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Photo Documentation of Alumina Factory in Obrovac —Rise and Fall of the “Obrovac giant”

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INSTEAD OF GOATS—THE ALUMINUM INDUSTRY

In the period following World War II, the Yugoslav industry made remarkable progress. At the same time, similar processes were taking place in Europe and the demand for materials such as aluminum, produced by the processing of bauxite ore, was rapidly increasing.

In the 1970s, Yugoslavia had significant quantities of high-quality bauxite, which gave it the opportunity to impose on the international market of this increasingly sought-after raw material. For example, in 1974 the Yugoslav industry was projected to produce 123 thousand tonnes of aluminum, of which 72 thousand tonnes went to foreign investors, while 51 thousand tonnes remained for domestic purposes, which was insufficient to meet domestic needs.¹ In the mid-1970s, aluminum production gained one of the priority positions in the foundations of the common policy for the long-term development of SFR Yugoslavia until 1985.

In response to the growing need for aluminum, in 1964 it was agreed to finance the construction of an alumina factory—a raw material obtained from the processing of bauxite. Obrovac, a city in Zadar County which at the time had one of the largest bauxite deposits in Yugoslavia, was chosen as a place of construction.

Before the factory was built, quarries near Obrovac were mostly hand-operated, without mechanization, and the material, bauxite, was exported to other parts of Europe for further processing. In 1967, the processing of bauxite ore began and production was taken over by the company “Jadral” (Jadranski aluminij), based in Obrovac. Modern equipment for cutting blocks of bauxite was purchased and already in 1968 it was manufactured and placed over 800 cubic meters of stone abroad.²

1 N. N., “Stvaranje snažnijih cjelina—šansa za aluminij,” 4.

2 N. N., “Crveno plavi kamen pod Alanom,” 3.

In the late 1960s and early 1970s, the raw material was mostly exported from these parts to the USSR, and it was transported by freighters docking near Obrovac. This was the time when the construction of the alumina factory was expected to begin, with the aim of exploiting this wealth for the benefit of the inhabitants of Bukovica.³

However, the Yugoslav Investment Bank refused to finance the project, so Dalmatian and Herzegovina producers founded the “Jugal Group” in 1966, based in Split, with the aim of multiplying the overall production and construction of the factory. Connecting three Dalmatian and one Herzegovinian working organization: TLM “Boris Kidrić” in Šibenik, “Jadral” in Obrovac, “Aluminijski kombinat” in Mostar and “Elektroprivreda Dalmacija” in the “Jugal” business association was the beginning of a major venture.⁴ It was recognized that part of the plan for the development of the aluminum industry could be realized without the need for state loans, primarily by investing own funds, direct borrowing abroad and through long-term cooperation with interested domestic and foreign partners. Partners were found in the Democratic Republic of Germany, who was supposed to provide a significant part of the financing for the project, while the bauxite processing technology would be imported from Hungary.⁵

In 1970, Jadral entered into its initial agreement with companies from DDR to secure a \$28 million loan. Two years later, the company established cooperation with Hungarian partners, encompassing equipment, engineering, and financial credit arrangements.⁶

From the very beginning, the factory aroused great public interest, and the project was presented in local press releases, primarily in *Slobodna Dalmacija* and *Narodni list*, as a generator for the development of the area and local community. For example, the article “Instead of goats—Aluminium industry,”⁷ published in *Slobodna Dalmacija* in July 1970,⁸ tells of a great celebration with fireworks, staged on the occasion of the announcement of the factory’s construction, which turned into general gatherings. The locals emphasized that a new chapter was opened in the development of their community. Bukovica was still an industrial underdeveloped area at the time, and over three quarters of the population engaged in livestock farming or agriculture. In this context, the same article states that in this area “the poor are sitting on the hills of red gold,”⁹ alluding to bauxite ore.

