

RML Newsletter round-up

JANUARY 2015

TRUSTING QUALITY AND THE COMMON LAW OF BUSINESS

I am an admirer of John Ruskin and have frequently quoted John in order to make a point. John expressed opinions on a great many subjects; he could well be considered the ultimate polymath of Victorian times.

I have admired this comment about 'The common law of business' for many years. It is well, but not widely, known and it is worth giving it an 'airing' now. I admit that I have never found the source for these words, but the general acceptance is that they are the words of John Ruskin.

There is hardly anything in the world that someone cannot make a little worse and sell a little cheaper, and the people who consider price alone are that person's lawful prey. It's unwise to pay too much, but it's worse to pay too little. When you pay too much, you lose a little money — that is all. When you pay too little, you sometimes lose everything, because the thing you bought was incapable of doing the thing it was bought to do. The common law of business balance prohibits paying a little and getting a lot — it can't be done. If you deal with the lowest bidder, it is well to add something for the risk you run, and if you do that you will have enough to pay for something better.

A modern equivalent might be 'You get what you pay for' but to my way of thinking this crude phrase with its aggressive connotation hardly does justice to a complex relationship between parties wishing to do business with one another. Unfortunately it is an attitude that is encountered all too often, and gives consultancy a hardness and a totally different meaning from the one that I feel comfortable with.

Making a choice at any time in business involves an element of trust between buyer and seller, and therefore some concomitant risk. Most sadly, trust is absent in the public sector which is dominated by the precautionary principle and where in tender submissions what you say today is more important than what you did yesterday. A reputation for quality and integrity, the soft skills that are vital in any successful business arrangement, counts for nothing. As someone who was trusted to deliver ground-breaking innovative work for the public sector, I find that today's environment is totally different. Is there now no room for trust? It seems not.

Only private individuals and companies now work on the basis that 'I trust you because you have done such good work in the past and I recognize that you have a reputation and a profession to uphold'. At RML we have always worked to these principles with both suppliers and clients. Is it any surprise that we enjoy our work?

CAVEMAN RANT – WRITING IS FOR READING

A long time ago an RML client told me that he looked forward to reading anything produced by RML. He continued to explain that engineers' reports depressed him, poor structure and the miss-use of words irritated him, and did the author no favours. Plaudits from readers of RML reports have included comments such as "I couldn't put it down".

The list of common howlers found in written and indeed spoken English these days is quite considerable; the apostrophe in a shop window sign, 'bean's for sale', is probably the most publicised. 'Different to' instead of 'different from' is widely used even on the BBC and it annoys me intensely. Difference suggests that there is a 'distance' between the two objects being discussed and so 'different from' creates the image of a separation; similarity suggests that there is an attraction between two objects and so 'similar to' suggests that two objects are capable of moving towards one another, well that is how I see it. 'Compared to' instead of 'compared with' is another example that causes me problems.



Sloppy thinking can show up in writing and should

be avoided at all costs; one ecologist was intent on reporting that "Engineers need to know what makes plants tick", the intention was sound but I was forced to tell him that clocks tick, not plants. Another author put it to me that "No two days are the same", so I reminded him that all days consist of 24 hours but that the weather, which is what he was talking about, can change from day to day. So saying what you mean to say, choosing words carefully, and managing sentence length and paragraph structure all add to the pleasure of the reader. Why else should we write anything at all?

FELLING TREES MAKES A WOOD

As part of a new highway project some of RML's landscapes, designed 20 years ago, will soon be disturbed. Landscape architects with a long involvement in one area must suffer the pain of seeing 'their' landscapes, which they have looked on with affection as flora and fauna develop, suffer disturbance or removal to serve new functions around new highways improvements.

Every previous generation has arranged its own patterns, some disastrous and some not so brief, and we can expect this process to continue. Engineers, landscape architects and environmental scientists

need to engage fully with the lessons that have been learned during the last 30 years so that mistakes are not repeated and we demonstrate our respect for nature.

There is a positive side to what may appear to be constant destruction and renewal: our knowledge and understanding of how to arrange and manage the timescales, processes and materials involved in planning and providing new landscapes develops too. In addition to increasing our understanding, we have been measuring progress over many years and adjusting our programmes accordingly.



Designers of many ‘improvements’ face the same experience: in a recent RML highway project on the M4 around the north of Cardiff, 30-year old plantations and a rich ground flora had to be felled and cleared. In just three decades these areas had become the home of protected bats, badgers and dormice; it was reassuring to find that the woodland areas had been successfully colonised so quickly. Despite the pain involved in the work of clearance we drew confidence from knowing that we could develop new rich landscapes in what is really a relatively short length of time. In addition nature will speed the repair process by natural colonisation of species from nearby areas of undamaged landscape. Importantly, our skills in managing the replacement provides comfort for our clients too.

