



The JCT Povey Lecture

Ambition in an Age of Austerity

Paul Morrell

18 November 2010

Introduction

On Thursday 18 November the JCT Povey Lecture was given by Paul Morrell, Chief Construction Adviser. His lecture, entitled 'Ambition in an Age of Austerity', was presented at the Bevin Hall, Local Government House, Smith Square, London.

The JCT Povey Lecture is an annual event at which an eminent person is invited to give his/her thoughts on significant matters that are relevant to the construction and property industry.

The JCT Povey Lecture was inaugurated in 2003 as a public acknowledgement and tribute to Philip Povey who served the Joint Contracts Tribunal for 50 years.

Biographical Details

Philip John Povey – Barrister – commenced in construction as a legal adviser to the NFBTE, later became the Construction Confederation, in 1951. At the same time he began to assist the Joint Secretaries of the Joint Contracts Tribunal (the JCT).

Philip first became Director of Legal Services at the Confederation and then its Director General. He later became the first Secretary-General of the restructured Joint Contracts Tribunal Limited in 1998.

Philip's work for the JCT became well known through the publication of JCT Standard Forms of Contract, which in time found their way to many parts of the world. He had a keen mind, which steered him around what he viewed as the less important or parochial issues for which the industry seems to have a particular attraction and enabled him to get to the core of a problem and to resolve it. He was an extremely skilful draftsman who invariably managed to satisfy the demands of many disparate, often competing, bodies.

Although there were committees, working parties and individuals that provided valuable input, it was Philip who shouldered the burden of writing the text.

He retired from the JCT at the end of 1999 but died suddenly only 18 months later, in 2001.

About JCT

The Joint Contracts Tribunal was established in 1931 and has for 79 years produced standard forms of contracts, guidance notes and other standard documentation for use in the construction industry.

The Joint Contracts Tribunal is an independent organisation representing all parts of the construction industry and is the leading provider of standard forms of building contract. The following are Members of JCT:

British Property Federation Limited
Contractors Legal Grp Limited
Local Government Association
National Specialist Contractors Council Limited
Royal Institute of British Architects
The Royal Institution of Chartered Surveyors
Scottish Building Contract Committee Limited

and JCT Council is comprised of five Colleges representing:

employers/clients (including local authorities)
consultants
contractors
specialists and sub-contractors
Scottish building industry interests.

Chairman: Peter Hibberd MSc, FRICS

Chief Executive: Neil Gower BA Hons, Solicitor

Past Chairmen:

1931 – 1956	Sydney Tatchell CBE, FRIBA
1956 – 1960	Sir Percy Thomas OBE, PRIBA
1960 – 1973	A. B. Waters CBE, GM, FRIBA, FRIAS, PPCI Arb
1973 – 1978	P. H. Bennett CBE, MA, FRIBA, FRSA
1978 – 1983	Norman Royce FRIBA, PPCI Arb
1984 – 1988	Patrick H. Barry OBE, RIBA
1988 – 1995	Roger M. Squire MA, FRICS, FRSA A. M. Millwood OBE, FRICS, FCIOB (Acting Chairman – May to September 1995)
1995 – 2002	Roy Swanston Hon DSc, FRICS, FIMgt, FRSA
2002 – 2007	Christopher Vickers CBE, FRICS, ACI Arb Neil Smith FRICS, MCI Arb (Acting Chairman – December 2007 to February 2009)

Ambition in an Age of Austerity

Paul Morrell
Chief Construction Adviser

Even since choosing the title for this talk, the words “Age of Austerity” have become a cliché, but it is difficult to find new words to describe the extraordinary times that we are living through – times which have seen unprecedented use of the word “unprecedented”. In reality, it is probably the conceit of every age to imagine that it is living through a time of unique circumstance and change, and in one sense it is, as it is no more possible to live through the same times twice than, as Heraclitus reminds us, to step into the same river twice.