3 Karst area in the central part of Adriatic Croatia.

4 Marasović, “Jugal ruši granice,” 2.

5 Matić, “Iščekzla Hrvatska,” 52.

6 Bošković, “Na zgarištu promašenih investicija,” 59.

7 Seferović, “Umjesto koza - aluminijska industrija,” 2.

8 Daily in Split since 1943

9 Seferović, op. cit.

In addition to the press releases, the history of constructing the Obrovac factory can be reconstructed through photographs by Zadar photographer Ante Brkan, many of whom have been published in local daily newspapers. The collection of negatives by Ante Brkan, stored at the Gallery of Fine Arts in Zadar, contains about a hundred photographs that accompany the construction of the factory, from the announcements of construction, the very beginnings of construction to the final realization. In addition to photographs of the “Jadral” factory in Obrovac, Brkan, during its reporting work, photographed several factories in Zadar—“Bagat”, “Tekstil Kombint”, “Otočanka”, “Maraska”, “Boris Kidrić” etc. This is an insufficiently explored work of Brkan’s industrial photography, which belongs to the corpus of industrial photography in Croatia. In this context, the opus of Toše Dabac in the 1960s is well-known, and is dealt with in Iva Prosoli’s text “The industrial photography of Tošo Dabac in the 1960s” in *Život umjetnosti: časopis o modernoj i suvremenoj umjetnosti i arhitekturi* from 2007. Also, the exhibition *Tošo Dabac: Industrial photography* was organized in 2018 at the Museum of Contemporary Art in Zagreb. Dabac, like Brkan, filmed parts of factory plants, some in the style of *new objectivity* such as a 1964 photography *From a steel plant in Zenica*, and similarities can be found in portraits, such as *Female worker*, which Dabac took in 1964.

Industrial photographs of Ante Brkan are often precise, detailed, and highly informative. He emphasizes showcasing industrial processes and workers and often focusing on the technical aspects of industry, machinery, work processes, and workers. His photographs are technically more precise, using lighting and composition to highlight industrial elements.

Tošo Dabac, on the other hand, often employed an artistic approach in his photography. His industrial images may have more aesthetic and emotional elements, with less documentary precision. Dabac often centered on the human aspect of industry, portraying workers and their everyday lives within the industrial environment. Dabac was more prone to experimenting with composition and lighting to create an artistic impression.

More recently, the project *Common photographic narratives* partly dealt with the topic of industrial photography, within which a *pop-up* exhibition *Faces of the City* was held in 2021.¹⁰ Part of the exhibition, organized by Alma Trauber, shows photographs of Sisak “Željezara” photographed by Mladen Popović, who takes photographs at the same time as Brkan, but which have a predominantly artistic tendency, unlike Brkan’s documentary-reporter photographs.

Photos of Ante Brkan were taken by order, and Brkan, who then worked as a photojournalist in Zadar’s daily newspaper *Narodni list*, recorded in very detail almost every step of the construction of the “Obrovac giant”.

10 <https://croatian-photography.com/text/lica-grada-alma-trauber/>

Back in the 1960s, Brkan took a series of photographs showing the site of the future factory, the excavation of bauxite and workers at the “Jadral” quarry. Photographs show quarry workers, large blocks of bauxite, and the transport of stone for further processing. Among the images of transportation are photographs of Soviet ships in Maslenica, a place near Obrovac, and the loading of stone transported to Soviet countries.

By laying the foundation stone on 12 May 1974, work on the construction of the alumina factory officially began. Among other things, the ceremony was attended by Croatian Parliament Speaker Ivo Perišin, Vice-President of the German Democratic Republic’s Ministerial Council Manfred Flegel and Hungarian Finance Minister Lajos Faluvegi.¹¹ Ante Brkan recorded the opening ceremony with his camera, following the ceremony and the current state of works on the factory.

On the day of the opening of the works, on Bravar, the elevation above Obrovac, the employees of the Zagreb companies “Industrogradnja” and “Hidroelektra” have already started construction works, and at the very opening several thousand people gathered. On that occasion, it was announced that in June 1976, two years after laying the foundation stone, the factory would start operating within the prescribed deadlines.

