MODERN WORLD HERITAGE

Reflections on Ukraine

Thomas Flierl, Jörg Haspel

ABSTRACT: The article reflects on the status of modern World Heritage sites in general and in particular related to Ukraine, and the specific typologies of infrastructure and modern urban planning – both closely related to each other. The current war and the disastrous destruction of urban and civil infrastructure have again raised the question of its public perception, official recognition and national and international protection. Next to the internationally known Derzhprom complex, the cnstruction of Dneprostroj, the Dnipro Hydroelectric Station (DneproGES/DniproHES), the erection of a new industrial combine in direct proximity to it, and the new socialist city Sotsgorod—known as Zaporizhzhia—are impressive examples of urbanization and testimonies of the 20th century that need to be protected.

KEYWORDS: World Heritage, modern heritage, tentative list, infrastructure, Ukraine

INTRODUCTION: This year, the UNESCO World Heritage Convention, adopted in 1972, is celebrating its 50th anniversary. The jubilee provides an occasion for a self-confident and also self-critical look back. Hardly any other program is likely to have brought UNESCO's world cultural policy to the attention of the general public more than the World Heritage Convention signed on November 23. With almost 200 participating states and 1154 natural and cultural sites, the outcome of the first 50 years is impressive [Table 1].

Table 1 Number of World Heritage Properties by region in 2022, adapted from UNESCO[1]

REGIONS	CULTURAL	NATURAL	MIXED	TOTAL	%
Africa	54	39	5	98	8.49%
Arab States	80	5	3	88	7.63%
Asia and the Pacific	195	70	12	277 *	24.00%
Europe and North America	468	66	11	545 *	47.23%
Latin America and the Caribbean	100	38	8	146 *	12.65%
Total	**897**	**218**	**39**	**1154**	**100%**

However, the anniversary may also provide grounds for an interim review to identify weaknesses in the implementation of the World Heritage Convention to date and to highlight positive development opportunities for the future. From the point of view of DOCOMOMO, internationally established in 1990, or of the International Scientific ICOMOS Committee on 20th Century Heritage Conservation (ISC 20C), launched in 2005, this interim review pays special attention to the young heritage of Modern Movement from the 20th century. Ukraine adopted the UNESCO Convention in 1988 when it still belonged to the Soviet Union, which was liquidated in 1991. The first inscription of a World Heritage Site in Ukraine followed in 1990 and concerned architectural monuments in Kyiv. This interim review reflects particularly on these imbalances in the nomination and listing of World Heritage within Ukraine,[2] which has seven listed World Heritage sites, divided into six cultural and one natural site:

- Kyiv: Saint-Sophia Cathedral and Related Monastic Buildings, Kyiv-Pechersk Lavra (cultural)
- L'viv – the Ensemble of the Historic Centre (cultural)
- Struve Geodetic Arc * (cultural)
- Ancient and Primeval Beech Forests of the Carpathians and Other Regions of Europe * (natural)

- Residence of Bukovinian and Dalmatian Metropolitans (cultural)
- Ancient City of Tauric Chersonese and its Chora (cultural)
- Wooden *Tserkvas* of the Carpathian Region in Poland and Ukraine * (cultural)

*: transboundary property

Although all date back to pre-modern times, the Struve Geodetic Arc stands out as "an important step in the development of earth sciences and topographic mapping. It is an extraordinary example of scientific collaboration among scientists from different countries, and of collaboration between monarchs for a scientific cause."[3] Worth to be mentioned is the high proportion of international transboundary World Heritage Sites in which Ukraine participates. In addition to the serial World Heritage of the Struve Arc, in which Ukraine contributes with four stations of 34 components in ten countries, and the bi-national series of 16 wooden churches in Poland and Ukraine, the country is also involved in the largest UNESCO World Heritage complex: the "Ancient Beech Forests and Primeval Beech Forests of the Carpathians and Other Regions of Europe", which has been extended several times since 2007 and today covers about 100,000 ha in 94 regions and 18 European countries, including eleven forest areas with almost 30,000 ha in Ukraine alone.

