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To cite this article: Elzbieta Weclawowicz-Bilska and Matylda Wdowiarz-Bilska 2019 *IOP Conf. Ser.: Mater. Sci. Eng.* **471** 112049

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Revitalisations in Polish Health Resorts vs. European Measures

Elzbieta Weclawowicz-Bilska ¹, Matylda Wdowiarz-Bilska ²

¹ Cracow University of Technology, Faculty of Architecture, Institute of Cities and Regions Design, 24 Warszawska Street, 31-035 Cracow

² Cracow University of Technology, Faculty of Architecture, Institute of Cities and Regions Design, 24, Warszawska str., 31-155 Cracow

eweclaw@poczta.onet.pl

Abstract. Nowadays there are 45 statutory health resorts, which means that the conditions and effectiveness of the treatment they offer is guaranteed by the state. Additionally, several dozen locations have natural medicinal resources, which are used to varying degrees. Many locations which served as health resorts in the interwar period, no longer fulfil this function. After the World War II all health resorts operating within the territory of the country were nationalised, but all of the ones that had been operating before obtained relevant statutes. Due to investments carried out in health resorts in time of socialism, many of such locations were subjected to excessive urbanisation, becoming bigger towns with the population of over ten thousand, in others the functions of leisure and tourism were being simultaneously developed, many of them assumed additional administrative functions, becoming seats of communes and counties. After regaining independence in 1989, long-term discussions were conducted devoted to the form and new legal solutions for health resort treatment. Simultaneously, a long-term discussion was launched on possible forms of privatisation of Polish health resorts. In principle, it consisted of three stages, and consequently heirs of former owners started to regain their properties only at the beginning of the 21st century. Owing to investments made in health resorts by different business entities in the years 1950-1989 and during the first years of privatisation, when single sanatoria or leisure facilities got sold, these returns actually referred to parts of treatment facilities or single buildings. Simultaneously, Polish health resorts started to be sold to different business entities and municipalised. Heirs of former owners, local authorities, as well as new users of health resort facilities conducted all sorts of adaptation, investment, and renovation works. They focused on the improvement of the quality of the facilities, devices, and space connected with health resort treatment, but they were also connected with the increase of the functional and aesthetic attractiveness of the entire town or village. Comparison of the effects of such measures in several health resorts in Poland with examples of similar actions undertaken in different periods in several health resorts in other European countries is the goal of this paper. It seems that representative examples of renovations of Polish health resorts returned to their heirs are Szczawnica and Solec Zdrój. Another group are spas located in the zone of big cities, such as Mateczny, regained by its owners, or Swoszowice in Cracow, which has been sold. This process looked different in case of health resort municipalisation, as in Rabka and Krynica. Among foreign examples, an interesting one is certainly the health resort in Vichy, restored in the 1960s and 1970s, and then again in the 1990s, Aix-en-Provence, and a small spa in the Vosges. Obtained results of these comparisons authorise us to state important sentences in conclusions.



1. Introduction

The goal of this paper is to compare the principles of revitalisation, renewal, restoration of health resorts in Poland and in other European countries. For the sake of the comparative analysis three health resorts from France were selected, Vichy, Aix-en-Provence and Contrexeville, and two Polish ones, Szczawnica and Solec. The study was based on the subject literature, in situ studies, and constant monitoring and observations of transformations encountered in these locations. The paper focuses on transformations during the last 50 years. So as to shed some light on the current situation, in several cases references are made to the situation after the World War II.

The specialist subject of spatial development and transformations of health resorts is rarely tackled in Polish architectural and urban planning studies [1], [2]. A large team under the supervision of one of the Authors hereof conducts systematic research in this respect at the Cracow University of Technology [3], [4], [5]. Among European studies, many of them focus on transformations of historic layouts and heritage [6], [7], as well as on the latest investments [8].

Today there are 45 statutory health resorts in Poland, covered with the guarantee of the state as to the effectiveness of the treatments they offer. In the years 1966-2006 additional 26 locations were regarded as possessing conditions necessary to conduct health resort treatment or exploitation of natural medicinal resources. Healthcare facilities operating there assumed recognised medical treatment directions. The Act from 2005 does not provide for such options¹.