Nonetheless, both the times and the river bear some strong similarities each time they pass us by. The situation today bears some resemblance to the early 1950’s, but this time around we have got to a level of debt that we previously managed to achieve only by taking the trouble to go to war. Furthermore, some estimates of the point at which our level of debt will get back to the level previously considered prudent (public sector net borrowings not to exceed 40% of GDP) run out to 2032 – in other words, virtually a generation.

Faced with this kind of grim news, it would be natural enough to crawl under the duvet and wait for things to blow over. There is no quick fix, and in the meantime we go into mourning for the good times we were living through (or, more accurately perhaps, the good times that we thought we were living through, as the best answer to the question “Where did all the money go?” is still that there was no money in the first place); and so we pass through the stages of grief first posited by Elisabeth Kübler-Ross – denial, anger, bargaining, depression and acceptance.

Anybody still in denial simply isn’t reading the newspapers, so I hope we can agree that that’s behind us.

So too is the anger – mostly directed at bankers. It is so much easier if we can blame an identifiable (and, best of all, unpopular) group for all our ills, and convenient to forget that for every imprudent lender there was an imprudent borrower – with the only difference, perhaps, being in the balance of naivety and cynicism.

For construction at least, that puts us into the bargaining phase – as the full implications of last month’s Comprehensive Spending Review unwind, and at least we know how things are going to be.

It is then earnestly to be hoped that the next stage is not an economic depression, but that the choice is a personal one: clinical depression or the duvet. Grief counsellors advise that this a necessary stage to pass through before we can move on, but depression is a negative, often destructive emotion: and acceptance, though also clearly necessary, is still no better than passive.

To make my last demand on this analogy, therefore, I'd like to suggest that we should be looking for a sixth stage of recovery to add to the Kübler-Ross model: **ambition**. This is not to deny the lessons of history, nor still less to forget them, and nor should it be unfeeling of those still in earlier stages of the process – for, I fear, there will be “bargaining” between HR departments and employees as many organisations have to re-base their businesses to deal with the realities of a recovery programme. It is, however, to recognize that, whatever our current predicament, and however long that recovery might take, it will still be short by comparison with the life cycle of a building. The core of that ambition should therefore be a determination to resist the temptation to solve our problems by thinking only in the short term – thereby giving us a bigger problem later on.

The problem is that the ambition is not new. Indeed, the subject matter of my distinguished predecessors in delivering the JCT Povey lecture can be characterised by ambition:

- Richard Saxon (2003) called for a better understanding of the total impact of the built environment upon the economy and our daily lives, and stressed the importance of concentrating on value rather than cost;
- Roger Flanagan (2004) talked about risk and navigating the industry and its projects more securely through an uncertain world;
- Peter Brandon (2005) pressed for the more intelligent use of IT in design, procurement and construction management;
- James Wates (2006) looked forward to the reorganisation of the industry into an integrated proposition, speaking with one voice and punching its full weight;
- Bob White (2007) looked at innovation (and particularly organisational innovation) as a key instrument in the industry change agenda;
- Nick Raynsford (2008) looked at industry fragmentation, and the complications this causes in its relationship with Government (itself fragmented and hardly less diverse than the industry);
- and most recently, Francis Salway (2009) made a plea for sustainability to be put at the core of the industry's activities.

These are, of course, massive over-simplifications of much more developed and nuanced propositions, but it is notable that the same themes keep recurring: value, collaboration, integration, innovation and so forth.

So, if we've heard it all before, why should it be different now? It would be trite to say "because it has to be", but one certainly has to wonder, if not now, when? There cannot be an individual nor a business working in construction who has not been profoundly affected by the reversal of fortunes that the economy has gone through after 63 quarters of uninterrupted growth (by comparison, by the way, with a previous record of 19 quarters) – although again one has to ask how much of that growth was real. Nor can there be many who do not expect it to be tough for quite a few years to come, so everybody should now get it: to trot out another cliché, we need to do "more for less".

But the question is whether there is consensus about how that is to be achieved – and, if there is consensus (as seven years of these lectures would suggest), then why isn't it happening? What do we need more of, and what do we need less of, and what are the long term virtues that are under threat as we concentrate more on the "less" than on the "more"?