As of November 7, 2022, UNESCO has verified damage to 213 sites since February 24, 2022.[4] So far, the seven inscribed World Heritage Sites in Ukraine seem to have gotten off comparatively lightly. According to a UNESCO press release of October 12, 2022: "To date, none of the Ukrainian cultural sites benefiting from UNESCO's protection by virtue of their inscription on the World Heritage List have been bombed."[5] The tenor of World Heritage Watch's latest damage report, published in November 2022, is similar (Dömke, 2022).[6]

In the course of the last months, Ukraine has officially confirmed that it has submitted the property of "The Historic Centre of the Port City of Odesa" from its tentative list as an acutely endangered cultural site for the inscription, in accordance with UNESCO's Operational Guidelines for World Heritage Procedures on the basis of an Emergency Procedure.[7] The core zone of the Odesa nomination dossier includes the Black Sea port with its modernized engineering structures of the quay and cargo transfer facilities of the regularly planned city from the 19th century.

While the transnational initiative to nominate significant astronomical observatories (Wolfschmidt, 2009), launched in 2008,[8] also includes four facilities from Ukraine whose technical equipment dates back to the 19th and 20th centuries and can still be found on the Ukrainian national tentative list, projects with Ukrainian participation for international serial nominations of the socialist heritage in Central and Eastern Europe seem to be a distant prospect.[9]

01 The ensemble of the Dzerzhinsky Square during its creation. © Unknown, photo of the early 1930s / [Photo of the Dzerzhinsky Square]. Grigory Lebedev's papers (Fund 1042, Inventory 1, Folder 1, p. 459), Central State Archive Museum of Literature and Arts of Ukraine (CSAMLA), Kyiv, Ukraine.

Looking into the tentative list of Ukraine—last revised on July 22, 2019—there are 17 sites proposed which include only one, and for the first time, modern building of the 20th century, the Derzhprom (the State Industry Building) in Kharkiv, nominated on April 27, 2017.[10] More details about the complex of Derzhprom [FIGURE 01] can be found in the article by Smolenska.

THE DOCOMOMO TENTATIVE LIST FROM 1998 AND THE GAP REPORT FROM 2005

Occasionally apostrophized as the "DOCOMOMO Tentative List" and compiled at the invitation of ICOMOS (1992), this first overview of possible World Heritage candidates of the modern era had emerged from a survey involving all national experts and international working groups of DOCOMOMO, yielding some 100 proposals for future World Heritage nominations.[11] By the mid-1990s, the World Heritage List numbered about 350 items, of which only three were clearly attributable to 20th century architectural history: Brasilia (Brazil), inscribed in 1987; the Woodland Cemetery Stockholm (Sweden, 1993); and the Bauhaus sites in Germany (1996), accounting in total for less than one percent of all listings.

The DOCOMOMO list comprised around 100 proposals (from the years 1897–1977), including even then the idea of nominating complete oeuvres of the heroes of Modernism in a package, such as the masterpieces of Le Corbusier and Frank Lloyd Wright, but also selected buildings from the life's work of Mies van der Rohe or Alvar Aalto. In retrospect, it is also noticeable that outstanding

technical testimonies to the art of civil engineering and the technical infrastructure created and left behind by the Modern Movement are, at best, only marginally included in the list of proposals.