After the World War II, in 1948, all private health resorts were nationalized. During the times of socialisms, the supervision of health resort treatment and the development of health resorts was performed by State Enterprise Health Resorts, actually controlling a part of the town or village where treatments were carried out. The remaining part was under the authority of the National Council, which gave rise to tensions and conflicts as to the way the space of such towns and villages should be shaped. In time, large areas were allocated to additional functions, such as permanent housing, holiday apartments, tourism, and local administration at the commune and county level. It referred particularly to the most renowned health resorts, such as Ciechocinek, Krynica, Szczawnica. This in turn brought about urbanisation of these places, in functional as well as in formal terms. New development forms that were introduced imitated urban planning and architectural solutions commonly applied in cities. In compliance with the principles in force in socialist countries, the basic accommodation of patients were sanatoria and spa hospitals, where medical supervision over patients was provided. They were built for at least 200 patients. Very big facilities, often consisting of several floors, introduced in the space of small towns and villages with populations of not more than a dozen thousand, changed their shape and scale quite significantly.

After regaining independence, discussions were launched in the subject of the system of health resorts in Poland. So as to strengthen common efforts, in 1990 a self-government Polish Health Resorts Association was established, corresponding to the tradition of the interwar period, which in 1991 was transformed into a Chamber of Commerce "Polish Health Resorts" [9]. Soon other associations of different spa resorts were established².

Such a big number of entities was not favourable when representing vital interests of these places before the government. Hence, the new act on health resorts was passed only in 2005. Simultaneously, their privatisation was conducted in three stages. At the time the condition and the financial standing of health resorts and individual sanatoria and holiday homes was so bad, that already in the 1990s attempts were made to sell individual facilities in order to have their standard improved by private owners. Nevertheless, these measures did not bring about expected effects. Privatisation of health resorts in the form of state-owned companies caused additional difficulties as they couldn't be revitalised by local authorities. Bad economic situation of the state in the period 2010-2012 contributed to the decision to sell or municipalise all health resorts in Poland except for Krynica.

¹ Act dated 28 July 2005 on Health Resort Treatment, Health Resorts, Health Resort Protection Areas, and Health Resort Communes.

² There were: Polish Health Resorts Union and Association of Polish Spa Communities.

When health resorts were returned to heirs of their former owners and sold, it was reserved that they needed to follow specific principles of revitalisation, as well as of the development of balneotherapy.

After the crisis of the 1970s, many French health resorts collapsed. Diversified revitalisation processes were implemented there, as well as in other European countries. In the 1980s and 1990s problems relating to the development of health resorts and their revitalisation appeared in many countries in great intensity. Many spas were renovated in Spain, France, and Italy, as well as in other European countries. The health resort chain *Chaîne Thermale du Soleil*, realised in France since 1984, clearly improved the condition of health resorts included in this cooperation. Increased interest in health resort treatments, spa therapy, fashion to be healthy and look beautiful brought about the construction and development of new facilities, also beyond the territory of Europe³. In Poland the works aiming to improve the quality of spaces for spas are being intensified, too.

2. Definitions of revitalisation

1. Revitalisation (Latin: *re+vita* – literally: bringing back to life, reviving) stands for actions focusing on the revival of degraded areas of cities, and in the case of health reports, neglected and underinvested spaces of balneotherapy. This is not about changing the function, as it is the case with other revitalised areas, post-industrial territories, or territories once occupied by railway infrastructure. On the contrary, revitalisation measures are to maintain the old function, or sometimes to extend it with some additional services. The essence is also boosting the economic dynamics, leading to the improvement in the quality of development of public spaces and areas addressed to treatment purposes, so as to improve the standard of therapy and improve residents' quality of life.

Literature on revitalisation often mentions definitions of this term focusing on the renovation of urban projects, as well as their revitalisation. In the 1990 in the Institute of Spatial and Municipal Management the general objective of the city renovation was believed to be *a complex of activities securing multifaceted and harmonious development of the city by means of adaptation of old resources to new needs* [10].