SMALL IS BEAUTIFUL

I don’t believe it! These big organisations are beyond belief!

I tried to get hold of a consultant with whom I’m working. He’s a key member of the project team, or should I call him a key bottleneck in the project? His name is Gavin the Neanderthal and he works for Cave Consulting International, the multinational firm that we all know and love. Picture me sitting there on my office swivel-chair holding the receiver to my ear and staring at the year planner on my wall. “I must,” I’m thinking, “achieve my critical deadline, so hopefully Gavin will have his work done for tomorrow as promised.”

The automatic answering system picks up the call, “Your call matters to us...” I take a long slow breath. “Please select from the following options.” Why is my option always the last? “I am sorry, but I am unable to take your call. I am on annual leave chasing woolly mammoth across the ice sheet.....” my blood pressure rises.

I call again and try the receptionist and she says, "Oh, dear, maybe he's away from his desk. Would you like me to put you through to a colleague?" She does so and I speak to somebody who sounds like a very young intern, who apparently doesn't know anything, really, but, "I think he's gone on holiday for three weeks." I ask if anybody has been asked to handle his projects while he is away from his desk. "I don't know, but I doubt it. They don't do that here and he's probably the only person who knows about your project....." I see a heap of Preseli Bluestones coming at me very quickly.



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Why do big organisations boast about Mission Statements and Customer Focus etc., etc. and then fail completely to provide one with the service we pay for through the nose? Since when did having a contract with an organisation mean that they can deny responsibility because an employee is off hunting mammoth?

Next I try the 'Contact Us' tab on www.WAB.gov.uk (Waste And Bureaucracy) to ask for advice on how to penetrate the Department of Community, Complex Procedures, Forms and Obfuscation. WAB publish a monthly 'Pravda Sheet' that boasts 'that they are 'dedicated to serving you from the heart of the community!'. Only I don't get a response because the person who receives 'Contact Us' emails is on a training day learning 'How to be at the heart of the community'.

Calling RML you find we are in the Goldilocks Zone, just like the middle bear's porridge we are just the right size and you might even get the MD answering...

And if a response is needed we will do our utmost to provide it with due diligence.

THERE ARE ARGUMENTS TO BE WON

Can I remind you of Edmund Hambly's 1994 plea that involving the public in engineering work was important for the future of civil engineering? As President of the ICE Professor Hambly felt that society needed to put a greater value on the work of engineers; he also challenged the profession to make construction more environmentally friendly. My feeling is that so far as the man in the street is concerned in 2015 he agrees that we do need a better developed infrastructure but for many people more railways, roads and sewers are seen as necessary evils rather than things of value. If I am correct then we have not made as much progress as the professor would have liked with the first of his aims but we have made big strides with his second by demonstrating that engineers are sensitive about the environment in which we work and are good at working with nature.

When Hambly was beginning to formulate his own ideas, circumstances in the 1970s saw open-minded engineers begin working with a wide range of specialists in parallel disciplines. The approach was innovative and a response to demands that the quality of life in old industrial areas should be improved by 'landscaping', a terrible word, but we got on with things. The scale of the work was such that civil engineering was seen as a



principal route by which this improved quality might be achieved. In taking up this challenge at RML we enjoyed bending engineers, landscape architects, ecologists and botanists to our way of thinking. We also enjoyed disarming special interest groups by producing results that actually pleased them.

Yet in 2015 not everyone is a convert. There are still dyed-in-the-wool civil engineers lurking about who are dismissive of this 'environmental' stuff. What is also trying for us is having to explain to conservation societies, who should know but frequently do not want to know, that willow, ash and sycamore trees are upstarts, weed-like newcomers that must be managed, even removed, if a mature landscape is to be rejuvenated.

At RML our involvement in construction has changed dramatically. Whereas in the early days as much as 80% of our work was located underground and trees were only allowed as 'luxuries' on slopes, now-a-days nearly all of our work lies at the ground surface and is increasingly appreciated by our clients. In this respect I would like to think that Professor Hambly would be pleased with RML.

