A Collection of Expert Q&A Sessions:
Alfred Mayaki interviews Christian Dimbleby of Architype (01/07/2023)

Alfred Mayaki, BSc, PgCert
The Open University Business School
The Michael Young Building
Walton Hall
Milton Keynes
MK7 6AA, England
United Kingdom

Personal Identifier: O8309334
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Website: https://business-school.open.ac.uk/

Foreword by Alfred Mayaki

The following interview will cover the impact of Passivhaus on the field of construction design. Passivhaus and EnerPHit, its performance-based, energy standard for retrofitting buildings to become more energy efficient were enacted by the PassiveHaus Institute (PHI) to develop a solution as to the question of how frameworks can best streamline the decarbonisation of construction and retrofitting.

Since a humble detached rural self-build in Wales was completed in 2009 to Passivhaus standard, hundreds more residential, commercial, mixed-use and purpose-built (including for schools, offices, and universities) have been developed to the required EnerPHit standard. In 2010, the Passive House Institute (PHI) developed an initial version for a standard for energy relevant modernisation of existing buildings.

Sir Robert Worcester opened Hadlow College's Rural Centre in 2010. One of the first buildings in the UK to be constructed to Passivhaus standards (Crawford, 2010). As Barr (2023) notes in his paper on the challenges of overcoming the Victorian style wars, new town houses should by now be the first to receive the fruits of design frameworks such as EnerPHit's certification. Barr (2023) makes this note concerning two new English county towns that are currently being constructed (Poundbury in Dorchester and Nansledan in Cornwall). These developments, that were commissioned by HRH King Charles III when his majesty was the Prince of Wales, could have had more sustainable design standards implemented (much to the King's discontent). He writes that UK government must be best positioned to usher in a minimum standard of sustainability. Barr (2023) targets government failures to update legislation that govern the national design code as one way to achieve this.

In other areas outside of London, in towns like that of Stroud, in the Gloucestershire region, where council homes are suffering from a shocking lack of investment by local councils (Moffitt, 2023), one would think that Passivhaus as a rule of thumb is a luxury that self-building communities and developers alike, need not concern themselves with. This isn't the case. In Stroud alone, there are examples of the success of sustainable living: *Springhill Co-Housing* is one instance (Field, 2020). Today we will be interviewing an architect from the award-winning team of architectural designers who helped design the Springhill Co-Housing build. His name is Christian Dimbleby.

Here is the transcript of the full interview:

Q1. Hi Christian, would you care to introduce your background, your education, and your professional interests to our readership?

Christian's Response:

Thank you for inviting me to respond to your questions.

My background in sustainable architecture was formed through three distinct elements; First as many construction professionals, I discovered the limitless joy of Lego, designing, and creating buildings and spaces that are uplifting and fun – something which I continue to enjoy with my own children now. Secondly, I grew up on a farm which taught me to both respect and work with the natural environment as well as farmers passion to re-use everything. On a farm, nothing is wasted – it all has value and purpose, even if not immediately. Thirdly my Christian faith taught me that my work should help others and that change is always possible. These three factors combined into my own design philosophy; creating places that uplift and inspire, that challenge the status quo, that minimise environmental impact, and that build a better future for all.

My environmental concerns and technical inclination guided me to study a combined architecture and building services degree at the University of Nottingham (MEng Architecture & Environmental Design) a distinctive combined course which facilitates the skills and technical knowledge to support designing low energy buildings. I completed the rest of my ARB/RIBA Part II & III education at London Metropolitan University, where I was able to gain a wider perspective looking more at social, philosophical and the artistic side of design and where I helped to setup the student architecture society MA&DE.

