zlín University, 2012, S. 130-136.
- Lay, Gunter und Elna Schirrmeister: Sackgasse Hochautomatisierung? Praxis des Abbaus von Overengineering in der Produktion, in: Mitteilungen aus der Produktionsinnovationserhebung, Nr. 22, Karlsruhe ISI 2000.
- Moravcikova, Henrietta: Social and Architectural Phenomenon of the Bataism in Slovakia, in: Slovak Sociological Review, 2004, S. 519-543 (Central and Eastern European Online Library).
- Nerdinger, Winfried (Hersg.): Zlín – Modellstadt der Moderne, Architekturmuseum der TU München, München 2009.
- Nerdinger, Winfried: Zlín – Sozial gelackte Modernität – Architektur und Leben im Gleichschritt, 2009A, in: Nerdinger 2009, S. 16-39.

- Philipp, Rudolph: Der unbekannte Diktator Thomas Bata, Wien und Berlin, Agisverlag, 1928.
- Philipp, Rudolph: Stiefel der Diktatur, Zürich, 1936.
- Piore, Michael und Charles F. Sabel: Das Ende der Massenproduktion, Berlin 1985, das englische Original erschien 1984.
- Pokorny, Rita: Die Rationalisierungsexpertin Irene M. Witte (1894–1976). Biografie einer Grenzgängerin, Diss. TU Berlin 2003.
- Pribersky, Andreas: Die Planstadt als politische Utopie im 20. Jahrhundert, in: Hofmann 2011, S. 133-158.
- Riemann, Dieter: Auf den Millimeter genau in den Fördergehängen, in: Volkswagen AG (Hersg.): Volkswagen 1938 - 1988 – Das Buch, Wolfsburg 1988, S. 172f.
- Riha, Cyril: Standardization and exportation of Bata towns in central Europe, in: Centropa 9. 2009, 2, 127-143.
- Rodgers, William: Die IBM Saga, Frankfurt 1973, erweiterte Taschenbuchausgabe.
- Schmidt, Dorothea: Weder Ford noch Taylor. Zur Rhetorik und Praxis der Rationalisierung in den zwanziger Jahren am Beispiel dreier Siemens-Werke, Bremen 1993.
- Schwartz, Michael und Andrew Fish (1998): Just-in-Time Inventories in Old Detroit, in: Business History, 40:3, S. 48-71.
- Sedlakova, Radomira: Zlín – Gottwaldov: Wandel der Architektur in den Jahren 1945 bis 1960, in: Nerding 2009, S. 168-197.
- Sevecek, Ondrej und Martin Jemelka: Company Towns of the Bata Concern, Stuttgart 2013.
- Siegelbaum, Lewis: Cars for Comrades: The Life of the Soviet Automobile, Ithaca 2008.
- Silbermann, Heinz: Aufbau und Arbeitsbedingungen der Schuhfabrik Bata in Zlín sowie die Stellung der Filialleiter nach deutschen Recht, Diss. Leipzig 1934.
- Steinführer, Annett: Stadt und Utopie, in: Bohemia 43 (2002), S. 33 – 73.
- Streit, Günther: Computer und Information in der Gesellschaft, Frankfurt 1993.
- Sturm, Hanspeter: Salamander, in: Tradition: Zeitschrift für Firmengeschichte und Unternehmerbiographie, 12. Jahrg., H. 1. (Januar 1967), S. 309-333.
- Sudrow, Anne: Der Schuh im Nationalsozialismus: Eine Produktgeschichte im deutsch-britisch-amerikanischen Vergleich, Göttingen, 2010.
- Vacková, Barbora und Lucie Galčanová: THE PROJECT ZLÍN - Everyday life in a materialized utopia, in: Urban People, Vol. 11, 2009, issue 2, S. 311-337 (Central and Eastern European Online Library).
- Vahrenkamp, Richard: The Logistic Revolution – The Rise of Logistics in the Mass Consumption Society, Eul Publisher, 2012.
- Vahrenkamp, Richard: Die erste Informationsexplosion – Die Rolle der Lochkartentechnik bei der Büro-rationalisierung in Deutschland 1910 bis 1939, in: Technikgeschichte, Bd. 84, 2017, Heft 3, S. 209–242.
- Williams, Karel, Colin Haslam, Sukhdev Johal and John Williams : Cars: Analysis, History, Cases, Providence, RI, 1994.
- Williamson, Oliver: The Economic Institutions of Capitalism, Free Press, 1985.
- Yarnell, Damon: A Question of Scale: Networks, Systems, and Practice, in: IEEE Annals of the History of Computing, Volume 32, Number 4, October-December 2010A, S. 94-96.
- Yarnell, Damon: Behind the line: outside supply, mass production, and the question of managerial expertise in the Model T era, Dissertation University of Pennsylvania 2010 (verfügbar auf <http://udini.proquest.com>).

Zeleny, Milan: Bata Management System: A Built-In Resilience against Crisis at the Level, in: Czech Economic Review, 2010, S. 102-117.