The vast majority of the sites proposed as World Heritage candidates were distributed among the UNESCO region Europe/North America, while Latin America/Caribbean and Asia/Pacific were hardly represented, and Africa and Arab states were not represented at all. Essentially, the DOCOMOMO Tentative List of 1998 confirmed the geographic and thematic imbalance and need for correction of a Eurocentric World Heritage List stated a few years later by ICOMOS and UNESCO in the so-called Gap Report (2005).2 In 2001, UNESCO's World Heritage Center, ICOMOS and DOCOMOMO jointly initiated a work program for the identification, documentation and promotion of modern architectural heritage because properties and sites under this category were considered to be underestimated in general and underrepresented in the World Heritage list in particular.[12]

The inscription of Le Corbusier's oeuvre, which was successfully completed in 2016 and includes 17 sites in seven countries on three continents, or the inscription of a series of eight works by Frank Lloyd Wright on the 2019 UNESCO list, in a sense, fulfils the mandate of the first DOCOMOMO Tentative List and UNESCO's Heritage program. The 2017 inscription, titled "Asmara: A Modernist African City" of the capital of Eritrea, which documents a half-century of architectural history up to World War II (1893-1941), also opened eyes to the colonial and post-colonial legacy of Modernism on the African continent.

Today, the question is no longer a general one of whether the World Heritage List of monuments and sites of the 20th century can be better historically-chronologically and geographically-regionally balanced, but above all: with which architectural, urban planning and technical achievements and successes did the last century make an outstanding contribution to the recent history of humankind and of the planet, and with which heritage sites can its extraordinary universal contribution be credibly attested to and conveyed. It should not be primarily a matter of extending the list of possible architectural masterpieces of the last century in the UNESCO register or of drawing up backup lists for the oeuvre of underrepresented heroes of Modernism (incl. late and Postmodernism) but of taking into account values and achievements without which the 21st century and the world in which we live today would be unthinkable. "The Twentieth-Century Historic Thematic Framework" presents an overview of typologies and examples and can serve as a tool to identify and categorize suitable candidates.[13]

IDENTIFYING THE GAPS IN MODERN WORLD HERITAGE

Looking back on the more than 1100 World Heritage nominations and the almost 1800 nomination proposals of the signatory states for new nominations, one must be less concerned about a statistically numerical underrepresentation of testimonies of the 20th century but rather about the absence or a conspicuous lack of outstanding examples of modern infrastructure that determined modern life in the last century. This is largely true for social, cultural, or ecological infrastructure. For example, the heritage of sport or the modern Olympic movement has so far been missing from the UNESCO list, as have more recent testimonies to social and health care or even green-blue infrastructures, but is perhaps particularly striking with respect to the broad spectrum of technical and transportation infrastructure that the last century has brought forth anew and shaped extensively. Four heritage categories of the technical infrastructure and transport structure of the last century can be used as examples to identify the desiderata of a world heritage policy to do greater justice to the cultural diversity of modernity in the future.