After becoming registered as an architect, I worked on both a range of typical architectural small scale projects and a range of sustainability research projects. This allowed me to become a Chartered Engineer with CIBSE demonstrating my technical competencies in design low carbon buildings and systems, building

performance evaluations and optimising building performance, with support and guidance from James Hepburn Engineering Director at BPD with whom I had worked on several projects. This puts me in a unique position as of one of a select few dual-qualified professionals, but more than that, it gives me a holistic and broader view of the construction industry, developing alternative ways of thinking, assisting my ability to resolve many of the challenges that come up.

For all my professional career of nearly two decades I have worked for Architype – three times winner of the Architects Journal 'Sustainable Architects of the Year' award. Joining straight out of university in 2004, it has enabled me to grow - starting out with smaller schemes (three room children's centres) to now very large and complex projects, such as multi-million pound schools, or through our Perform+ consultancy where I have been advising on sustainability on projects of huge scale. This growth has happened to the practise itself, which has grown from a handful of staff to over 100 co-owners in nearly four decades. Through it all, I have been given opportunities to engage with different areas of sustainable thinking, such as engaging with university teaching and lecturing, undertaking research projects, joining steering committees and sharing and supporting environmental groups.

I also really enjoy working with co-owners and colleagues, who push the boundaries of sustainable design and encourage great architecture. I am fortunate to have worked on or led projects which have received five RIBA regional awards (Enterprise Centre UEA, Highgate Junior School, Harris Academy Sutton, Hackbridge Zero Carbon Primary School, Agar Grove), as well as many other national sustainability awards, and projects which are amazing but not rewarded in such ways.

Q2. I'm fascinated by the commitment that Architype has shown towards zero-carbon forms of construction design. How would you frame your organization's overall approach to sustainability?

Christian's Response:

As a practice, we believe in designing beautiful buildings that work for people and planet. We are not afraid to challenge industry norms or push boundaries about what is possible ecologically. We are outraged and frustrated by some of the new buildings that are still being constructed today to very poor performance, energy and environmental standards. As an industry, we need to do better than this – and urgently. We are at risk of climate breakdown and given how much we already know about ecological design it is frustrating that others are not taking action – it takes all of us to make a difference. We believe in investing in building performance evaluation to constantly find better ways to design and build and share this knowledge freely with industry. We have very in-depth knowledge of carbon and advocate retrofit first, using buildings better and completely minimising energy use first, before even thinking about offsetting energy with onsite renewable technologies, which have their own ecological impact.

We think it is appalling that some buildings are wasting vast amounts of energy and carbon and then you see vast fields of solar panels to try and compensate – that doesn't make sense. Build to Passivhaus or EnerPHit standards first and then think about the tiny bit of energy you might need to get to zero carbon. We also care deeply about the wider ecological picture – specifying natural materials and non-toxic finishes, improving biodiversity, minimising water use so that we reach truly regenerative design.

Q3. Who is your architectural inspiration?

Christian's Response:

There are so many to choose from, but Architype's roots in self-build community building and the work of Walter Segal are special. This belief in simple construction, natural and healthy materials and buildings that are easy to build and maintain remains central to mine and Architype's work. Whilst today there are some great architectural designers achieving inspiring one-off projects, for me it is organisations and movements such as LETI, AECB, ACAN, Architect's Declare, Anthropocene Architecture School and others, that are the real inspiration. Their efforts to engage and share knowledge to shape a better built environment for all, which are of benefit to everyone not just one client.

Q4. What was it about the field of Passivhaus design that invoked such strong feelings to attract you to that approach as a professional?

Christian's Response:

A famous quote from **Prof. Dr Wolfgang Feist** the founder of the Passivhaus standard is;

