Can we afford to be professional?

Constructing Excellence Reading 15th Sept 2016

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A Senior Partner, Cullinan Studio and the Edge

Simon Foxell RIBA
Principal, The Architects Practice and the Edge
Government and Industry have tried and tried and tried to reform our industry....
The Edge is a ‘voluntary’ multi-disciplinary, self-selecting think-tank:

- Set up 1996 with support of the Arup Foundation to bring ICE and RIBA members closer together
- Associate Member CIC 2013 (applied to be Hon Affiliate)
- Meets monthly in one of our offices in London
  - To consider present and future challenges
  - To promote inter-disciplinarity
- 74 by-invitation debates, mainly in London, see www.edgedebate.com

“The Edge is my professional institution” Jane Wernick
Supported by: Arup Foundation, The Building Centre, CIBSE, CIC, CIOB, ICE, IStructE, RIBA, RICS and UCL Energy Institute

Members include:


Collaborators: Roberto Amendolia, Guy Battle, Francesca Berriman, Chris Beauman, Richard Brindley, Caroline Cole, Garry Felgate, Rachel Fisher, Dave Hampton, Andrew Scoones, Eddie Tuttle
2011 – 2013 saw 2 Edge Debates followed by Special Issue of BRI on the ‘New Professionalism’

In Oct 2013 the Edge invited Paul Morrell OBE to chair the Edge Commission. His distinguished career includes having been:

- Senior Partner Davis Langdon
- CABE Commissioner (2000-2008) and Deputy Chairman
- First Government Chief Construction Advisor (2009-12)
- Founder member of BCO
Tender price £43m   Outturn cost £470m   Claims cost £47m
Yet buildings are ‘free’ if their design increases productivity by 6%
Government / Construction Industry Engagement - Morrell

Diagram of government and industry engagement, showing various organizations and their connections. The diagram includes symbols and labels indicating different types of relationships and memberships.
Edge invited the Institutions with which we have worked to give evidence in a series of debates and for attendees to submit written evidence.

March to May 2014

Session 1 – The Environment with CIOB, CIBSE, RAE with keynote by Keith Clarke, Atkins Global
Session 2 – The Economy with RIBA, IStructE, RICS with keynote by Ian Brinkley of The Work Fdn.
Session 3 – Society with RTPI, ICE, LI with keynote by Matthew Taylor, RSA
Session 4 – Future value with Bordass, Franck, Froud, Malik, Prasad and Graham Watts (CIC)
We explained the headlines to CEO or President of 17 institutions:

ACE + APM + BIFM + cabe + CIAT + CIBSE + CIC + CIHT + CIOB + CIPHE + ICE + IStructE + LI + RIBA + RICS + RSA + RTPI
Paul Morrell wondered whether we are at a special moment?

- Globalisation of trade (and membership of institutions)
- The growth of the investor-owned, multi-national, multi-disciplinary practice (eg Aecom)
- Ageing professions – some are estimated to lose 25% UK members by 2020 (and Generation Y is less tribal!)
- We can collaborate on projects (and now we have BIM) but
- It is easier for Government to get an answer from KPMG

Other issues included:
- Widespread confusion around Ethics and the Public Interest
- Education (and CPD) is, in the main, siloed
- Climate change is not being taken seriously enough
- The Performance Gap is usually ignored
- Dissemination of new knowledge into practice is far too slow
Launch at Arup on 18th May 2015

CIC Chairman Tony Burton identified 3 areas for CIC to follow up
• Ethics
• Education
• Performance Gap

and the need for CIC Mark II
“The (Edge) report’s prescription, boiled down, is that they should look to closer collaboration: a view which would be endorsed by many of the professions, including the CIOB.....

...a huge to-do list for professional bodies, but it is achievable....”
Bristol – UDG 10/15 + UWE event – 1/5
Cambridge - CFci 10/15, IDBE – 12/15
Cardiff – events at WSA and then Arup – 11/15 + 25/2
Ecobuild – ‘Closing the performance gap’ – 9/3
Edinburgh – Edinburgh College of Art- 1/3
London – CIC Council – 3/15 and then 3/16
Newcastle – CIC NE with 2 Universities – 2/16
Oxford – Constructing Excellence at Oxford Brookes - 4/16
Reading – The Edge Debate at Reading University – 2/16
One-Year-On dinner at the Building Centre 18 May 2016
Paul identified six opportunities for collaboration:

• **Industry Reform** for benefit of clients and suppliers – a vision of a more efficient, integrated industry with feedback loops

• **Common Code of Conduct** with (CPD) support for members, preferably on a shared inter-disciplinary basis

• **Education** – review the siloed nature of the education system and support change on a cross-disciplinary basis

• **Research** – collaborative processing of new knowledge for rapid dissemination to members of our BE Institutions

• Presidential **collaboration** on major issues such as Climate Change and the Performance Gap
RICS, RIBA, ICE and CIOB are now working together as signatories to the International Ethics Standards (IES) Coalition covering 48 countries.

But how do we get the discussion into offices and construction sites?

Court orders Sweett to pay £2.3m for bribery offence

19 February 2016 | By Iain Withers
RICS and CIC keen on changing education but are the Universities getting ahead of the Institutions as more and more universities are opening courses with overlapping disciplines?
RESEARCH 'RED-TOP'
(A NEW FORM OF BUILT ENVIRONMENT KNOWLEDGE)

The 2014 BE Research Excellence Framework (REF) panel.