ENERGY SUPPLY

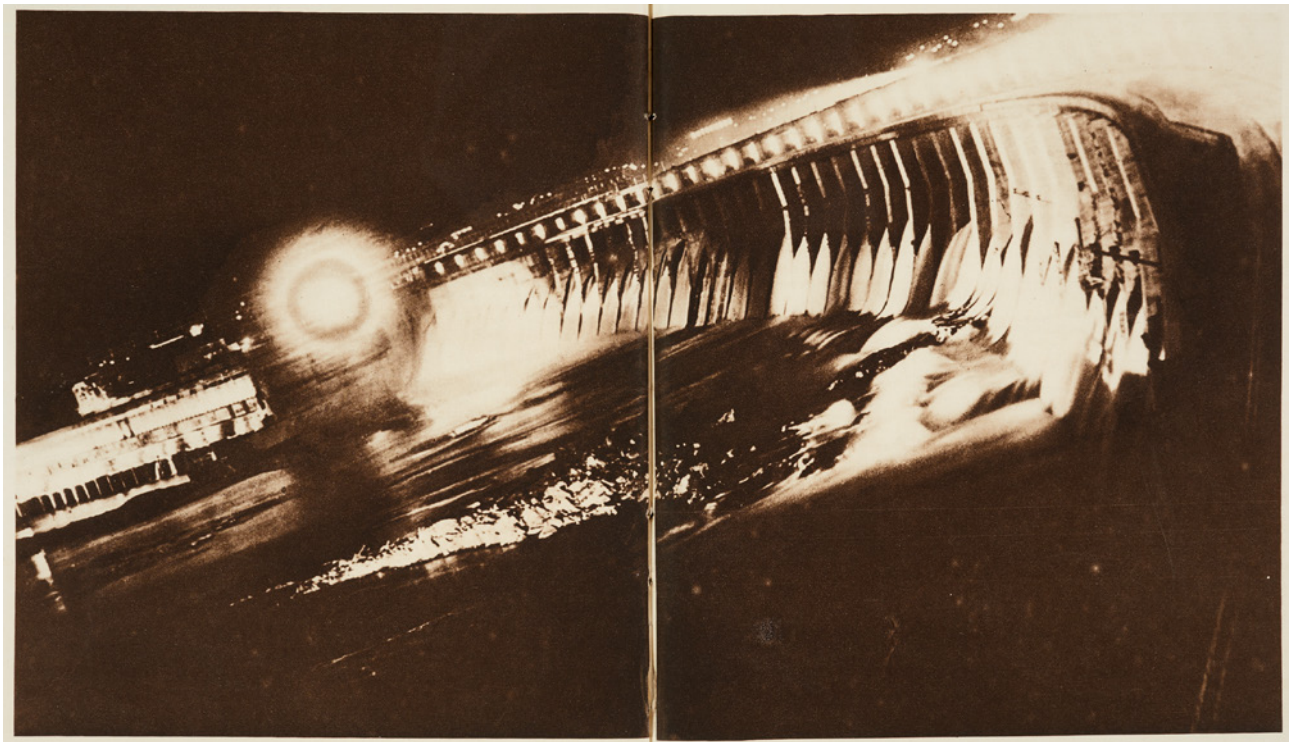
One does not have to think of the testimonies of nuclear energy supply, whose disastrous legacy in Chornobyl (Ukraine) or Fukushima (Japan) is likely to outlive humankind anyway, to identify a gap in the World Heritage List. Monumental gas tanks and historical gas production facilities—mostly shut down—are now on the lists of monuments in various countries but are not represented on the UNESCO list. Other forms of grid-based energy, namely evidence of electricity supply or long-distance heating, are also almost completely absent from the World Heritage List.

However, the production and spread of electric power radically changed the world in the 20th century, not only in the energy sector but also in everyday life—from work to housing to leisure activities and, not least, metropolitan traffic. Still, this Second Industrial Revolution has hardly found its way into World Heritage: after all, the Rjukan-Notodden Industrial Heritage Site, registered in 2015, includes hydro-electronic power plants to supply heavy industry, settlements and transportation systems in the neighborhood. The Berlin legacy of power supply and the electrotechnical industry brought together under the label "Elektropolis",[14] is considered in its completeness—from Peter Behrens' AEG turbine hall to the factories of Siemensstadt or power plants and substations—unique internationally, but its nomination was ultimately unsuccessful because of economic concerns of world-famous companies.