Another definition describes revitalisation *as a complex programme of renovations, modernisations of architecture and public spaces, revalorisation of historic monuments within a selected area, most often a historical district of the city, in connection with the economic and social development. Revitalisation is a combination of technical measures (...) with programmes of economic revival and activities fostering solving social issues* [11].

According to a German specialist, Andreas Billert, engaged in revitalisation and reconstruction of cities: *“Revitalisation is a comprehensive process of revival of an urbanised area whose space, functions and substance have been subjected to the process of structural degradation, causing a crisis which makes impossible or considerably hinders proper economic and social development of this area, as well as sustainable development of the entire city”* [12].

In destroyed and neglected health resorts, the basic problem is the lack of patients who constitute the essence of operation of such facilities, and unemployment. At the same time, developing other activities in health resorts is restricted by the need to provide appropriate environmental parameters. Additional problems occur in spas with preserved historic sites and monuments covered with protection. This gives rise to conflicts between the efforts of conservation services to preserve the structures in their intact condition, and medical requirements connected with the need to introduce new treatment techniques and methods requiring different, usually bigger, premises in buildings located in the direct vicinity of springs.

Summing up, revitalisation of a health resort can relate to the entire town or village or to its considerable part and it is connected with the need to reconstruct and revive not only the construction substance connected with the stay of patients, where the treatment process is to take place, but also arranged greenery areas, which constitute the foundation for this therapy. An important element is also

³ E.g.: Termas Geométricas Hot Spring Complex located in the National Park Villarica in Los Rios, Chile, or recently mushrooming thermal stations in Japan, such as the well-known health resort Beppu, or Jōshin'etsu- kōgen located in a national park, as well as other East Asian spa centres.

the improvement of the quality of servicing patients in residential premises, as well as in medical facilities. The treatment process is always associated with the need to provide attractive forms of spending free time after treatment by means of an appropriate level of cultural events and good standard of sports and leisure devices and facilities within the territory of the health resort. Hence this process is addressed to the renovation of degraded areas of health resorts in terms of their space, function, and architecture. The revitalisation process should be conducted in cooperation with entities representing all sectors of the socioeconomic life in the health resort: the owner of the health resort, local authorities, and at least more important business entities operating locally, such as e.g. spring water bottling plants.

Revitalisation is a process of sequential activities, the goal of which is the revival of destroyed, degraded areas. This process can be regarded in several aspects, among which the economic, social, and cultural aspects should be recognised as the most important ones.

The task of revitalisation of a health resort is most of all to reverse negative trends, such as degradation of the therapeutic space, loss or marginalisation of the therapeutic function of the area, or lack of adjustment of forms and functions of the economic activity conducted in this area by permanent residents, without taking the needs of arriving patients into account.

3. Analysis of revitalisation measures in selected French health resorts

3.1. Case of Vichy

Vichy is a town and commune in central France, in the region of Auvergne, in the department of Allier⁴. Medicinal spring water was known here ever since the Roman times as *Aquae Calidae*. Since the 17th century until the 1940s it was a famous health resort and spa [13]. The change of the function of the town into the seat of authorities collaborating with Germans during the World War II limited the spa treatment activities, and the hotels were taken over by government officials. After the war various economic development programmes were implemented here, connected with the location of industrial plants, especially in the north-western part of the city. The health resort experienced considerable development in the second half of the 20th century, in the 1950s and 1960s⁵. After the war in Algeria the number of patients and holiday-makers from the Maghreb states arriving at Vichy dropped drastically. [6].

The need to change the image of the town and to create an offer addressed to a different type of patients was decisive for the transformation of the city into a leisure centre and a health resort for young people during the term of office of mayor Pierre Coulon. The transformation was based on the establishment of Agglomeration Vichysoise out of three adjacent communes: Vichy, Cusset, and Bellerive. The programme of regional activation planned to build a dam and an artificial lake on the Allier river, construction of a leisure and sports complex, Omnisports Park,⁶ on the other side of the river in Bellerive, an outdoor swimming complex, and later on a golf course. In the northern part of Vichy Palais du Lac was erected, in order to support the development of water sports. In Cusset economic activities were developed, such as the ones connected with the production of cosmetics based on the Vichy spring water. New health and holiday investments gave the town a different appearance, attracting many young tourists, patients, and holiday-makers. Such big investments contributed to a bad financial standing of the town.