Top of my list (a position that it has occupied virtually since I started practice 40 years ago) is **whole life value**.

Having specialised in commercial offices, I have quoted over and over again the same figures:-

- that, over a typical 25 year occupational lease, amortising the capital cost accounts for about 55% of the total expenditure discounted to present value, whereas running and maintaining (or depreciating) the building amounts to about 45%.
- but throw in the cost of the people occupying the building, and amortisation reduces to 8%, maintaining and operating the building to 7%, and no less than 85% of the total is in the salaries and payroll burdens of the staff – a ratio of say 1:1:10.

To show how long we've been talking about this, the figures were originally derived by a colleague at Davis Langdon from a published study relating to the Public Records Office at Kew. The object of that study was to see whether a traditional cellular layout might be out-performed by Bürolandschaft offices. That was in the early 1970's – and clearly at a time when we thought that people might take more willingly to open plan if we called it by a long German word, and added ornamental pot plants.

The figures do not quite have the straight-between-the-eyes impact of the Royal Academy of Engineering's 1:5:200 as the relationship between capital, running and operational costs, but they do have the virtue of being based on facts. Not so long ago, I also ran the numbers on the basis of Davis Langdon's accounts, and found that the relationship held good, although in our case running costs marginally exceeded amortisation.

On the basis of these figures, I have therefore been saying for all those years that if it might be possible, through improved design, to get just 7% more performance out of the people (or, in a probably painfully topical alternative way of looking at things, do the same amount of work with 7% less people), then constructing the building would be free. Every time I say it, I expect someone to stand up and say “Hang on a minute ...” and point out the flaw in the argument, but it hasn’t happened yet – and tonight might be your last chance. Of course, you can move the figures marginally by making different assumptions about discounting rates, or the period over which they operate, but the fact is that it is overwhelmingly the case that a minor improvement in operational performance will justify a major increase in capital investment.

And yet.

And yet, in that same career, when things got really tight, I found it almost always came down to cost over value. There are some perfectly human reasons for this. Firstly, capital cost is simple: we can all understand the pound in our pocket. The unit of whole life value, however, is output (or benefit) over cost over time, and the human brain simply doesn’t seem to be wired to cope with the additional variables. It requires more data, and more judgment, and it also calls for a long-sightedness that frequently goes unrewarded in business. When a distant, often speculative gain is pitched against an immediate cash saving, it is therefore unsurprising that a concern for the future is crowded out by the insistence of quarterly reporting.

It is, however, one of the less attractive qualities of our industry that we too often attribute our shortcomings to the inadequacies of clients, and their lack of vision. In the early days of my career, this lack of faith in clients making the “right” decisions was frequently accompanied by a suggestion that the way to encourage them to do so was to keep them uninformed of their options. Clearly there was a long-standing tradition of this, as one of my favourite cautionary quotations comes from Pope Pius II who, on first seeing the cathedral at Pienza that he had commissioned from his architect Bernardo Rossellino in the 15th century, commented “You did well, Bernardo, to lie to us about the cost.”

It is a hazardous business plan to rely upon forgiveness rather than permission, though, and for a young surveyor it struck me as professional suicide. It is difficult enough to get the answers right, and to get clients and their appointed teams to believe in them, without the suspicion that one isn’t even trying to get them right.

The practice has not gone away altogether, of course. There will still be designers who, whilst almost certainly honest in other aspects of their lives, see nothing wrong in slowly revealing the full extent of the investment that a client faces as his commitment increases and his options reduce. Indeed, Bent

Flyvbjerg, the Danish economist and social scientist who is now at Oxford University's Said Business School, has suggested that institutional dishonesty, under-estimating cost and over-estimating benefits, is at the root of many ill-founded infrastructure projects getting under way.