"I was working as a physicist. I read that the construction industry had experimented with adding insulation to new buildings and that energy consumption had failed to reduce. This offended me – it was counter to the basic laws of physics. I knew that they must be doing something wrong. So I made it my mission to find out what, and to establish what was needed to do it right." This fired my interest in Passivhaus – as I had the same concern that designers were missing key understandings of how buildings perform in reality. Passivhaus was developed primarily around the comfort, quality and low energy benefits to occupiers rather than any current in-fashion 'aesthetics' and is based on a thorough understanding of construction. Passivhaus added new rigours of calculations based on building physics, airtightness and build quality, with designs engineered for comfort and performance. This was so rare to see in traditional UK construction, both then and now. And even if an attempt was made at modelling performance, it was rarely robustly calculated – something that still blights the industry today with often up to five times mismatch of what will happen in theory compared to what happens in reality. In real life, this leads to overheating or cold, draughty spots, and huge amounts of wasted energy and carbon. What Passivhaus does is tightly insulate and provide and airtight barrier for buildings, optimise the power of the sun and draws on natural heat generated by people and appliances. It is at heart a simple concept, based on nature, that demands a very thorough technical understanding of how a building works.

I have been able to encourage clients to see the benefits of Passivhaus, and therefore been at the forefront of the movement, designing many of the leading examples of Passivhaus projects in the UK, from the unbuilt works of Fortune Green Play Centre (which would have been the first non-domestic Passivhaus in the UK) and even a proposed new church building Christ Church Central; to the multi-award winning Enterprise Centre, UEA - noted by the World Economic Forum as one of the top 17 sustainable buildings in the world; to the mass housing regeneration scheme of Agar Grove Phase phases 1a & 1b; and pioneering schools such as Harris Academy Sutton, and Hackbridge Passivhaus Plus primary school - that have demonstrated the viability of the scale and brilliant buildings, and become case studies for the education industry to evolve too.

Q5. Would you say that there are other design methods aside from the aforementioned categories that carry significant importance to you as an Architect, specifically?

Christian's Response:

We always need to be holistic in our thinking, that is a key role of the design team leader, and there are many other design methods to consider for low-carbon building design. I have been involved in thinking about embodied carbon of buildings for over a decade. These are the calculation of the carbon emissions from the creation and maintenance of building materials rather than operational emissions. This is becoming extremely important because the 'upfront carbon emissions' are being released right now, and so are the most urgent emissions we need to reduce, as opposed to any potential ones in the future. Similarly, the BISRIA Soft Landings design method is a great way to ensure that through review pit stops and post occupancy evaluation, design projects achieve the goals and performance expected of them, without a huge gap in performance or quality. This is because you have integrated expectations with the wider client team throughout, and while most of these have been now integrated into standard requirements of the RIBA plan of work, I think few do it as fully and completely as the BISRIA design method. Also, I believe the 'Living Building Challenge' is a fantastic standard, by not starting out with what can we get away with minimising our design emissions, but actually starting with the premise that this design needs to be regenerative, and in every aspect provide benefits to the environment rather than destruction. I would love to undertake a project with a client who was willing to achieve this regenerative standard, because we need to consider all aspects of environmental design. The Architects Declare commitments point to a lot of these, and the climate action group at Architype which I am part of have recently released our own published plan of how we are to achieve these goals over the next few years.

Additionally, exploring the interactions between spatial justice and project-based metrics would be tremendously impactful. For instance, are my project networks, or social networks more generally, influenced by my physical transportation networks and, if so, how? This will require new thinking and new methods to explore where the social and physical complement or substitute for each other.

Q6. How important is Art and Concept to your objective as an Architect?

Christian's Response:

Art is essential in making a space joyful and uplifting, and needs to be integrated into all projects. Sometimes this is with the aid of specialists, sometimes just our own architectural vision or material choices, or sometimes that of children / building users artistic expressions for whom the building is ultimately designed. Some examples of art in my projects are; Highgate Junior School, where animal sculptures and motifs are situated all around the building - the school often organises hunts for all the different species which is a wonderful way to explore spaces. Materials themselves can be worthy of artistic value if crafted well, the bespoke vertical thatch cladding panel from the University of East Anglia Enterprise Centre was displayed at the Royal Academy of Arts Summer Exhibition. Another example is the beautiful, coloured rainbow flooring that runs around the extension at Holy Trinity Primary School, the coloured bands tie the new buildings together acting as wayfinding and look amazing with the daylight reflecting on the array of colours. The artwork all around Hackbridge Primary School uses pupil's drawings and studies of nature and wildlife around the site, transformed into manifestations on the windows and punched metal holes to form artwork at the entrance. Concept is also really important in developing our designs – what do we want occupiers to experience and feel, and how can we best convey that in the building design? So each one is unique and personal to the building and the client.