Another broad programme of revitalisation of the city and the health resort was planned at the beginning of the 1990s. Within the scheme of the project, implemented in 1989-2010 by mayor Claude Malhuret, efforts were made in order to identify activities which might accelerate the economic development of Vichy. It was planned to implement investments which would have a considerable effect on the quality of the urban and spa space and the level of fulfilling the balneotherapy function [16].

⁴ In 2008 the town was inhabited by 25,221 people, and the region by over 80,00. <http://en.wikipedia.org/wiki/Vichy>

⁵ At the time many celebrities, including royalties, of the Arab world and Europe resided in this health resort, e.g. Reza Pahlavi, Pasha of Marrakesh, Prince Rainer of Monaco, and others, and the town was dubbed "*Reine des Eaux d'villes*"

⁶ The lake on the Allier river was completed in 1963, and the Omnisports park was built in 1963-1968.

The development was based on the construction of technology parks, such as e.g. Bioparc Vichy, which was located in a natural rural landscape, isolated from any other development and use by means of tree walls. The park conducted research in the field of health and biomedicine on the basis of the tradition of health resort treatment and natural mineral resources. A branch of the Blaise Pascal University from the nearby Clermont Ferrond was launched, too, and in 2001 a University – Technology Pole, Pole Lardy-Celestins⁷, was established here. The university, as one of strategic functions of the town, has a very attractive location - close to the town centre and the spa district, surrounded by greenery. Its erection was connected with the economic plan adopted in 1997, which was to improve the attractiveness of the space, revive the town, fill it with young people, and link with science and business [16]. In 2008 the ATRIUM technology centre was additionally launched in a revitalised historic hall of spring water bottling plant near the main railway station. This facility offers places for meetings and green patios, which introduce light and the element of nature to the work environment.

Subsequent tasks consisted in the reconstruction and renovation of thermal pools and a balneotherapy centre, as well as in the modernisation of hotels. Within the scheme of space renovation and cultural heritage protection, a broad promenade was planned in the town centre, as well as a congress centre was to be built, making use of the existing buildings (casino and opera house), and the “Grand Marche” market hall was to be modernised (in 2006). Subsequent years saw the modernisation of the railway station and its surroundings (2009) and restoring the attractiveness of Rue de Paris, linking the railway station with the city centre (2010), as well as other important streets in the town.

3.2 Case of Aix-en-Provence

The spring water in Aix-en-Provence was well known already 2000 years ago and its medicinal properties were used in Roman Aqua Sextiae. The 16th century saw the beginning of a very rapid development of the health resort, when Quartier Mazarin and Cours Mirabeau were established, with high-quality architecture of the 16th and 17th century.

Contemporary transformations of the town took place in the 1970s. It was then that one of its sanatoria dating back to the 1930s⁸ located in Petit Arbois with the surface area of 4.5 thousand ha was allocated to the development of companies connected with environmental technologies. [17], upon the initiative of the property owner, the authorities of the department of Bouches-du-Rhône. In 1991 Arbois Technopolis was established here [3], and the closed and deserted buildings of the sanatorium were completely renovated and adapted to the scientific and research function according to a design by Massimiliano Fuksas. In time, other facilities were erected. Today, there are 110 companies, 11 research centres, an incubator, and 3 higher education institutions operating on 205 ha of the Arbois Technopolis intended for development, giving jobs to 1100 people and educating 300 students [18].

Over the last fifty years Aix-en-Provence has been experiencing unprecedented economic and demographic growth⁹, which is connected with the development of the research sector and the industry of advanced technologies and a change of the image of this tourist town and health resort [17]. The technological function of this one of the more important French economic centres is fulfilled by numerous higher education institutions and research and development centres, including the Aix-Marseille university¹⁰, the Nuclear Centre in Cadarache, and the Arbois Technopolis, which develops another activity zone in the area of the new TGV railway station [3]. The spatial transformation of the city results from its economic development based on activity zones [19]. The biggest zones, besides the Arbois Technopolis, are: Les Milles industrial park, Europarc de Pichuary, and Duranne TP, or the

⁷ Its construction was commenced in the 1990s, making use of the Lardy bathing reports from the 1930s, designed by Charles Letrosne, declining ever since 1967.