How much better it would be if project teams themselves converted their thinking to whole life value, and presented options to clients in those terms. This would, of course, mean that they would first need to have an absolute understanding of how a new construction project would deliver value into the client's operations, and this would make far greater demands of the briefing process than is the current norm. How often has a designer turned up to the first meeting with a model, before there has been any real discussion about the client's purpose in commissioning a new facility? And this problem is aggravated by the practice of running design competitions that lead to selection on the basis of architecture, rather than the architect – again before there has been any purposeful dialogue. In fact, I think the most shocking thing that I ever heard an architect say was in response to a suggestion that we should discuss with the client how to set up effective briefing teams, looking at every aspect of the proposed project. “Frankly” replied the architect, already the winner of a design competition, “we wouldn't want that, as it might compromise our design concept”. I guess there will always be clients who are prepared to be this kind of patron, but they should know what they're getting into.

For the rest of us, the priority must remain that the long-term durability, efficiency and the fitness for purpose of a building should not be compromised in the interests of ease or economy of construction, and still less by design that is detached from a client's true purpose.

There is currently much talk of inter-generational equity. The concept has its origins in the Brundtland definition of sustainability, and the idea that we should not meet our current wants on a basis that compromises the needs of future generations. More recently, the concept has been extended to cover the problem of debt, so that future generations should not see the fruits of their own efforts diverted to repay the consumption of previous generations. There would, however, be no greater equity in passing off to future generations buildings which are so ill-conceived, or so badly designed or constructed, that they will be expensive to maintain and run, or ineffective in delivering the purpose for which they are intended. This is simply to hand down debt in a new form.

Whole life value therefore takes on an even sharper significance in times such as these; but it is fundamentally for the supply side to come up with the arguments and tools to demonstrate that value to clients – and to desist from cynical offerings that trade turnover (for them) today, but trouble (for their clients) tomorrow.

The second factor that comes under attack when money is tight, closely related to the above, is an appreciation of the **value of good design**.

I will always believe that value is generated on drawing boards, rather than on building sites. It follows that I find the debate about whether design contributes to productivity or attainment (or whatever other measure of performance you might want use) as tedious. Does design (good or bad) affect performance? Absolutely. Does it do so in isolation, like an inoculation against under-achievement? Absolutely not. Take a bad business – one with poor leadership, an unwanted or overpriced product or service, demotivated staff etc, and put them in a good building, and you’ve still got a bad business. But take a good business, or one that wants to fix whatever might be wrong with it, and put them in a good building, and they are on their way – and so it is for teaching staff and pupils in schools, medical staff and patients in hospitals and so forth. In other words, good design is an enabler – not as important as having the right people, product or service, but nonetheless profound in its potential impact.

Although it may involve some circular logic, therefore, I would say that part of the very definition of “good design” is that it produces value, and that design that celebrates little apart from itself is bad design.

There is a particular significance in this latter comment. Over the long boom of the last fifteen years or so, there has been a growing interest in architecture, and particularly contemporary architecture, and that is to be welcomed: there have been times in the past when we haven’t been paying attention, or have been paying the wrong kind of attention, and we are living with the consequences. There is no denying, however, that architecture has been as susceptible to “irrational exuberance” as have the financial markets. For private patrons, this is nobody’s business but their own, and I hope there will always be room for patronage in the public sector as well: our heritage is built from past examples of this, from every generation.

The message that has become clearer since I have been working in Government, however, is that, in the delivery of public services, there is a value in quantity. Getting to grips with this, and recognising its legitimacy, is counter-intuitive for somebody who has spent his career arguing for quality over quantity; but it is clear that there are levels of cost which, however fine the resulting product, are not justified in terms of functionality, durability or impact. Just, therefore, as it has been desperately important to fight against the almost irresistible temptation of the lowest capital cost, and the lowest common denominator that can result, by setting minimum standards, so I think it is time to acknowledge that there should, in the public estate at least, be maximum standards as well.

Between the two there is still a wide range of options, in a band of what I have called “good, and good enough”. The term attracts suspicion, because the word “enough” suggests a dumbing down. It is not, however, intended to do so. The starting point is that buildings have to be good – which means that they need to meet the principles of good design, defined by CABE as design that is “fit for purpose, sustainable, efficient, coherent, flexible, responsive to context, good looking, and a clear expression of the requirements of the brief”. Beyond that, though, every feature that adds cost needs to be tested against its contribution to a rigorous measure of value. This could, and should, become a real skill: substituting genuine value engineering for the discredited cost-cutting that it has too often become, and rooting out costs that make an inadequate contribution to use, life, appearance or any other quality that is properly valued by public sector clients.