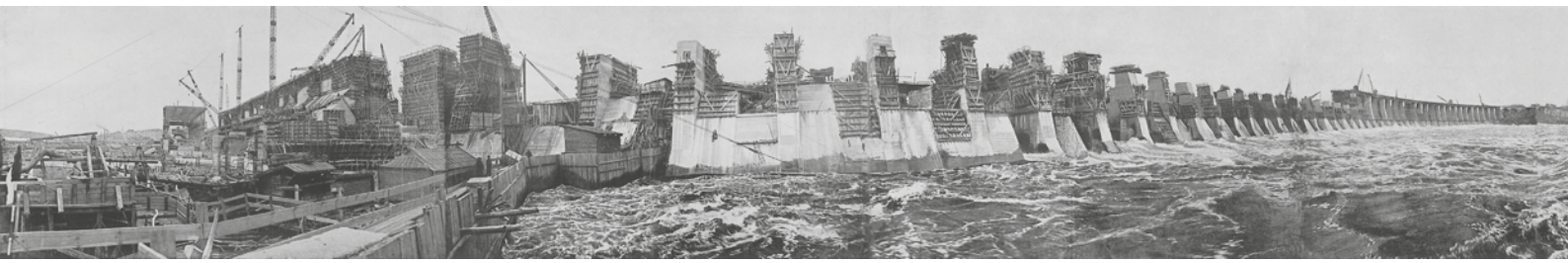
In Ukraine, an equally impressive example can be added: The construction of the, at the time, world's biggest dam with the Dnipro Hydroelectric Station (DneproGES/DniproHES), the erection of a new industrial combine in direct proximity to it, and the new socialist city Sotsgorod connected to it—the term Dneprostroj (the Russian acronym for: Dnipro Construction [Company]) included all of this [FIGURE 02]. Dneprostroj (1927–32) was one of the gigantic model projects of Soviet industrialization [FIGURE 03]. The inauguration of the hydroelectric station became a symbol of the successful conclusion of the first Five-Year Plan (1928–32) and bore witness to the technical-organizational and political-economic achievements in gradually transforming a backward, semi-capitalistic, agrarian country into a modern, socialist industrial power [FIGURE 04].

Dneprostroj was the pride of the Soviet Union. Weekly newsreels, photobooks, newspapers, and magazines presented impressive pictures of the construction work on the dam and the creation of the hydroelectric station, industrial sites, and the city. The journal USSR in Construction

02 Dneprestroi: Dnipro dam and power station. © Unknown, SSSR na strojke / USSR in construction, 10, 1932 (without pages).



03 Dneprestroj: Dnipro dam under construction, far left the steel frame for the turbine house. © Unknown, Dneprostroj and New Zaporizhzhia, Kharkiv 1932, p. 2 (fold-out pages).



04 Dneprestroj: Ceremonial opening of the DneproG S/DniproHES on October 10, 1932. © Unknown, SSSR na strojke / USSR in Construction, 10, 1932 (without pages).

alone dedicated two issues (4 [1930] and 10 [1932]) to Dneprostroj [FIGURE 02, FIGURE 04]. In his film *Ivan*, which shows the political development of a peasant youth into a communist, Alexander Dovzhenko assembled long scenes of the construction work on the dam. Following *Cement* (1925), Feodor Gladkov wrote his second production novel, *Energy* (1933)[15], about the creation of the hydroelectric station. Dneprostroj was presented at the World Expo in Paris in 1937 and in New York in 1939–40, at the latter by a fifty-square-meter-large model. But by the middle and end of the 1930s, the capital Moscow with the Palace of the Soviets had long since become Stalin's model urban development project.

The history of Dneprostroj shows how industrialization changed the country and furthered the Stalinization of the process of modernizing society while also attempting to "fetter" it at the same time. The project organization of Dneprostroj was headed by engineer Ivan G. Aleksandrov[16]. It included not only the dam and the hydroelectric station but also the construction of industrial facilities and the Sotsgorod (the city of socialism).

THE SOCIALIST CITY OF DNEPROSTROJ

While the construction of the dam and hydroelectric station has found a fixed place in the writing of the history of architecture, there has so far been only very little research done and very little published about the general planning of Greater Zaporizhzhia and the construction of the Sotsgorod (socialist city) of Dneprostroj.[17]