According to plans at the time, annual alumina production at the plant was expected to reach about 300,000 tonnes,¹² while estimated construction costs according to the pre-invoice amounted to about 14 billion dinars.¹³ The intention was for production to steadily increase and reach 840,000 tons by the year 1980.¹⁴ Also, the factory was supposed to employ just over 1,000 workers, and during the construction, education of new personnel from the local area was planned. Two new vocational schools were planned to be established in Obrovac as early as 1971. One of these schools would be a high school for alumina production, and a total of 105 students would enroll.¹⁵ After completing the education, “Jadral” would provide the students with employment in the future factory and in its mines in the vicinity of Obrovac. The plant was planned to generate an annual income of approximately 290 million dollars, which would allow for a relatively simple repayment of the loans raised for the construction of the plant.¹⁶

The expected high annual income, given the above-average high wages of workers, was to allow enough funds to be accumulated to build another factory of approximate size and price.¹⁷

11 Z. A., N. K., “Niče nova tvornica,” 1.

12 Matić, op. cit.

13 Z. A., N. K., op. cit., 8.

14 Bošković, op. cit., 40.

15 D. G., “Jadral osigurava kadrove,” 3.

16 Bošković, op. cit., 25-26.

17 Z. A., N. K., op. cit.

The factory started operating on 16 October 1977, becoming the second largest investment in Dalmatia by then.¹⁸

The scenes from the opening of the factory, taken by Ante Brkan, bear witness to a large number of visitors, as well as to the continuation of a significant public interest in the project. With its photographs, Brkan also pays great attention to the power, i.e. mass of machines, detailed representations of the large factory complex, while also photographing certain machine details, which brings it closer to photography of *new objectivity* that shows sharpened parts of machines using deep sharpness and clear light.

Although the “Jadral” company claimed in 1976 that there would be so much alumina produced in Obrovac that it would not be possible to turn it all into aluminum, it almost immediately became apparent that the factory’s capacity greatly exceeded the actual production potential. Of the huge business projects, which included aluminum exports to East Germany, almost nothing was realized.¹⁹

THE CURTAIN FELL—THE SHOW IS STILL GOING ON

Before construction began, it was estimated that the factory would be able to supply local bauxite for about 10 years. However, the quality ore was exhausted much faster, and production continued with the treatment of lower quality bauxite, with more waste. Already in the first two years of operation, the factory suffered a massive loss of 2.5 billion dinars, and it became evident that its further work would be a general disaster.²⁰

In the early 1980s, the decay process of Yugoslav industry began, which was caused by increasing economic problems and massive borrowing from foreign banks.

Loans were key to a large wave of investments and maintaining a high standard of living in the past decade, leading to thousands of investment projects by the end of the 1970s, when the standard of living in Yugoslavia was much higher compared to other socialist countries. Between the mid 1970s and the early 1980s, Yugoslavia’s foreign debt surged significantly, increasing from 6 billion dollars to 21 billion dollars.²¹ Starting from 1980, Yugoslavia had to allocate an annual budget of approximately 3 to 6 billion dollars for servicing its loans.

The executive Council of the Parliament of the Socialist Republic of Croatia allegedly made a decision already in 1968 on the construction of the

18 N. N., “Velik korak Bukovice,” 1.

19 Matić, op. cit.

20 Ibid.

21 Bošković, op. cit., 12.

alumina factory in Obrovac.²² Prior to the commencement of construction, studies on profitability were carried out by the Faculty of Mining, which concluded that there were not enough bauxite in the area, and this was later confirmed by Commercial Bank Zagreb with its research in 1976. Nevertheless, the Executive Council decided to build the factory.

After the factory started operating with significant losses, a cost-effectiveness study was re-conducted, which concluded that “Jadral” will be successful.

However, after only a few years of work and with unforeseen losses, the factory closed in 1981, making it the biggest failed investment in the former Yugoslavia.

One year later in Obrovac, what is likely the most renowned auction for the sale of a factory and its associated real estate in the history of Yugoslav industrialization took place. Remarkably, the auction lasted only five minutes, with not a single potential buyer showing up—only numerous journalists were present.²³ The ambitions of the Yugoslav aluminum industry to rival the USA and Japan proved unsuccessful.²⁴ As time passed, the equipment and materials from the factory were removed from its remains, leaving behind only waste and enduring ecological repercussions.

