Course ID Želazny Most (Iron Bridge), Lower Silesia, Poland
Units: 4
Summer Term (Monday, May 18 — Friday, June 12 2015)

Location:

Instructor: Kelly Shannon
Office: USC School of Architecture, Watt Hall #204, Los Angeles, CA 90089
Office Hours: (General guideline: 1 weekly office hour for each 4 unit class taught. Office hours are not to be calculated in "contact hours.")
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Course Description
The so-called Iron Bridge (‘Żelazny Most’, which recently changed its name to Obiekt Unieszkołdliwiania Odpadów Wydobywczych (OUOW)), 150km northwest of Wroclaw, in Lower Silesia, Poland. It is owned and operated by KGHM (Kombinat Górnico-Hutniczy Miedzi) Polish Copper SA, one of the world’s largest mineral resource extraction companies and the region’s largest job provider. The copper mines and pond are along the Oder River, the second largest river (854.3 km) in Poland, with a catchment area of 118,861 km². The river is situated in the industrialized and highly populated center of Europe, with it source in the Sudety Mountains (Czech Republic), and emptying into the Baltic Sea. Over the centuries, the river, particularly in lower Silesia, has witnessed many changes, transforming from an agricultural territory to a landscape extensively exploited by industrial activity. Its economical potential was systematically exploited since the 18th century under the Prussian regime, when Frederick the Great greatly invested in the territory with major engineering waterworks, directly in the river itself and as well in the floodplain and even with complementary forestry projects in the mountains—all to create an extremely productive agricultural landscape and efficient transport corridor. Successive waves of engineering has resulted in extreme flooding, which only promises to increase with the predicted consequences of climate change.

The Iron Bridge itself is Europe’s largest flotation pond (tailing dam), an end process in its copper mining where the last small particles are separated from other invaluable materials by treatment with chemicals in water (copper particles are made to adhere to air bubbles and rise to the surface for removal while others remain in water). The process uses large quantities of water; 4-5 m³/t of enriched ore are sent to flotation and the tailings generated by this process are in the form of a liquid slime appearance, which is then transported from associated mines with pipelines cutting through Lower Silesian landscapes: 13.4 km from Lubin mine, 13.7km from Rudna mine and 11.2 km from Polkowice mine, to the flotation disposal site. The tailings pond handles 20-26 million tones of sludge every year. The original flotation pond (1394 ha) was constructed in 1974-76 and flooded three villages: Barszów, Kalinówka and Pielgrzymów. The dam surrounding the pond is 14.3 km long, with a height of 20-60m.

It was planned to be decommissioned in 2016 based on previous estimated size of deposits. Recent findings in the area have resulted in the continuation of the project and projected extraction has been extended for 20-30 years. There is planned expansion ‘South Division’ (to begin in 2016) of the flotation pond by 609 ha to the south. It will effect the villages of Tarnówek, Żelazny Most, Dąbrowa, Pieszkowice i Komorniki. The villages have been offered the possibility of new employment, improvement of local infrastructure, and health care systems and sponsorship of summer holiday camps for children as part of the deal. The new construction area ‘South Division’ will cover part of the northern extension of the slope Dalkowskie Hills,
territories belonging to the National Forests (540 ha), KGHM Polish Copper SA (67 ha) and the municipality of Polkowice (1.3 ha).

**CHALLENGE**
The course will work on developing the ‘South Division’ and design research will investigate the state-of-the-art in flotation ponds and ways to mitigate the inevitable polluting after effects of not only the sludge, but also the entire topographical, soil, habitat and hydrological systems. Perhaps, more importantly, design research will develop scenarios for the pond to become more than a simple engineering feat, but as well as integral component of the landscape and complement to the village structures that it will radically transform in its making. How can such a reservoir retain its high-level performance and as well become a recreational landscape, a component of the civic infrastructure of the territory instead of just a civil engineering feat? How can the larger logics of the territory inform a simultaneous increased industrial productivity and process of landscape recovery that works hand-in-hand with stewardship by villages that have richly layered histories?

**Learning Objectives**
The course is to be multi-disciplinary and builds upon research that is on-going with a Polish PhD fellow from the Oslo School of Architecture and Design. A substantial amount of material would be prepared before the course would begin in June and therefore allow design research to begin more quickly. The course is meant to focus on design research and scenarios for a real context, for a large corporation that is involved in a terribly destructive process to the environment, one where landscape architects are rarely involved. It is an opportunity to take action; a bit to ‘marry the devil’, but more to be constructive and creative. Resource extraction is a reality that is not going to disappear; mitigating the disturbances is what the design field can contribute. Before going to the site, the course would learn from afar and have lectures from invited experts as well as look into relevant case studies. Then there would be an intensive fieldwork/workshop, which would include working with a local university and meetings with local stakeholders. Once back in LA scenarios would be revisited and elaborated and made into a publication that would then be sent back to Poland for review.

A proposal has been submitted to KGHM for USC research on investigating their operations in Lower Silesia in relation to landscape transformation and the Oder River and there is a chance that the studio could be partially funded. The work, funded or not, is of great interest to them and they would facilitate fieldwork and site visits in Lower Silesia, as well as attend mid- and final workshop reviews.