Q7. How do you feel about the considerable amount of processual and technological change that is taking place within the field of Architecture?

Christian's Response:

Technological change is not to be feared. One of my first tasks at Architype was to redesign the office layout to be without drawing boards at every desk, and in just the space of my career the design process has changed to being an almost digital process. Hands on design development and model making is still really important to us but I anticipate that over the next period that same level of change will happen through the implications of automated generation and AI.

Architects and clients will need to recognise our key human role. While some tasks can be delegated to technology, other roles will become more important, such as the face-to-face client interaction and decision making that really helps develop the brief and vision. Architects again need to return to the idea of the 'Renaissance', where the architect – female and male - has the skills and the understanding of how the whole design if we are to really deliver low energy, high-performance buildings which are a delight to experience.

Q8. We recently spoke in detail to a Professor from the University of Oxford's Said Business School, who stated that community engagement is of the utmost importance towards developing amicable outcomes when considering the regeneration of the culturally significant built environment. How do you perceive the challenge (or otherwise) of community liaison in your role as an Architect?

Christian's Response:

Architype was founded on the approach of Walter Segal's self-build legacy, with most of our early work engaging with communities to develop self-built housing and community spaces. This could only be brought about through a deep engagement and co-design with communities working together rather than any top-down imposition. We always seek to engage with all relevant communities from the early stages of our designs, often incorporating their visions and ideas into the designs, I have enjoyed many fun days working with children to craft simple block models or draw inspiring spaces for their new school. A great example is that of Harris Academy Sutton where we effectively redesigned the entire scheme some three times following consultation events, in order to provide a design that worked for all the neighbours, local communities and

environmental factors. The final design bridges the transition from residential area to a major research hub so well that it has become a major community asset.

The challenge of engagement however becomes more challenging with larger schemes, and the politicised nature of the associated planning application - which often result in true engagement being ignored or lost. I would like to see a complete overhaul of the 'broken' planning system to both; Speed it up, by limit the amount of irrelevant information required and conditions imposed. Together with a much wider education on the benefits of good urban design and architecture. This could be being promoted in the educational curriculum and wider community thoughts, potentially aided by better digital interaction tools such as augmented reality of designs, so that real impacts can be understood and commented on by the community real time, resulting in faster process and better architecture being demanded.

Q9. How important would you say it is that the explorative processes behind your net-zero designs are accountable to what we might refer to as abstract and largely artistic metrics and creative results?

Christian's Response:

Design should be an iterative process, constantly refining and improving options and working out how best to create beautiful, high-performing spaces that function well. Creativity is a key part of that process and while beauty can be in the eye of the beholder, I think we can all agree that once you step into a well-designed building you feel uplifted, energised and inspired. That will come from a vast array of influences, from the views out to the landscape, the natural light, the smallest detail, to the smell of natural wood. A successful building requires alchemy - blending all these aspects together to create more than the sum of its parts.

Q10. How can those as impassioned as yourself and those interested in capacity building around the cause of low-carbon architecture contact you directly?

Anyone interested in low-carbon architecture can certainly reach out to me personally on LinkedIn at https://uk.linkedin.com/in/christiandimbleby.

We also have specifically created our Perform+ consultancy arm where we can help build capacity of organisations around low carbon specification, Passivhaus, embodied carbon and more. We work all over the UK and can be reached through our website https://www.architype.co.uk/about-us/ or by phone on 020 7403 2889 or email london@architype.co.uk.

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