⁸ Designed by Marseilles-based architect, Gaston Castel, in the Provencal style.

⁹ In 1954 Aix was inhabited by 48,400 people, and in 2008 by 142,750 residents [19].

¹⁰ The Aix – Marseille University was established in 2012 by means of a fusion of three universities (Provence / Méditerranée / Paul-Cézanne), as one of France’s biggest university clusters, arranged in five campuses in Aix and Marseilles, educating 70 thousand students.

area of the new TGV Railway Station, which were developed or reconstructed in the years 1990- 2010 [3].

Picturesqueness of the urban landscape, richness of architecture, landscape attractiveness, climate and insolation, location between the sea and the mountains, as well as a big share of greenery¹¹ in the town and the diversity of the public space constitute an incredible advantage for the development of the tourist, leisure and health resort function, as well the knowledge-based economy.

3.3. Case of Contrexéville

A small town Contrexéville, located in the vicinity of the well-known health resort Vittel, with the current population of 3,700, developed at the time when Lorraine was under the rule of the Polish king, Stanisław Leszczyński. This dynamically developing town in the Vosges declined during the French revolution, albeit medical facilities and the spring itself were not destroyed. The 19th century brought the heyday of the health resort and the entire town.¹² During the World War II the town declined – the treatment centre was closed, and the German occupant launched a hard coal mine in its vicinity, which had been closed in 1903. The attempt to restore the treatment activities in the 1950s consisted mainly in intense exploitation of mineral waters for the purposes of the water bottling plant. Another crisis was brought by the 1970s, when the number of patients dropped and hotels were closed.

Measures undertaken at the end of the 1970s consisted in changing the treatment profile. In terms of investments they focused not only on the quality improvement and extension of individual medical and entertainment facilities, e.g. Rotunda Pavilion and casino, but also on increasing the attractiveness of the areas adjacent to the healthcare facilities.¹³



Figure 1. Contrexéville fountain, photo: Christian Amet, [20]

An interesting project was the development of a number of squares, carefully arranged and linked with each other by means of attractively solved urban interiors, with the dominance of a hill of waterfalls. A system of waterbodies, colourful fountains ‘figure 1’ and ponds was designed in the public space of the city, along with a covered pedestrian and shopping mall, which by attracting attention limited the perception of less attractive façades.

¹¹ The surface area of the territory of Aix covered with woods is 6 thousand ha, which is 1/3 of the total area of the city.

¹² E.g. in 1885 architect Schertzer designed a new pavilion built at the springs in the style of the Baltard pavilion, making use of cast iron and glass. At the end of the 19th century 3000 people avail of treatments here, and the volume of the production of bottled water is two million litres per year.

¹³ As a result of these measures the number of patients rose from 1253 in 1980 to 3442 in 1986.

In Contrexéville the development of health resort areas is being continued, together with the improvement of the quality of the urban space with small-scale projects consisting of predominantly two-floor buildings located along streets lined with trees. Many new cultural and sports facilities have come into being, and their development is still in progress, creating an extensive agglomeration, [21]. After restructuring of the centre, the town maintains the health resort territory with vast green areas.

4. Analysis of revitalisation measures in selected Polish health resorts

4.1. Case of Szczawnica

This health resort located at the border of the Pieniny National Park, is one of Poland's biggest Carpathian spas. It was established in the first half of the 19th century by a Hungarian family of Szalays. Dynamic development of Szczawnica falls in the second half of the 19th century, which was consistent with the plan of Dr Józef Dietl. After a financially unsuccessful experiment of entrusting the management of the health resort to the Academy of Learning in Cracow, count Adam Stadnicki becomes the owner of the complex. He extended and modernised the infrastructure of the town and of the health resort. Furthermore, a Hydropathic Centre and Baths were open, the well-room in "Dom nad Zdrojami" House was modernised, and a state-of-the-art Inhalatorium was opened. After nationalisation in 1948 the health resort became the property of the state.