**Technological Proficiency and Hardware/Software Required**
Students should have a laptop computer with ACAD and ADOBE Suite programs installed. Knowledge of GIS would be useful. It is expected that students would bring personal laptops and digital cameras on the Poland fieldwork/workshop trip as well.

**Required Readings**
To be completed at a later date

**Grading Breakdown**
### Assignment Submission Policy

See course schedule

<table>
<thead>
<tr>
<th>Assignment</th>
<th>% of Grade</th>
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<tr>
<td>1: Analysis</td>
<td>10</td>
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<tr>
<td>2: Relevant Case Studies</td>
<td>5</td>
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<tr>
<td>3: Fieldwork</td>
<td>15</td>
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<tr>
<td>4: Workshop Participation</td>
<td>40</td>
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<tr>
<td>5: Design Development (in addition to in that of workshop)</td>
<td>20</td>
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<tr>
<td>6: Booklet Production</td>
<td>10</td>
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**TOTAL**                                            **100**
Course Schedule: A Weekly Breakdown

<table>
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<tr>
<th>Week 1</th>
<th>Topics/Daily Activities</th>
<th>Deliverable/ Due Dates</th>
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| Dates   | Analysis / Relevant Case Studies  
          Monday – Friday  
          18-22 May  
          Sat. 23 May = flight to Poland (1)  
          Sun. 24 May = arrival in Poland (2) | Collective booklet form of:  
          1) analysis of territory and site  
          as series of design research questions  
          2) relevant case studies highlighting particular lessons for site/ issue  
          DUE: FRIDAY 22 MAY |

| Week 2  | Fieldwork/ workshop in Poland  
          Mon. 25 May = introduction to sites/ meetings (3)  
          Tues. 26 May = fieldwork (4)  
          Wed. 27 May = fieldwork (5)  
          Thurs. 28 May = fieldwork (6)  
          Fri. 29 May = workshop (7)  
          Sat. 30 May = workshop (8)  
          Sun. 31 May = workshop (9) | Fieldwork > interviews, photographs, sketches to help gain a critical understanding of problems and opportunities across various scales  
          Workshop > group work of vision development and strategic project that encompasses technical state-of-the-art together with socio-cultural specificity / embeddedness and landscape architecture innovation |

| Week 3  | Fieldwork/ workshop in Poland  
          Mon. 1 June = workshop (10)  
          Tues. 2 June = workshop (11)  
          Wed. 3 June = presentation to stakeholders (12)  
          Thurs. 4 June = flight to LA/ arrival in LA (13)  
          Fri. 5 June = day off | PRESENTATION TO STAKEHOLDERS: WEDNESDAY 3 JUNE |

| Week 4  | Refining / development of workshop concepts  
          Monday – Friday  
          8-12 June | Draft of collective booklet of visions and strategic projects (comments to be given before final booklet to be submitted)  
          DUE: FRIDAY 12 JUNE |

| FINAL   | FINAL PRESENTATION | FINAL COLLECTIVE BOOKLET OF VISIONS AND STRATEGIC PROJECTS  
          DUE: FRIDAY 24 JULY |

Statement on Academic Conduct and Support Systems

Academic Conduct

Plagiarism – presenting someone else’s ideas as your own, either verbatim or recast in your own words – is a serious academic offense with serious consequences. Please familiarize yourself with the discussion of plagiarism in SCampus in Section 11, Behavior Violating University Standards https://scampus.usc.edu/1100-behavior-violating-university-standards-and-appropriate-sanctions/. Other forms of academic dishonesty are equally unacceptable. See additional information in SCampus and university policies on scientific misconduct, http://policy.usc.edu/scientific-misconduct/.
Discrimination, sexual assault, and harassment are not tolerated by the university. You are encouraged to report any incidents to the Office of Equity and Diversity http://equity.usc.edu/ or to the Department of Public Safety http://capsnet.usc.edu/department/department-public-safety/online-forms/contact-us. This is important for the safety whole USC community. Another member of the university community – such as a friend, classmate, advisor, or faculty member – can help initiate the report, or can initiate the report on behalf of another person. The Center for Women and Men http://www.usc.edu/student-affairs/cwm/ provides 24/7 confidential support, and the sexual assault resource center webpage sarc@usc.edu describes reporting options and other resources.

Support Systems
A number of USC’s schools provide support for students who need help with scholarly writing. Check with your advisor or program staff to find out more. Students whose primary language is not English should check with the American Language Institute http://dornsife.usc.edu/ali, which sponsors courses and workshops specifically for international graduate students. The Office of Disability Services and Programs http://sait.usc.edu/academicsupport/centerprograms/dsp/home_index.html provides certification for students with disabilities and helps arrange the relevant accommodations. If an officially declared emergency makes travel to campus infeasible, USC Emergency Information http://emergency.usc.edu/ will provide safety and other updates, including ways in which instruction will be continued by means of blackboard, teleconferencing, and other technology.