CAPTURING THE INDUSTRIAL LANDSCAPE

Brkan’s photographs serve as highly valuable archival resources that record the industrial heritage of the Obrovac region. These images depict the technical intricacies, machinery, apparatus, and production methods employed in alumina manufacturing.

These photographs, among other things, include portraits of laborers, which contribute to humanizing the industrial proceedings. They also portray the plant’s structural layout and its harmonious incorporation into the surroundings, encompassing flora, storage facilities, smokestacks, and other various elements. Moreover, by capturing the plant at various points in time, they chronicle the alterations and advancements in the plant’s evolution over the years. They possess historical and archival significance, offering a richer understanding of the industrial past of Obrovac and its area, shedding light on the transformations that have taken place in alumina production throughout the years.

Local newspapers made use of these photographs to offer supplementary information or context. Frequently, utilizing them to elucidate particular

facets of the factory’s activities or to offer a visual portrayal of the factory’s significance within the region. Additionally, photographs highlight the significance of the alumina factory and its contribution to Obrovac’s industrial history and also functioning as educational instruments, informing the public about the factory’s importance and its influence on the local community.

CONCLUSION

A series of press articles and photographs from that period testify to the incredible rise and fall of the large factory complex in Obrovac, which was encouraged by local businessmen and politicians. Built in rural areas, based on what will later prove to be an underdeveloped project, the factory became one of the major infrastructure failures, not only of the aluminum industry in Croatia, but in the entire former Yugoslavia.

The archival research of the photography archive of Zadar photographer Ante Brkan and newspaper releases gave an insight into the construction plan of the factory, the construction process, important advances in the realization of the project, and ultimately the liquidation of the Obrovac factory. The materials that followed the growth and collapse of the factory testify to the dedication to the development of the project and the (false) triumphalism of political structures. Photographs of Ante Brkan show the terrain of the future “Jadral” factory, bauxite sites, quarry, transport and loading of bauxite, formal opening of the factory, factory plant and, finally, abandoned plant buildings. Based on Brkan’s photographs, it is possible to make a complete reconstruction of the construction of the “Obrovac giant”. The preserved negatives show in great detail almost all stages of the factory’s construction, focusing on details from the construction site and factory plants, and in addition to parts of the factory, the photographer took portraits of the workers, mostly those who worked on the excavation of the bauxite, photographing them in close proximity and within their working environment.

Ante Brkan photographs testify to one of the largest modernization momentums in the coastal region, at a time when it was thought that, through the development of infrastructure, the area would finally fulfill its economic potential. With a long and detailed photographic monitoring of the factory’s construction, the photographer seeks to capture as much as possible - from the extensive plans of the terrain, the initial structures and the factory halls themselves, to details such as the machines in operation, in order to present as accurately as possible the beginnings of the new (unrealised) history of the Bukovica area.

22 “Izgradnju Obrovca nismo mogli zaustaviti.”

23 Bošković, op. cit., 210.

24 Matić, op. cit.

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1. Bauxite mining, 1968, Gallery of Fine Arts Zadar, Inventory number 23906. Photo Ante Brkan
2. Maslenica, loading of bauxite, 1970, Gallery of Fine Arts Zadar, Inventory number 21402. Photo Ante Brkan
3. Laying of the foundation stone, 1974, Gallery of Fine Arts Zadar, Inventory number 20578. Photo Ante Brkan
4. Construction of the alumina factory, 1974, Gallery of Fine Arts Zadar, Inventory number 20544. Photo Ante Brkan
5. Opening ceremony, 1977, Gallery of Fine Arts Zadar, Inventory number 23970. Photo Ante Brkan
6. "Jadral" alumina factory, 1977, Gallery of Fine Arts Zadar, Inventory number 20533. Photo Ante Brkan
7. "Jadral" alumina factory, 1977, Gallery of Fine Arts Zadar, Inventory number 20503. Photo Ante Brkan