“The Knowledge of the Heart”
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The Knowledge of the Heart*

HRH The Prince of Wales

It is a great honour to receive this Honorary Fellowship from Liverpool John Moores University and to give this Roscoe Lecture, especially in the year in which we mark the eight hundredth anniversary of King John granting your city its charter. The city fathers who received that charter could not have imagined what a vibrant, cosmopolitan city it would become. It has been a special pleasure for me today to open the splendidly restored St George’s Hall on St George’s Day. I was shown around the building some twenty years ago on a private visit and was told that it was due to be demolished. I remember encouraging those I met to fight to save it and so you can imagine what a delight it is for me today to see it revealed in all its glory. I do congratulate everyone whose tireless efforts have made this possible, for St George’s Hall is surely one of the finest examples of neo-classical architecture in Europe; a jewel in a city where conscience and philanthropy have constantly challenged the prevailing world view.

As you have been rash enough to invite me here to indulge in a spot of ‘meddling’ in Liverpool, I can confess to knowing a little bit here and there about putting my head above the odd conventional parapet from time to time. In my case, it has been to suggest that in the last fifty or so years, albeit with the best of intentions, we may have ‘thrown out the baby with the bath water’, and that, therefore, we need to consider anew the timeless principles which underpinned so much of civilization before industrialization took such a comprehensive hold on the world. These principles have always crossed all cultural boundaries. They have never belonged to one particular school of thought. Rather, they might be called ‘shared insights’ that belong to humanity as a whole and I would suggest that they are key to the maintenance of Harmony, Balance and Unity in life.

* This is a revised version of the 67th Roscoe Lecture, given by The Prince of Wales in St George’s Hall, Liverpool, 23 April 2007. The full text can be found at http://www.princeofwales.gov.uk/speechesandarticles/the_roscoe_lecture_given_by_the_prince_of_wales_upon RECEIVING.html.
It is these principles that I would like to explore in this lecture today, in relation to some of the main areas with which I have long been concerned: architecture, medicine, agriculture, environment and education. These are all areas of our life which, it seems to me, have been adversely affected by the neglect of a particular kind of wisdom that guided our forebears for generations, and its almost complete replacement in the past century by an entirely different way of seeing ourselves in relation to others and, indeed, in expressing Mankind’s relationship with Nature.

The trouble, of course, in suggesting, as I have done, that the balance needs to be righted, is that I seem to have ended up being ‘pigeon-holed’ as ‘anti-progress’ or ‘anti-science’. I am not ‘anti-science’—I am ‘anti’ the kind of science that fails to see the whole picture, the kind of science that has for some reason eliminated what we might call common sense. So I will now reiterate to those who actually listen that of course technology and progress have changed our lives for the better—certainly in the West and not least in terms of health, universal education, improved housing and greater mobility and prosperity. But I would argue that while we have undeniably made great gains we have also lost something very precious; and that is an understanding of our interconnectedness with Nature and a world beyond the material.

My thesis is that in order to cope with the alarming challenges that increasingly confront us as the disturbing side-effects of that very progress we have made, and to ensure that others in developing countries and, indeed, our children and grandchildren, can have a worthwhile future, we urgently need to rethink the way we perceive the world and our place in it. It is not, therefore, a question of ‘either/or’, but one of the re-integration of the lost half of our humanity that has been, I contend, so rashly discarded in the rush towards the concept of linear progress.

For we now live in an extremely literalized world, a world which has little place for the symbolic or recognition of the levels of existence that lie beyond the material. We have been persuaded that what we see is all we get; that there is nothing more than the material exterior of things.

This new perspective, which some have called ‘Modernism’, offers us an unrelenting emphasis upon a material and mechanistic view of the world. To quote from the Victoria and Albert Museum’s Foreword...
to its recent exhibition on Modernism, ‘Modernists had a Utopian desire to create a better world. They believed in technology as the key means to achieve social improvement and in the machine as a symbol of that aspiration.’ Generally speaking, we can say that Modernism has focused its attention upon the parts and not the whole—to the point of deconstructing the world around us—and has dismissed as unreal anything that cannot be objectively measured and tested. It is, if you like, a ‘world of quantities’.

