# The Ove Arup Foundation

## Strategic Discussion: The Next 25 Years

## REPORT

About 40 invited guests met on 30th September 2015 to consider The Ove Arup Foundation's next 25 years. Here are the results. They stem from an understanding of the Foundation's purpose;

*furthering multidisciplinary education and research for the built environment*

## The Foundation

Several participants were unclear, or even confused about the purpose of the Foundation and its relationship with Arup Group Ltd. Others, whilst being aware of the modest means of the Foundation coupled with the brand-recognition of Arup, thought other (i.e. non-financial) means should be used to achieve greatest impact for its purpose. And there was a feeling that we (the participants) were perhaps not best placed to understand the future scenarios, and that perhaps we should have had a younger participation.

> **Action 1:** Prepare a statement with Arup Group Ltd (AGL), and put prominently on the Foundation's web site, specifying the purpose of the Foundation and its relationships with AGL, its University and its Charitable Trust and with a link from AGL's intranet (its University and outreach pages) and arup.com.

> **Action 2**: Engage with a selected group of young people [under 30s] to consider less-financial means to achieve the Foundation's aims, in particular making better use of social media. Participants would be drawn from Arup and partner university students.

## Education

Whilst the discussions were arranged across three themes[1] there was commonality from across all about the topic and future of education. This included the questioning of traditional educational methods (pedagogy), the desire and value of addressing children at the youngest ages and the desirability of educating business.

Lectures in a lecture hall, living in and attending a full-time brick and mortar university, writing essays, siting exams. None of this sits well with the new virtual world, and their multiplicity of learning channels and it could be that the days of the traditional university are numbered[2]. Certainly it is difficult to imagine it remaining thus over the next 25 years. What will tertiary education become? MOOCs (Massive Online Open Courses) were discussed.

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[1] I: Fundamentals – Population Poverty. II: Change – Society and Technological. III: Resources – Energy and Water

[2] *"As students consider life after graduation, universities are facing questions about their own future. The higher-education model of lecturing, cramming and examination has barely changed for centuries."* The Economist 28th June 2014

This form of learning lends itself to just-in-time knowledge and small learning packages, and learning for all ages.

> **Action 3**: Commission research to establish what far-future education scenarios could become for built environment teaching at school and university level.

It is a truism that the most fertile age for education is a person's earliest formative years, and therefore the Foundation would do well to instil children with ideas of sustainable living, holistic design, and all things ecological at the primary school ages. This discussion was wide ranging and inspiring. Values are created and learnt in the primary years; ages 5-11, (UK years 1-6). These stimulating thoughts were followed up at the Foundation's October meeting. However the impact this small fund could bring was questioned. Direct intervention in the heavily regulated Primary level would be implausible[3]. Other mechanisms might be more fruitful such as creating apps for designing and building in an intuitive but compelling way, or commissioning plugins for Minecraft and other games.

> **Action 4**: Target support to stimulating the market for under-11 age group games about the built environment (cities, building, maths/science/technology).

Despite years of designing and constructing zero-energy buildings, there is limited or no market for them. The same applies to other aspects of the future low carbon living; $CO_2$ and other harmful emissions, recycled materials etc. The market doesn't respond because the discipline of the market case hasn't been mobilised. Many business decisions are taken not recognising behavioural economics[4]. If business could be educated to recognise the rational business case for doing the right thing, could a profit-driven sustainable market emerge?

> **Action 5**: Engage with a business school to create joint (EPSRC/ESRC-funded?[5]) research into profit-driven built environment sustainability – a new economic model.

## Theme I: Fundamentals – Population, Poverty

The major recommendation from this theme concerned education, and hence taking on board the action reported above, but tailored specifically to address population and poverty. How can the undeniable benefits of the Foundation's aims be brought to bear on poor communities. Specifically can the two actions, about primary education (age-appropriate education), and about future teaching methods (especially the relevance of social media) take into account the needs and circumstances of poor countries?

Reference was made to work by UCL's (ex-Arup) Priti Parikh's on infrastructure and its impact on poverty in informal settlements.

> **Action 6**: Engage with Priti Parikh and University of Cape Town's African Centre for Cities (and Arup's International Development Group) specifically about the two issues of primary education and future teaching methods.

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[3] There are 18,818 primary schools in England, and 91 universities.
[4] 15 lessons from behavioural economics
[5] We have previously partnered with the Royal Academy of Engineering, but there are four other UK National Academies, and seven UK Research Councils

## Theme II: Change – Societal and Technological

Technological advances are happening so quickly that people have difficulty engaging with them (e.g. building managers can't cope with BMS). Behavioural economics teaches us that we spend more energy relying on what we have rather than acquiring a new and better thing. Smarter users and managers would behave more responsibly and overcome behavioural barriers to technological acceptance. This is both poorly understood and never incorporated into design. Moreover, even if the technological advances are self-evident and the benefits understood, there will be large populations with no access to this technology.

> **Action 7**: Commission behavioural [economics] research into technology acceptance related to the built environment and the design curricula.

## Theme III: Resources – Energy and Water

Probably most of this discussion is covered by the education actions about educating the market to demand the right thing, but with specific emphasis on imagining what the compelling technology products might be for the built environment. Move the "right thing" to the "must have". How can market expectations be lifted to create demands for things that do not yet exist – the iPhone for housing/buildings? For instance, new build low cost mass housing that people enjoy living in.

> **Action 8**: Research into what technologies are relevant and how they can become part of a new economy.