And yes, for the avoidance of doubt, that should include beauty, but there are many versions of beauty, and the best of them (some would say all of them) avoid extravagance.

This approach also requires real research into how good design contributes to whole life value. I hope it is now a cliché that real value lies in outcome, but both good design and outcomes have many facets and the relationship between the two therefore represents a complicated matrix of interactions. It is not, therefore, good enough to point to one aspect of good design, and one aspect of a good outcome, and claim that this proves the value of all aspects of good design, however those might be defined. As just one example of this, if I hear just one more time about that US Postal Office that demonstrates how sustainability (indubitably one aspect of good design) leads to improved performance, I just might scream. Take a proper look at the study, which relates to the installation of energy efficient lighting, and it turns out not just that the lighting was more energy efficient but also that it replaced poor quality, dim lighting – and the measure of improved performance was increased accuracy in the hand sorting of letters. Should anyone be surprised that adequate lighting is a prerequisite for sorting mail?

This does not change the underlying case, and aspects of sustainable design may well contribute to performance, but nor does it make the case. The requirement is for more rigour in the conduct of such exercises; and although we tend to get bogged down in an argument as to how difficult it is to measure productivity (as it is), I find it impossible to believe that a combination of construction professionals and social scientists could not come up with a methodology that would make the case, and pass peer review.

Given the extraordinarily high proportion of whole life cost that relates to people (whether they be office workers, teachers, doctors, nurses or whatever), doing so would represent a significant investment. In the meantime, however, it remains one of many areas (like post occupancy evaluation, energy audits

etc) where it seems that we would rather spend £100 million on a building and hope that it works, than £100,000 to find out whether it actually does.

One more word on design before we move on. In CABE's 2006 publication on improving the quality of public buildings, one of the clearest messages is that there needs to be some mechanism for stopping bad design. It follows that there needs to be an organisation that can operate the mechanism; and as I write this CABE themselves face a loss of funding, and therefore potentially the means of being our first line of defence against bad design – first in defining it, and then in rooting it out. In his blog written the day after the Spending Review Jeremy Hunt, the Secretary of State at the DCMS, acknowledged his mixed emotions about the overall settlement, and expressed disappointment that he had to withdraw funding from CABE and the wish that they should be able to continue with alternative funding, as they deserve to. Amen to that – and when money is so tight, the last thing we can afford is the expense of bad design; so I very much hope that, through a combination of programme funding from other Government departments, the involvement of the design professions and maybe some of the major clients, and the establishment of appropriate local structures, the critical elements of CABE's programme, and most particularly design review and the lessons that can be learnt from it, might continue. This will also enable Jeremy Hunt to meet the test that he has set himself: to be able to look his grandchildren in the eye in the years ahead and say that the right decisions were made.

I need to say more about sustainability – not least because the first reaction to any speech or article that doesn't mention it is "You didn't even mention sustainability". The fact is that we need to accept sustainability as an absolutely intrinsic part of the definition of good design. I would, however, like to rescue the word, and restore some real meaning to it. Like many in the industry, I witnessed sustainability arrive in our lexicon as a buzz word, start to develop some real significance, but then get ambushed by so diverse a definition that buildings could claim to be sustainable simply on the grounds that they had a bird box and a bike rack. It is carbon (as a proxy, inter alia, for energy efficiency) that has brought some focus back to the subject, and although it is not the only thing that counts, it does point the way: a definition of sustainability that can serve as a design tool needs to concentrate on things that count, and things that can be counted, and upon a weighting that reflects their relevant importance.