Reviewed 3900 outputs from 45 universities, worth £200M:

29% - 4 Star; World Leading*
40% - 3 Star; Internationally Excellent*

[in terms of significance, originality & rigour]

So why doesn’t industry know much about it?

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RESEARCH ‘RED-TOP’
(A NEW FORM OF BUILT ENVIRONMENT KNOWLEDGE)

Why doesn’t industry know much about it?
- Papers hard to find & read
- Need collation, editing & context

How best to reach industry?
BE institutions’ have access to 300,000 members

What are the barriers?
- Cost
- Collaboration
- Knowledge ‘competition’
Edge convened Research Dissemination Project team at the Building Centre on 2\textsuperscript{nd} Dec 2015 with APM, BIFM, CIBSE, CIOB, ICE, IStructE, (RICS), RIBA, RTPI.
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KNOWLEDGE COMPRESSION
Typically 50:1 - (6 research papers to 1 page article)

A growing body of research urges a major rethink of residential design to mitigate dangerous overheating in summer.

References:
(1) On the creation of future probabilistic design weather years from UKCP09: Coley DA et al; Building Services Engineering Research and Technology; 2011
(2) Limitations of the CIBSE design summer year approach for delivering representative near-extreme summer conditions; Corelli M et al; Building Services Engineering Research and Technology; 2013
(3) Summertime temperatures and thermal comfort in UK homes; Lomas JW et al; Building Research and Information; 2013
(4) Designing for the urban heat island effect; Griston D et al; CIC Start Online Innovation Review; 2012
(5) Modelling the relative importance of the urban heat island and the thermal quality of dwellings for overheating in London; Biddulph PD et al; Building and Environment; 2012
(6) Building characteristics as determinants of propensity to high indoor summer temperatures in London dwellings; Mavrogiani A et al; Building and Environment; 2012
Britain can’t preach on climate change while it dismantles its green economy

John Ashton

David Cameron’s call for action at the Paris summit rings hollow when every step he’s taken on low-carbon energy has been backwards.

Our buildings are changing the climate so why don’t our Institutions stand together on Climate Change?
Edge Commission Report on the Future of Professionalism: 
do our performance gaps matter?

Simon Foxell RIBA
“...The absence of a feedback loop in the industry and the consequent gap in the performance of built assets as offered to clients and the performance actually achieved in use – with energy performance being just one marked example of that gap.

“...the difference between the promise and the performance of the industry’s product was widely equated with misselling in the evidence session. It would be a scandal in any other sector, and should be in construction.”
Carbon Buzz: Anticipated vs actual CO₂ emissions

Distributions of estimated and actual annual CO₂ emissions/ m² usable floor area in Carbon Buzz data base. www.carbonbuzz.org

SOURCE: Ian Taylor and Judit Kimpian, Carbon Buzz Launch slides, 6 June 2013. www.carbonbuzz.org
Performance gaps: Not just energy

Occupant survey, multi-award winning school

RED: Below average; AMBER: Average; GREEN: Above average

Performance predictions: Economic

“**HS2** will support economic growth across Britain. The monetised benefits of the network to business are forecast to be approximately £34-45 billion. These come both from faster, more comfortable and convenient journeys, and from businesses being able to operate more efficiently, increasing their productivity, accessing new markets and labour pools.”

From High Speed Rail: Investing in Britain’s Future – Decisions and Next Steps
Department of Transport, January 2012
Performance predictions: Social

“The mission here is nothing short of social turnaround, and with massive estate regeneration, tenants protected and land unlocked for new housing all over Britain, I believe that together we can tear down anything that stands in our way.”

David Cameron
The Sunday Times, January 2016
“The Green Deal will be the biggest home improvement programme since the Second World War shifting our dated draughty homes from the past into the future, so it’s vital people can trust it”

Greg Barker – Climate Change Minister, 2011
Much has been done and is being done to improve our industry, so what is this Performance Gap?

There is little or no feedback loop in construction but are there different areas of performance gap according to who you are?

• For clients – time, money, profit, pleasure...

• For designers – detail, function, build quality, place...

• For constructors – time, defect free, profit, repeat work...

• For facility managers – proper commissioning, understandable controls, logical meters, access to manage ...

• For users – comfort, functionality, security, accessibility, delight...
Or looking at the Performance Gap by sector:

• Infrastructure: the gap between the original budget and ...

• Workplaces: the gap between productivity gains promised and ...

• Communities: social benefits of housing regen promised and ...

• Schools: educational benefits claimed by new approaches and ...

• New procurement policies: efficiency savings promised and ...

• Refurbishment: energy savings modelled and ....

Energy matters but it is much more than just that
Are we about to be found out?

- Performance-based contracting
- Air quality monitors
- Affordable thermal cameras
- Social media
UK-GBC launches project on building performance

The UK Green Building Council is launching a new research project that will tackle the way industry currently designs, constructs and operates non-domestic buildings. Examining industry approaches, tools and behaviours, the group will focus on how to maximise building performance, not just in energy terms, but also other aspects of performance that impact both the building user and the wider environment.
Closing the Performance Gap Round Table 5th July at RAE

CIAT, CIBSE, CIOB, CITB, Design Council, LABC, UKGBC, APM, CE, RAE (ICE, RIBA, RICS) tasked Edge with making the business case for a What Works Network (Cabinet Office).

Government/DECC is interested in the NABERS.... What if we have performance-based contracts?
Edge/C4C meets Constructing Excellence:

Oxford CE Group formed to explore the Performance Gap on 28th April with client, designers, constructors and building performance researcher.

CE/HE work group met in London 20/7 and will support Edge initiative on research dissemination

What now in Reading?