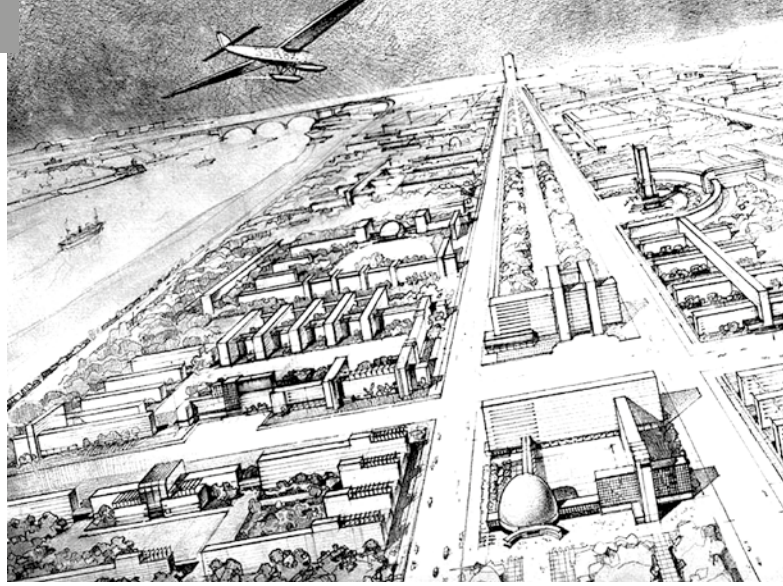
Originally only conceived as a workers' housing estate for the hydroelectric station, the perspective changed over the course of planning and the establishment of the large industry combine. During the construction of the dam and hydroelectric station, the workers and American experts lived on the right side of the Dnieper, where the administration building for Dneprostroj was also located. While this section of the city retained its residential character, the urban development on the left bank was connected with the view of the city of Aleksandrovsk located further downstream, as well as of Khortytsja Island, which formed directly behind the hydroelectric station as a result of the division of the old and new Dnipro.

A competition by invitation for the general planning of the city of Greater Zaporizhzhia then took place in 1929, with four collectives participating: besides Victor Vesnin for Dneprostroj, also Aleksej Shchusev, Boris Sakulin, and a group of graduates of the (Bauman) Moscow State Technical University (MSTU). Vesnin's proposal was specified as an additional basis and later developed further under the responsibility of Pavel Chaustov and Ivan Malosëmov [FIGURE 05].

The central idea, which was also realized, was developing the future city on the dam on the left bank of the Dnipro up to the existing old city of Aleksandrovk, renamed Zaporizhzhia in 1921 (*za porogami* meaning "behind the rapids"). In contrast, the idea of settling the island of Khortytsja as well was not realized. The linear structure of Zaporizhzhia, which is still in effect today, is expressed particularly well in a vision of the city from around 1931 [FIGURE 06]. Chan-Magomedov described the structure of the general plan for the Sotsgorod as follows:

The territory of the city is structured into seven districts with their own autonomous cultural, social, and administrative subcenters, subordinate to the center of the city as

05 General planning for Greater Zaporizhzhia by Chaustov a.o. 1930 © RGALI, Budyvinstvo 1,2/1931.



06 Perspective of the II district (Voznesenk) of the Socgorod of Greater Zaporizhzhia by V. Andreev (early 1930s). © Unknown (Internet).

a whole, which has been planned in the second district. Adjoining this district is the area of the first phase of construction (the sixth residential area, the Sotsgorod), which consists of a series of quarters.[18]

At the beginning of December 1929, immediately after the competition of the general plan, Vesnin was commissioned to present a design for a typical building development for a quarter in which "all the principles for the new way of living" were expressed and all spaces for communal functions were shown by January 15, 1930. The project also had to be realizable during the 1930 construction season.[19]

The sixth residential area was erected in a short period of time (1930–33) and can be referred to as an ideal example of classical Soviet Modernism, i.e. Constructivism. A wide range of architects experimented with types of housing—between communal housing and residential quarter—in the transition to the "new way of living." While communal housing dominates in the second district, the 5th quarter represents a classical form of housing development arranged in rows, with a green interior courtyard in which a small library formed the intellectual and cultural center [FIGURE 07]. The center of the 6th residential area is marked by the intersection of Lenin Prospekt (which is oriented toward the hydroelectric station and leads to the old city of Aleksandrovk) and the Prospekt of the Metallurgists (which runs between the combine and the Dnipro). As a result of the three- to four-story development, the 6th residential area has a very uniform character.

