Cults of Collaboration
Hanif Kara

The projects selected in this cycle of the Aga Khan Award for Architecture show perfectly the very best that building projects across the Islamic world can offer in terms of aesthetics, skill, teamwork and creativity. What is more, most of these projects have responded to their sites, to differing scales and to issues like sustainability in a wholly admirable way, while maintaining design excellence.

But there is a problem. By choosing exemplary projects, any award system also shines a light on the many more schemes in both the Islamic and wider world where such standards are falling short. We need to ask why and to ponder what the engineering profession that I belong to can offer to the mix in a bid to raise quality across the board.

Both of these points – the reasons for failure and the quest for solutions – arise because engineering today, viewed at least from one perspective, is at a crossroads on a number of issues. The first of these concerns the importance of design, which I believe is being eroded, primarily because of the way society has gone through sudden irreversible changes. As societies undergo rapid change – and the Industrial Revolution is a good example of this – there is a tendency for them to 'professionalize'. The massive, rapid advances made in materials over the twenty-five years that the Award has been running are another example, with an estimate of a staggering 60,000 different kinds of materials now available. But during that Industrial Revolutionary spurt, within industry in the Western world, architecture and engineering both found themselves veering into an 'over-professionalized' mode, with the result that a greater faith was placed in technology. What fell by the wayside during this process was a craft-based approach to design – there was a drift away from the 'makers', and professionalism became the more important issue.

It is true that the rise of computer and information technology today has ushered in something of a new mini-wave of this craft-based approach, but less design work is being done, and constructors the world over are doing too much of the work and too many of the drawings on behalf of architects and engineers. It is this erosion, particularly of the main currency of design – the skill of drawing – that sets a very dangerous precedent, both for the professions it will affect and for the wider world as a whole, because buildings will be of a lesser quality.

So, who in the process chain is best placed to try and ameliorate this problem, through knowledge about the ways that materials will perform, for example? Who can act as the bridge between somebody dreaming about a scheme and somebody making it? I believe that this role can be fulfilled by the engineer, who, like all bridges, can be used in both directions to provide entry ways and passages.

The second specific area faced at that crossroads by the field of engineering concerns the essence of the relationship between engineers and architects. This too is facing erosion because, as architects do less drawing work and do not talk enough to engineers, schemes of dubious quality will emerge. The engineer is facing a number of growing gaps – such as that between the developed and underdeveloped worlds – that have come about as a result of globalization. For me, at one level, it is a myth that globalization offers endless choice and opportunity: the construction industry seems to be dominated by a few large contractors who form alliances with materials groups. This reduces client choice and does nothing to progress architecture of note. If the materials or system of building are predetermined or too influenced by relationships, then the building will suffer. The engineer, with his or her understanding of materials and the construction process, is well placed to stand up to this danger.

If we get it right and make sure that we are all pluralistic, shunning the cult of the individual but embracing a cult of change, then this century should see a renaissance in the way we produce buildings. But along the way some other things need to change. The engineer needs an improved image and should be closer to the public at large – often he or she is seen simply as the one unimaginatively making architects' designs stand up, or as the scientist building the tallest or biggest structure. Mostly this problem has stemmed from the profession's seeming inability to project a good image of itself, and its resistance to a radical overhaul of institutions of architecture and engineering inherited from previous eras. Education can come to the rescue here. The Aga Khan Award is making progress on the educational front by disseminating information about design across the globe. But in the past there have been leaders such as the Swiss engineer Heinz Isler, who sold his own particular agenda on self-supporting shells all around the world. Less and less of this inspirational teaching is happening, partly again, in my view, because of the downsides of globalization, where most things can be downloaded from the Internet.

In the end, then, a better sense of collaboration and teamwork is the key to finding success in the buildings we create, and it is a principle that has a notable advocate from history. Frank Lloyd Wright, the master designer, gave priority to engineering. As an engineer as well as an architect (he left engineering school three months short of his degree), Wright saw no essential conflict between engineering and design. In fact, he believed the opposite: that new aesthetics are the inescapable consequence of new engineering techniques.

The engineer – with a few exceptions – operates in a supportive role for the architect. But the two roles need to be blurred enough so that when they combine – one might call it 'engitecture' – a better product is the result, and both disciplines together forge a new path, which is necessary for the survival and prosperity of both architecture and engineering. The projects premiated in this cycle of the Aga Khan Award are a testament that this is already happening – but also that it is not happening quite enough.

It is not all doom and gloom, however. I have touched already on how the use of information technology is giving rise to a new wave of craft culture and mass-customization. The advancement of information technology as the primary tool for urbanists, architects and engineers is opening a new and more intimate relationship between them. Architecture now has more science to it, while engineering has more art to it. In the field of architecture, engineering design is happily becoming an intrinsic part of a new generation of form and organization. Architects will now design using an image of a simulated stress pattern, for example; as little as three decades ago, they would not have even seen such an image. Similarly, in the past an architect would not know why an engineer said something would not work – today he or she has access to that information. The relationship between architects and designers is now transparent because the types of barrier that used to exist between the two have been broken down. Furthermore, an architect does not now need to tell the engineer why he or she is choosing a certain orientation or aesthetic for a building because the engineer is beginning to understand more and more about what architects do. Each profession questions the other more, and collaborates better by doing so.

So, on one level it should be easy for engineers and architects to become closer, for the good of every project. This is the ideal relationship – where the naturally divergent thoughts of the architect are married to the convergent ones of the engineer, and each discipline begins to use and learn elements of the other, to the advantage of both. This collaboration is already becoming the ethic of new designers.