Here too, it is for the industry, rather than its customers, to lead; and the leading edge also needs to go to places it has traditionally passed by. What has, until quite recently, been completely under-appreciated is the enormous challenge facing us in retrofitting the existing building stock (all of it) to achieve higher levels of energy efficiency. Without doing so, we have no prospect at all of meeting our carbon reduction commitment – which is now a matter of law. Indeed, that commitment, which requires us to reduce emissions

by 80% by 2050, poses questions to which we currently have no answer; but the industry has been good at coming up with solutions to new problems where it is confident that a market will exist for whatever it comes up with. The overwhelming issue in respect of driving improved energy efficiency and other measurable aspects of sustainability is therefore the creation of customer demand. For this, most of the levers rest with Government and the regulators, but the challenge for the industry is to encourage politicians and regulators to believe that if those levers were applied, then the industry would have a skilled and trustworthy supply chain ready to deliver compliant and accredited products and services when and if that demand comes. Given the scale of the task (about 26 million existing homes, and 2 million non-domestic buildings – and growing), this will be challenge enough.

The BIS Industry/Government Innovation and Growth Team which has been commissioned to look into the construction industry's place in a low carbon economy will have a lot to say about this when it reports at the end of this month.

As is right and proper, I have started and concentrated here on the needs of the customer: needs which, I have to confess, the industry tended to pay scant regard to in the first 20 or so years of my career. The proposition at its worst used to be “This is what we do. Do you want some or not?” – and to be fair, this reflected a lack of customer focus that was pretty widespread in business in those days. Now, I think it is understood that this just won't do, but there are still things which clients – and particularly repeat clients, and most particularly public sector repeat clients, need to know for their own protection and that of the taxpayer.

The first of these is how a building project can add value in the delivery of their core service. This is fundamentally about whole life value, my first point of focus above.

Next, and this too is covered above, a repeat client should know how to convert that understanding of value into standards – which I have proposed should have both a lower and an upper limit.

The third thing that a client could usefully know (and it may do no credit to industry that it is so – but it is so) is how much they should then be paying for that building which is “good, and good enough”. This brings me to my third priority, which is **benchmarking**. Like post occupancy valuation, energy audits and so forth, this is one of those costs that arises after the project is finished, when many of those involved have already moved on, and when the budget has probably been exhausted.

Benchmarking is expensive too. Whenever, in my day job, I chased up detailed cost analyses of previous projects, the almost invariable response of the

surveyor was that the job wasn't typical, and that therefore there was no real value in gathering the data. In one way, this happens to be true – but data has to be normalised, eliminating the variables so that there is a proper basis of comparison, and that is what makes its collection costly.

I would say, however, that the failure to benchmark, and to find out just how much a project should cost has resulted in un-necessary expense of hundreds of millions of pounds. When this information is first gathered together, it will tend to show that the most expensive project will have cost two or three times as much as the lowest – and this is not reflected in getting a building that is two or three times as good. Instead, it is almost certain that some of that expense will have been destructive of value, making insufficient contribution to use, life or customer benefit. The price of this, for the schools programme say, is paid in being able to build less schools, and our ambition should be the opposite of that: to educate the greatest number in buildings that are good enough for the purpose – in buildings which an architect friend calls “the best of the ordinary”.

Benchmarking also has an important part to play as decisions get devolved to the local level. This calls for transparency, and the most obvious measure of what can be achieved in one borough is what has been achieved in others. This therefore has to be a priority not just for me, but for all government departments with a significant construction programme.

So, with those three hurdles leapt, the client will be equipped with the knowledge that I would say is essential to get the best from the industry: knowing what to ask for, how to ask for it, and how much to pay.

The first duty of the supply side is to help the client put himself in that position, and to take no advantage in the meantime. I would hope, however, that the industry will have ambitions beyond that: ambitions for a future in which it can deliver a better product at better value. This calls for reform – and of course reform is always one of those things that we are going to get to later. It gets crowded out by the pressures of everyday business, and none of those pressures relent, even when the workload recedes. Progressive employment practices, including diversity of the workforce; skills and training; health and safety; the management of suppliers – there is almost no end to the number of things that need to be got right. These are, however, matters of hygiene – the price of admission to business, rather than the business itself.

We also need to keep rooting out waste, to get rid of processes (or, let's face it, people) that add little or no value. But this is a matter of survival, rather than the step change we need.

