

INTBAU Timber

Talk *in review*

30 JANUARY 2020

Be Excited. This was the concluding statement from Jez Ralph, founding director of Timber Strategies, at INTBAU's timber talk on 27th January. There is always room for skepticism, but on a dreary Monday in January, with the uncertainty of Brexit looming on the horizon, it was both refreshing and encouraging to receive a message that wasn't laced with the panic-infused immediacy of the climate change agenda, supported by statistics about the construction industry's contribution to global Co2 levels.

From the outset, it was clear that the varied panel was mirrored by the audience of architects, carpenters, and enthusiasts. Proponents from the conservation, forestry and commercial sectors were seated side by side. Some eyebrows were raised when one speaker highlighted with certainty the benefits of engineered timber sourced from monocultural plantations abroad. However, it was this contrast and at times, tension, which made the evening worthwhile.

First to speak was Charley Brentnall, an internationally renowned leader in timber construction and conservation, whose companies, Xylotek and Carpenter Oak are incredibly well reknowned. Indeed, INTBAU was extremely lucky to have Charley's rendition of the projects undertaken by the students at Hooke Park, the Architectural Association's woodland campus in Dorset. Here, students experiment, engineer, 'design and make' impressive structures like Wood Chip Barn. By using an app on his iPhone, Charley showed how it was possible to 3D scan trees in situ, select only those with the correct angled forks, and carve joints for this otherworldly ark-like structure using a robotic arm. In doing so, he also implied that these technological advances needn't represent a disconnect from traditional craft. There is a definite need for more opportunities like this, that educate and retain an in-depth knowledge of timber at the heart of the curriculum for young architects and engineers, and facilitate more cross-disciplinary collaboration.

Following Charley was Richard Oxley, an experienced conservation architect, whose practice, Oxley Conservation, is based in the Chiltern Hills. Richard started by emphasising the versatility and durability of historic timber buildings. He spoke about timber's innate ability to adapt to accommodate slight changes in humidity and temperature. He also used dendrochronology and archival records to illustrate that vital skills and attitudes to repair are at a danger of being lost in the 21st century. In the 1400s, individuals would travel for miles in the hope of selecting the appropriate timbers for their specific project, wasting very little material in the process, and relying upon a comprehensive knowledge of parts of the tree and its structural capacities. It was this same point about local knowledge and resources that Jez Ralph picked up upon later in the evening.

**“A timber takeover?
Be excited: the future's
not so bleak.”**

Richard also did well to reiterate the well-known fact that the greenest building is the one which already exists; a phrase coined by Carl Elefante and reiterated by INTBAU Trustee Robert Adam. Richard showed some ingenious examples of how repair and conservation could be done with timber derivatives such as Pavatherm insulation and wood fibre insulation in roofs and walls.

Also discussed was our apparent obsession with exposed timber in historic building facades. “Let us not greenwash but limewash” Richard argued; limewash being the traditional, authentic way of maintaining a timber framed building so that it can withstand the elements. Our tendency to strip back brick and expose timbers is informed by the mock Tudor revival style of the late 19th century, which has manifested itself in half-timbering, masonry veneer techniques that have played their

part in realising the mock Tudor suburban dream.

The third speaker was Antiopi Koronaki, who travelled from the Centre for Natural Material Innovation in Cambridge. Contrastingly, Antiopi made a sound case for the aesthetic qualities of timber in medium sized new builds like schools. Referencing numerous studies, she showed how timber structures were proven to lower the heartrate of schoolchildren, increase social interaction and even raise productivity levels of employees in offices. In essence, being surrounded by a natural material has clear benefits for our mental and psychological well-being. Of course, Antiopi was also advocating that this natural material be engineered. Engineered timber structures do not align themselves overtly with traditional buildings or the revival of traditional skills. However, Antiopi and fellow speaker, Andrew Carpenter, showed the de facto place in the market for engineered timber used for the building of skyscrapers, schools and low-cost housing.

Indeed, Andrew Carpenter highlighted structural timber's role in reaching governmental housing quantity and environmental targets. Accounting for 70% of housing stock in the developed world, but only 2.4% in the UK, architects should use medium to low quality timber and ensure that quality and strength is controlled through the process of effectively layering solid sawn lumber and sticking it together using glulam.

There are, of course, limitations. The monocultural plantations this engineered timber relies upon for its 'uniform' use, often rely upon timber imports from abroad. These forests are vulnerable to disease and high winds, and the speed at which this industry seems to be growing has helped to voice concerns about exhausting our supply of timber as forests struggle to keep up with global demands.

Keen to comment on the changing landscape was Jez Ralph. Jez advocated the need for further collaboration between foresters and members of the construction industry, and brought the talk closer to home. He argued that the availability of timber should dictate the design choices of architects and consumers, months, preferably years, in advance.

He highlighted the frightening impact of climate change in the UK, and used a table to emphasise the increasing incompatibility of species like sitka spruce, birch and beech in Dorset forests, which can no longer be planted. Jez's vision of a sustainable future certainly brought the debate from the global to the local, as he emphasised the benefits of relying upon mixed plantations in the UK and a more localised form of processing at a regional level.

Moreover, it was this question of demand and supply, rather than form or aesthetics, that framed the debate. This was also quite revealing about where the future of timber construction is heading. It is clear that the rhetoric of carbon sequestration alone is appealing, but has its flaws and is often too readily adopted. More discussion is required if we are to have any say in how we build and we'd better hurry: the last modular timber build probably took the same amount of time it took to put on this event.

However, we should also be excited. The timber buildings of the future do not **have** to make reference to previous structural forms. With more hands-on training, workshops and collaborative projects, it will be possible to educate a new cohort of practitioners. The next generation should be aligned with the needs of both our forests and our cities, and possess a more comprehensive understanding of this complex building material.