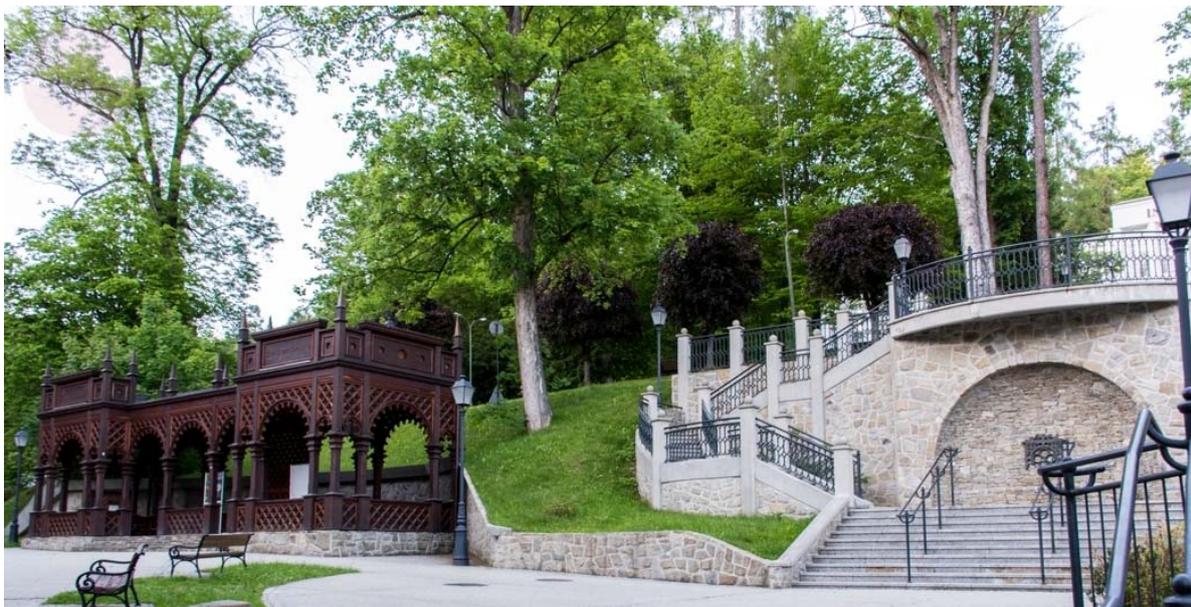


Figure 2. Szczawnica – rebuilt source pavilion Magdalena and reconstructed the assumption of the field stairs to the Inhalatorium, photo E. Węclawowicz-Bilska

In 1999 the State Spa Centre Szczawnica was transformed into a joint-stock company, and in 2005, under a ruling of the Supreme Administrative Court, heirs to count Adam Stadnicki recovered the health resort in Szczawnica. 'figure 2'. A family company Thermaleo, set up by the count's great-grandchildren, started to revitalise the resort [22]. In 2008 a well-room was opened in Dietla square and a coffee shop was put into use, immensely popular amongst visitors of the resort. In subsequent years a modernist villa Modrzewie was renovated and transformed into a five-star hotel. In 2011 the Guesthouse, burnt in the 1960s, was reconstructed and put into use again – today it serves as a cultural salon of Szczawnica. Thanks to the cooperation with the municipal authorities and EU subsidies, revitalisation of Lower and Upper Park – the main green areas in the health resort – was commenced.

In its next plans, the company¹⁴ intends to build a new Natural Therapy Centre of the total floor area of 7.000m², with a fully furnished rehabilitation and treatment centre in the style corresponding to the tradition of 19th-century resorts. A thorough renovation and re-opening of the “Hutnik” Sanatorium from the 1970s is also planned. Unfortunately, the old natural therapy centre¹⁵ is still in the health resort, although it is damaged and devastated, and discussions among monument preservation officers may impose an order to demolish it.

