ACC Lectures
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PHILIP YUAN

Dr. Philip Yuan is the founder of the architectural practice, Archi-Union Architects based in Shanghai. Archi-Union adheres to the combination of traditional Chinese culture and digital construction technology, focusing on “parametric construction”, “robot construction” and “green industrialization,” and practices the symbiotic relationship of nature, urbanism and architecture.

Over the years, Philip F. Yuan has been involved into the combination of traditional Chinese culture and digital fabrication technology, practicing the symbiotic relationships among nature, technology and architecture, and focusing on "Computational Design", "Robotic Fabrication", and "Green Industrialization", etc.
Philip F. Yuan mainly focuses on the research of Computational Design and Digital Fabrication. He has published more than 150 thesis and 9 books, including From Diagrammatic Thinking to Digital Fabrication, Digital Fabrication and Computational Design, etc. He is also an active architect doing a number of architectural practices, and has been awarded various design prizes.
Archi-Union Architects and Fab-Union Technology are the two main teams founded by Philip F. Yuan. Archi-Union is dedicated to experimental architectural practices while Fab-Union is mainly engaged in computational design and digital fabrication. Both of them are focusing on applying experimental researches into practical practices.
Philip F. Yuan has completed a large amount of projects in the last few years, including Tea house, Fab-Union Space and Chi She in the WestBund of Shanghai, Stomatological Hospital, Songjiang Art Campus, In Bamboo in Sichuan, 3D printed bridge and pavilion, etc.

Projects led by Philip have been published on many architectural magazines and mass media worldwide, and are also actively involved in relevant academic activities and exhibitions, including Shanghai Biennale, Milan Triennial, Chicago Architectural Biennale, and many other international professional exhibitions. Philip will make another big progress in the design and fabrication of Chinese Pavilion in 2018 Venice Biennale.
Among other notable presenters in the 16th Venice architecture Biennale in 2018, it was Philip F Yuan Shanghai based educator at Tongji university and practitioner. The office Archi-union architects lead by him displayed the relentless architectural styles of their countryside. All the projects displayed in the arsenal had a meaningful social impact by bridging the involvement of villagers in the production process. Architect yuan and his team exhibited a ‘cloud-village” with digital fabrication. The structure is a pavilion where people can sit and relax and is built using robotic printing technology. The concept

evolved from the design of outskirts with semi closed recesses to big open spaces where the private and public realms are not always defined.

During the opening of the pavilion of china at the venice biennale, Archi-Union founder Philip F. Yuan to discuss the firm's recently completed projects and their role in constructing the future of the chinese countryside. cloud village and in bamboo, the two projects currently on show, explore new technologies and ways these can be embedded within the local, traditional character of rural areas.

The theme of the china pavilion is about constructing the future countryside, and the future countryside is not just about following tradition, you also need to input some new technology, some new knowledge to the culture – it's a kind of connection of the past and the future,' yuan states, 'bamboo is a tradition, it's in our culture, people like the texture and the materiality, so the question is how to make something innovative based on the same material, this is the challenge for us.' 'the materiality in this project is based on a new process, which is strongly changed by the machine, so I think, the future will be based on the collaboration between the human and the machine,' the architect explains about the decision to combine traditional construction techniques with prefabricated industrialization.

One of the issues, the chinese countryside currently faces is that it is mostly populated by elder people, while the young generation is moving to the big cities. Through 'in bamboo', Philip F. Yuan aims to attract more people back to the villages, both for industry and for tourism purposes. 'it's not just one building, it's seven projects in the village, which can help it have a more distinct identity, a more attractive identity,' he explains after the community center, other projects in the area will include a b&b for city people who want to spend a weekend ther, a conference building and workshop spaces while the architect hopes to create a model that other villages can follow.

Philip Yuan will present his work and research in the fields of performance-based tectonics, robotic fabrication, and digital craftsmanship. The work of Archi-Union exposes the building's structure through its materiality and the relationship of architecture to process, whereby the process of construction can be elevated to the level of art performance.

His main books are Digital Fabrication and Robotic Force Printing. The first book "Digital Fabrication" talks about the modern digital fabrication and how its affecting architects in the construction process. Digital Fabrication contains a variety of well-informed viewpoints on the subject written by some of the world's foremost authorities. It covers new digital fabrication technologies like 3D printing and CNC milling, as well as other robotically controlled manufacturing processes including laser cutting, bandsaw cutting etc. Methodologies, Interviews, and Projects are among the sections of the book, which also has a helpful Introduction that provides a brief history of digital fabrication.

Whereas the second book "Robotic Force Printing" Workshop can be viewed as a respectful homage and continuation of such a legacy.The workshop also includes three field trips in conjunction with one academic forum, four public lectures, and a series of teaching modules on fundamental concepts of COMPAS and FURobotic to explore the integration of novel structural designs and designs and advances in additive manufacturing and robotic fabrication.

We found these 2 books related to our approach which is the “future architecture” and how robotic technology is affecting architecture in a good way and making a lot of things easier, faster and more accurate.

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