So, at last, as we adjust to a lower workload, can we not both see the need and find the time for reform? We do not need to look far to know what has to be done. The successive reports of Sir Michael Latham, Sir John Egan and

Andrew Wolstenholme have plotted a clear enough path, looking at process, product and behaviours; and the eight JCT Povey lecturers who have preceded me have trodden much the same path. So will I, but I'd like to pick out two particular elements of reform that it is time to adopt or abandon.

The first is the **integration of the supply chain**. Books have been written about this, and we have all the reports, tool kits, maturity matrices etc that we could ever need. And several times, since taking up the post of Chief Construction Adviser, I have seen presentations on the merits of integration. Although I try (not always successfully) to be more polite than to say it, my honest reaction is "Why are you telling *me*?" In other words, if integration makes such powerful good sense, then why doesn't the industry just do it? I know this is a bit disingenuous, as part of that integration (between design and construction) is sometimes proscribed by a system of procurement that is put in place long before those who might be inclined to integrate with each other can do so. It would still be good, however, if the two major protagonists involved in that putative partnership could agree whether and how they would like to work together, and I have lost count of the number of conversations that I've had with designers that can be summarised as "If you could just put the contractor back in his box, then we can give you what you want"; or, with contractors, "If you could just get the architect out of there, then we can give you what you want".

The reality is that neither, working alone, can give me (or, more accurately, the taxpayer) what is wanted. Nor is it likely that the best relationship in which they might work together is that of master and servant. Maybe, therefore, almost 110 years after the death of Queen Victoria, we could start reading the last rites on the Victorian construct of how the professions and those who actually do the work might come together.

And for all its bad press, PFI has shown us that there is a better model. For almost the first time in my working life it is possible to find architects who have actually enjoyed the experience of working hand in hand with contractors, and are prepared to say so; and contractors who have started to understand how to work with designers so as to release real client value, rather than to regard every curve and cantilever as evidence of wanton extravagance (although some still do, and sometimes they're right).

The experience of PFI also suggests that the natural integrator of the team could be the contractor – who is, after all, the only person who integrates operations on site at the moment. However, no single constituent of the traditional design and construction team has the full kit that will be required of the leader of an integrated team. For the contractor, for example, four additional qualities are required (apart from the qualities of leadership itself).

First, my point about value being created on drawing boards, and emerging from a constructive dialogue between designers and users, needs to be clearly understood – as does the fact that obstructing or interrupting that dialogue, mangling the message as it passes, destroys value.

Secondly, I would find it hard to take seriously as leaders of an integrated team contractors who seem unwilling or unable to integrate those levels of the supply chain that are traditionally contracted through them. Too many contractors talk of integration and collaboration with the client, whilst seeing no irony in the fact that they are simultaneously assembling their own team on an opportunistic, usually cost-led, basis; and there is too much evidence that, even when clients demonstrate all the right behaviours in their dealings with the main contractor, those behaviours scarcely penetrate down through the supply chain.

So the third quality, having assembled the gains of integrated team, is a readiness to apply the golden rule to all of the subcontractors and suppliers in it: to treat them as one would like to be treated. Government has an understandable preoccupation with SMEs, partly because it is often smaller companies that demonstrate high levels of innovation and growth; partly because SMEs cannot carry as an overhead the people that they would need to keep themselves fully informed of developments in the marketplace; and partly because experience shows that larger businesses are inadequately supportive of smaller ones. Bigger businesses therefore need to demonstrate to Government that politicians' ambitions for SMEs can be met by support within the supply chain, and that the way they contract with others encourages investment in research, innovation, skill and training – in short, in a better future.

In the meantime, we are scarcely likely to break through to whole new levels of value, let alone rise to the challenge of carbon reduction, whilst perpetuating the working models of the past. Finding these breakthroughs is fundamentally about systems engineering, and for that all parts of the system need to be represented when the engineering is done.