WORKING WITH NATURE

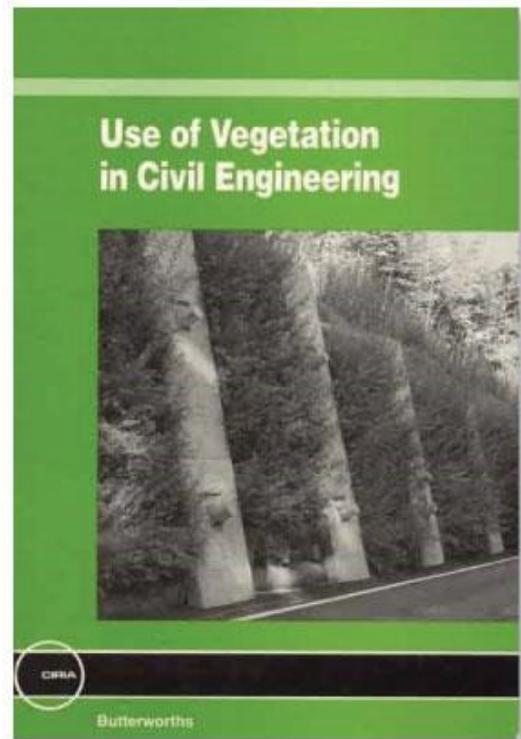
Last week Ivor referred briefly to engineers who have developed skills enabling them to work with nature. At one time, civil engineers commonly abused a material with which they worked on most days; their abuse actually made site conditions worse (usually much worse) than they were to start with, and caused loss of time, money and 'face'. He was talking about soil, something dubbed 'unsuitable' by engineers, but actually a living material that takes millennia to develop. Nature makes nothing 'for a mean or no purpose' as John Locke had put it in his essay 'On Human Understanding', yet soil was undeservedly mistreated by engineers.

Ivor recalls that some engineers felt a deep frustration with this unhappy state of affairs, and a few were casting around looking for help, but the majority were stuck in the familiar but depressing groove that 'we have always done it this way so what is the problem?'

Ivor was told that he was different from other engineers; and he was. He was also told on another occasion that he was a 'back-door' engineer; he was one of them too.

In August 1972, fresh from becoming a chartered engineer, Ivor joined a young consultancy and immediately started collaborating with Professor (Tony) Bradshaw of Liverpool University's department of botany; this went on for years. They looked at how vegetation survived in inhospitable industrial wastes; just one of Tony's many areas of interest. In 1978 one of Tony's bright young men was brought into Ivor's engineering office and he was quickly followed by landscape architects. All were thrown into the deep end of civil engineering, i.e. large scale muck-shifting, dealing with industrial wastes and contaminated land, producing drawings, specifications and contract documents which had to say what they actually meant; and yes, dealing with civil engineering contractors.

By 1982 we persuaded the Welsh Development Agency to commission research which led to a report entitled 'Working with nature - low cost land reclamation techniques'. The philosophy driving us was that whilst the expense of reclaiming land to reduce public danger and create opportunities for development was justified, reclamation on aesthetic grounds or for amenity use could not attract similar spending. Developing low-cost techniques would widen the range of options for treating derelict sites. The low-cost techniques were focussed on the analysis of location, ground materials, and methods of vegetation establishment and management. After all, no two sites were the same. The approach was widely implemented in all of our projects, conventional ones as well as 'low-cost'. The report sold out at £12.00 and a second edition was commissioned in 1994.



Managers of highway and pipeline projects then called on us. "We cannot go on making a mess, come and help us"; civil engineers did indeed need help. RML's report to CIRIA on 'The use of vegetation in civil engineering' appeared as a consequence and was described as a landmark in construction. Working with nature had taken root.

FOR PREFERENCE, A WILLOW – PART 1

In 2015 most engineers would probably agree that nature should neither be abused nor ignored (see our recent item on 'Working with nature'). Soil erosion is a topic that requires serious consideration, since an eroding slope can very easily become an unstable slope. Soil erosion can be a nuisance and pollutant of watercourses, as well as representing a loss of valuable material. Recognising and taking advantage of the role that vegetation can play in construction is an approach that engineers should consider.

In the UK trees, shrubs and grass are the principal 'green' elements that resist erosion and provide surface stability. Vegetation works as a protector against erosion by rain and surface water, and at depth its roots provide additional anchorage. The roots not only remove water from the soil during the growing season but also provide routes by which surface water can drain into the soil, an equally important function for survival of the vegetation.

Trees are equipped with specialist cells, found below the bark, which are the source of shoots and branches which appear as a tree grows. Many trees carry buds low on the trunk which allows them to regrow if damaged or dislodged, leading to the valuable management methods of coppicing and pollarding which are used to obtain repeated 'crops' of stakes and poles from Hazel, for example.



Willow is one family of trees specially adapted to regenerate in response to damage or rising water levels, through an exceptional ability to form both shoots and roots when a live stem is in contact with the ground.

Willows are equipped with specialist cells known as root primordia which are located throughout the plant stems. In a growing shoot the root primordia cells remain 'latent' (dormant). If the shoot breaks off or comes into contact with the ground the primordia cells are stimulated into producing adventitious roots which enable that stem to develop as a new plant. This characteristic ability to root and re-grow from cuttings was recognised and used centuries ago as a valuable method of stabilising ground, before 'conventional' engineers forgot the lessons from the past. But what worked in Roman times still has a place today, as Part 2 of this item on Willows will explain.

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