The historical photos give the impression of a modern city erected with the simplest means, nonetheless presenting structural-spatial diversity and communicating the utopia of a city of social equals. Consequently, even before the war, the most advanced buildings on the Prospekt of the Metallurgists, the residential facility and the hotel of the city [FIGURE 08], were ennobled by decoration and therefore ruined. The buildings that were added in Zaporizhzhia until the mid-1930s were post-Constructivist; they still breathed the spirit of modernism but were now designed in a more sedate and elaborate way. The relative stabilization after the years of famine in 1931–32 found its aesthetic expression, hence giving rise to a certain bourgeois character; the time of social experiments was over, and the years of mass terror and war were still to come.

Still, Zaporizhzhia, like many other new cities in Ukraine, is also an example of the great inventions and developments in communications technology that revolutionized the world and brought it closer together in the 19th and 20th centuries, from telegraphy and telephony to digital media. They have left behind architectural and technical testimonies worthy of preservation, but they are a rarity on the world heritage list.

In 2004, the Varberg Radio Station (Sweden), a working long-wave machine transmitter from the early 1920s, and in 2019, the Jodrell Bank Radio Observatory (UK) from the 1950s, were inscribed on the World Heritage List as technological installations of radio and radio transmission. Radio and television towers accentuating cityscapes and landscapes—Vladimir Šukhov's legendary hyperboloid grid net towers from the interwar period in Russia or the slender reinforced concrete structures of television and

07 Socgorod residential houses with the Library (5th quarter) by Architect Sergey Andreevskiy, 1930 © Jurij Barranik, Pavlo Kravcuk (Zaporizhzhia).

08 Socgorod Dormitory / Hotel at Prospect of Metallurgists 2 by architects B. Letavin and G. Orlov, 1930-31. © Jurij Barranik, Pavlo Kravcuk (Zaporizhzhia).

09 Leisure time on Khortytsja Island in front of the two-story bridge for railway and car traffic over the new Dnipro River designed by Aleksandrov in 1927. © Unknown, Internet, 1935.

telecommunications towers after 1945—are not represented there, nor are radio houses, broadcasting stations or television studios.

TRAFFIC AND TRANSPORT SYSTEMS

Transport routes, as they have already been examined in various thematic studies and bibliographies by TICCIH and ICOMOS, are increasingly represented on the World Heritage List. Among them are some historic routes of rail communications or humanmade waterways and bridge structures, some dating back far into the 20th century. The old city center of Budapest, inscribed on the World Heritage List in 1987 and expanded in 2002, even includes a section of the subway, which was put into operation in 1896 as the first metro on the continent. But neither large European nor American founding cities of modern subway traffic represented, such as London, Paris, Moscow or New York and Buenos Aires. In Ukraine, Aleksandrov's project Dneprestroj also included designs for the floodgates, railway lines, and both two-story bridges for crossing Khortytsja Island [FIGURE 09].

FILLING THE GAPS WITH LANDMARKS OF TECHNICAL INFRASTRUCTURE

The reasons for the missing representation of the technical infrastructure of the 20th century on the World Heritage List are manifold. It cannot be due to a lack of significance of this modern infrastructure. Rather, this gap in the World Heritage register probably reflects the more stylistic approach of architectural and urban planning historiography to modernism, in which even outstanding works of engineering and epochal scientific-technical innovations are often discussed only in the margins. Secondly, technical infrastructure systems, for example, in the field of energy supply or metropolitan transportation, often prove difficult to grasp visually and functionally when they owe their groundbreaking effect to extensive linear connections and interconnections in space, i.e., when they are highly complex and multi-layered and cannot be perceived and conveyed at a glance. Thirdly, the talk of urban engineering as the "invisible intelligence" of urban planning[20] reminds us of the extent to which infrastructural facilities and services are removed from public perception as they are created and mediated, for example, because they are underground, difficult to access or have a non-material operation anyway. And finally, technical infrastructures serve to provide services of the general interest across generations, whose requirements change rapidly and, therefore not only need continuous care and maintenance but also require ongoing renewal and modernization. Permanent technical infrastructures can only perform optimally if they can be continuously improved and adapted to changing needs.