That brings me to the fourth and final quality, which is a preparedness to compete; but to compete on the right basis, and about the right things. In the ideal world, with an integrated team and a substantial construction programme, the question one would put to the team would not be “Show me your best price for concrete”, but rather “Show me your best school (or hospital, or police station, or ...)”. In the absence of that, however, the challenge has to come from those benchmarks again: to identify benchmark quality at a benchmark price, and then try to beat both. What we cannot afford to do is to turn construction into a cost plus love-in: what the Americans call Jambalaya Contracting.

The second transformation that I want to see is a gradual move to the routine adoption of the full potential of **Building Information Modelling**. Most of us would concede, I think, that the construction industry is way behind others in the innovative application of IT. We therefore make our mistakes on site, rather than in a computer model, and at exponentially higher cost; and we increase the chances of those mistakes by working with uncoordinated information issued to different parties at different times. The potential for turning this around, so that we build things in the computer before attempting it on site, and do so from a set of coordinated information that all parties can access on a common platform, is enormous – but so are the barriers. In a world in which some smaller suppliers and subcontractors don't even have an internet connection, it is impractical to mandate a system that demands that everybody works with digital information.

And yet we might as well regard information that isn't digital as lost, because sooner or later it will be. So the Government is looking at a phased programme which gets us from the status quo, with some early adopters who are already putting BIM to sophisticated use and some who are still battling with a microchip phobia, to a position where all are comfortable in a virtual world. The trick will be to recognise that this is fundamentally about process rather than software, and to avoid the trap of spending the rest of our lives trying to find a utopia of interoperability. If we haven't found it yet, we are almost certainly looking for the wrong thing.

BIM is, of course, a tool, rather than a credo, but, like good design itself, it is nonetheless a powerful enabler of many of the things that we want to happen. Experience in America has shown that it has the potential to eliminate waste, and thereby reduce cost and increase profit through better organisation of the process, and it certainly opens the door to greater use of offsite fabrication. Fundamentally, though, it is an instrument of integration, and these two ambitions therefore walk hand in hand.

All of this will call for **leadership**. Now, I have taken a bit of flak for saying that the industry needs leadership. The industry is full of leaders I am assured – and so it is. But an industry that is full of leaders is not the same thing as an industry that is led. From somewhere we need a cadre of individuals who will work together to provide and promote a plan for their (our) future – and an ambitious plan at that. It would be the final misery of these tough times if we emerge from them with nothing more than a divided, introverted industry, preoccupied with its own predicament rather than that of its clients; turning out a generation of nastier, cheaper buildings; cobbled together from an analogue anarchy of uncoordinated documentation.

My expectation is that this cadre is more likely to come from the leaders of key businesses across the breadth of the supply chain than from within the

institutions and associations that represent them; but wherever they come from, and however they come together, we need that plan.

I then have one last ambition: that, to sustain us during some of the more difficult times that we're going to have to work through, we find something to celebrate. Not "bread and circuses", but something rich in the achievements of our own industry.

I have already mentioned the austerity of the post-war years, and in 1951 (which was, I see, the year that Phillip Povey joined the NFBTE, as it then was, and began to assist the Joint Contracts Tribunal) the country marked its emergence from times that really were unprecedented with the Festival of Britain – a promotion of better design and the possibilities of a new urbanism. In spite of the austerity (and a general standard of living which, were we to be asked to match it today, we would probably call poverty), the five years before and after that Festival saw the invention of the transistor, the hovercraft, the microwave oven, the video recorder, super glue, Velcro and credit cards. You don't need money (or credit) to think. Indeed, as Ernest Rutherford, the splitter of the atom said, "We don't have the money, so we have to think." We probably don't need another festival, but in two years time we do have an event that we can celebrate, when the world comes to London to see the 2012 Olympics. This is a construction success story, so let's work together, Government and industry, to use that occasion as a showcase of what the industry can do – and, above all, what it could do if it could consistently perform at its best.

And one final piece of history: in spite of all the gloomy projections, according to the Chancellor's projections we will have balanced the books within 5 years, putting the economy back on track by 2015. That also happens to be the 800th anniversary of the signing of Magna Carta. It's a good time for some big thinking.

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