4.2. Case of Solec Zdrój

Spa treatment has been present in Solec Zdrój since the 1820s, in the vicinity of 100 ha of coniferous forest. The basic medicinal product is hydrogen sulphide brines. Water which is quite unique in terms of the content of medicinal substances was found near the health resort. The village is located in an attractive tourist region of Pomorzanie, in the direct vicinity of the Vistula river valley. There are many historic complexes and centres in the region, such as e.g. a large health resort Busko-Zdrój, medieval towns Wiślica, Stopnica, Opatów, Pińczów, etc. The village with the population of nearly 900 is the seat of the communal office. There are 400 beds available for patients in the health resort.

In socialist times the health resort in Solec Zdrój had over a hundred beds for patients in several small buildings. So far, the owners' heirs have built two four-star hotels, each with 200 beds, in the vicinity of the historic spa park. In 2005 the Malinowy Medical Spa hotel was put into use, combined with a rehabilitation and wellness centre, which now possess a German quality certificate Medical Wellness, confirming the European standard of the venue. A complex of indoor mineral pools was built to the south of the historic park, in the vicinity of monumental mineral baths. In 2015 another high-standard hotel with a treatment centre, Malinowy Zdrój, was put into use near the pool, intended for 200 visitors.

In this small health resort the revitalisation of the treatment function takes place beyond the village itself. New buildings were built around the historic treatment complex, within a considerable distance from the village of Solec Zdrój, which so far has not been subjected to revitalisation, apart from the spontaneous development of holiday accommodation (guesthouses, B&Bs) due to the development of balneotherapy and spa services.

5. Results and discussions

The principles and examples of revitalisation of selected areas in some towns – health resorts in France presented in this paper are closely connected with the legislation in force there in terms of spatial planning and urban design. Usually revitalisation projects cover a vast territory – an entire town or its considerable parts, and it is so in all the French examples. Revitalisation of certain areas is accompanied by reconstruction, modernisation, or stimulation of other areas, often quite distant ones, or even an entire region, to new functions. Consequently, the system and scope of corrective measures get extended, which provides a better guarantee of success, because newly stimulated areas, especially for the purposes of high technology companies, like in Vichy and Aix, exhibit a great development potential.

Revitalisation projects not only aim to provide favourable economic conditions, but they actually create new attractive public space of the town and health resort, with a high quality of development and arrangement, with vast green areas, which secures the implementation of postulates of sustainable development, as it can be seen in Contrexéville. In Vichy and Aix, one can see consequence in the long-term implementation of resolved plans and in the perfect coordination of individual stages and partial projects focusing on linking them with the spatial development of the entire city or its considerable areas, as well as in the perfect interconnection of mutually supportive projects in several

¹⁴ The Group owns 12 buildings in the centre of the town, already in operation, and 25 structures which still wait for revitalisation. So far the Group has invested PLN 150 million in the development of Szczawnica, and investment plans comprise the amount of PLN 500 – 600 million. The project has given jobs to 240 people, and along with the investment development the employment is to reach 600-700 people.

¹⁵ The design of the old building in Szczawnica was drawn up by arch. Mieczysław Gliszczyński in 1963.

adjacent administrative units. Interestingly enough, excessive development of the technopolis function, based on specialist healthcare services, consequently may limit the health resort operation,

Revitalisation of Polish health resorts focuses on single locations, and implementation of one-off investments takes years. There is a lack of common development plans and clear cooperation between municipal authorities and health resorts, which is very well visible in Solec-Zdrój, but also in most investments in Szczawnica. Most probably it largely results from limited funds of the owner and the town. Development of spa centres in Poland is still based on the function of health resort treatment, tourism, and leisure, including mass recreation, which may dominate medical functions.

6. Conclusions

Examples of French health resorts demonstrate that locating **technopolises** in the vicinity of health resorts considerably improves the financial standing of the commune and allows to make use of neglected structures, also after former mineral water bottling plants. It also improves the quality of public spaces in the entire town. Designing spaces for high technologies beyond the limits of the town – health resort does not disturb its development.

Basing the development of Polish health resorts on profits generated by balneotherapy, rehabilitation, leisure and tourism is too uncertain, subjected to seasonal fluctuations, and consequently weak. Attempting to design areas addressed to high technologies in the vicinity of health resorts, on the other hand, depends on providing appropriate access to these towns and villages.

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