CONCLUSIONS

The World Heritage Convention should not merely be understood as an aesthetic concept and the World Heritage List not merely as a sample collection of the best of the world's architectural history. Rather, they should be committed to human history's achievements and cultural heritage in all its broadness and diversity, allowing them to claim a place on the World Heritage List for the 20th-century heritage and its epochal achievements of modern infrastructure. The current updating of many national Tentative Lists for future World Heritage nominations provides an opportunity to reflect on this identified gap in Modern Movement's achievements in the UNESCO List and to work more intensively towards a representative, balanced and credible World Heritage List. For Ukraine, this also means protecting some of its unique ensembles next to Derzhprom, the many industrial sites and new connected cities—although most of them have suffered continuous and ongoing destruction, transformation and reconstruction.

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JÖRG HASPEL (1953), *former State Curator of the Landesdenkmalamt Berlin. Studied architecture and urban planning at Stuttgart University and history of art and empirical cultural studies at Tübingen University (1972-81), Preservationist at the Senate Department of Cultural Affairs at the Hanseatic City of Hamburg (1982-91), State Curator and Director of the Berlin Heritage Conservation Authority (1992-2018). President of ICOMOS Germany (2012-2021) and funding member of the International Scientific Committee of 20th Century Heritage of ICOMOS (ISC20C) in 2005. He is Chair of the board of the German Foundation of Monument Protection since 2014 and Honorary Professor at Technical University of Berlin.*

ENDNOTES

1 The data is retrieved from: https://whc.unesco.org/en/list/stat, Accessed Oct. 30, 2022).
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4 These are 92 religious buildings, 16 museums, 77 buildings of historical and/or artistic interest, 18 monuments and ten libraries, https://www.unesco.org/en/ukraine-war/damages-and-victims, Accessed Nov. 18, 2022.
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6 Dömpke, 2022. pp. 9 -12,
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11 Henket, 2014
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15 Published in English as: Feodor Gladkov, *Energy,* Zurich: Ring-Verlag, 1935.
16 Ivan G. Aleksandrov (1875–1936) graduated from the School of Engineering for Transportation in 1901 and planned railway lines and bridges, later also canals. Starting in 1920, he was involved in the elaboration of the GOELRO plan. His main work was the DneproGES (Dnieper Hydroelectric Station). In cooperation with Krzhizhanovsky, he was responsible for the regional economic planning of GOSPLAN. In 1931–32, he was director of the energy section of GOSPLAN. As of 1932, he was a member of the Academy of Sciences and head of the transportation section.
17 The first address here is also once again Selim Chan-Magomedov, Архитектура советского авангарда, Книга вторая, Глава 2, Социалистическое расселение, 28. Идея соцгорода и жилкомбината в реальном строительстве (The Architecture of the Soviet Avant-Garde, vol. 2, chap. 2, Socialist Residential Estate Methods, 28. The Idea of Sotsgorod and the Housing Combine in Real Construction) (Moscow, 2001)
18 See Chan-Magomedov, Архитектура советского авангарда, p.177
19 See RGALI 2772/1/88, sheet 1, 1 Rs
20 Robert Kaltenbrunner: Die unsichtbare Intelligenz – warum in der Stadttechnik unsrer Zukunft liegt, in: *Telepolis* 18. Oktober 2020; https://www.heise.de/tp/features/Die-unsichtbare-Intelligenz-4916182.html, Accessed Nov. 19, 2022.

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