As I said earlier, this approach has, of course, brought us great benefits. I would argue, however, that there have also been costs—and, as we are finding out, increasingly painful and destructive ones. Implicit in the ideology of Modernism was the notion that we could somehow disconnect ourselves from the wisdom of the past; that we no longer needed the knowledge offered to us by traditional approaches in everything from education to agriculture, in the arts and crafts, and that spiritual practice is no more than outdated superstition. But ‘superstition’, of course, means something much more profound than that. It reflects the heightened sense of our participation in the living organism of Nature that actively, ‘unconsciously’, seeks balance at all times. And it is, I suggest, by replacing rather than working with that other and timeless wisdom to which I have referred that we have created at the heart of our present world view a worrying imbalance.

We see it reflected in much of our urban development, in certain approaches to medicine, in our agri-industries and most especially in what some refer to as ‘the environmental crisis’. We see it, indeed, to such an extent that I feel it has become an imperative of our time to question whether, with today’s immense challenges and today’s knowledge, it is an approach to life which, on its own, is enough, is actually ‘fit for purpose’, in the twenty-first century.

This Modernist approach has sought, as a matter of principle, to simplify or standardize the world and make things more industrialized and convenient. That is why, for example, we have sought to straighten curved streets and group buildings into single-use zones. Thus we have too often imposed a simplistic and empty geometry on the form of our cities which has drastically reduced the rich complexity of many of our urban environments. And that has turned out to be something of a problem, because what those who drove this twentieth-century ideology did not seem to understand is what today’s intricate studies of biology now shout out loud and clear—that complexity is key to life.
We now know from biology that in the natural world every healthy organism is a complex system of interrelated and interdependent parts that work together in a coherent way to produce a *harmonic whole*. There is no waste and no one part operates beyond the limits of the whole. Bees in a hive are a perfect example of this. It is the hive which is the organism and its healthy survival depends upon each bee helping to maintain the balance and harmony of the unified whole. They do this by following the patterns and laws of Nature. They do not exceed their limits nor do they put the individual first. Each bee operates *in harmony* with the environment which sustains it. As George Herbert wrote, ‘Each creature hath a wisdom for his good.’ His celebration of the bee in his poem *Providence* sums up the point beautifully:

Bees work for man; and yet they never bruise  
Their master's flower, but leave it, having done,  
As fair as ever, and as fit to use;  
So both the flower doth stay, and honey run.

Contrast this for a moment with our convenience-based, throwaway consumerist society, dominated as it is by the increasing demands of individualism—at whatever cost, it often seems, to society or the environment. Every aspect of human activity and interaction in the Western world is now required to be so simplified and standardized that nothing must be complex. And, whether or not it intends to do so, this attitude of mind seems to *disconnect* us from the rest of creation.

It does so, moreover, by actively denying that, at root, we are spiritual creatures; that we have real spiritual needs—call them ‘intuitive, heartfelt feelings’ if you like—which must be nourished if we are to achieve our full potential. To express such needs requires the perspectives of the philosophical and the spiritual, but where are they in this present Modernist paradigm? The creative force in the universe has been so rendered down that it would seem it is now nothing more than a disposable idea, allowing us to see Nature as a sort of giant laboratory where we can experiment and manipulate its separate parts, testing them to destruction if we like, without worrying about the impact that this has on the whole.

No longer is ‘Mother Nature’ the guiding principle that it was for our forebears. Just think of Wordsworth’s
How that jars with the mechanistic, empirically rational way in which reality is so often portrayed! The rational is thought to be the only sensible way of looking at the world; whereas living within the limits of what Nature can sustain, trusting our intuition and, ultimately, seeing the world as sacred presence are all considered to be of little or no value, if not figments of romantic fantasy.

And yet one of the greatest scientific minds of the twentieth century, Albert Einstein, was very clear about the manner in which we have got things the wrong way round. As he put it, ‘The intuitive mind is a sacred gift and the rational mind is a faithful servant. But we have created a society that honours the servant and has forgotten the gift.’

What is worrying, I fear, is that we are fast running out of time to reconnect with that sacred gift. We may be like the poor frog. Had he been thrown into a pot of boiling water he would have jumped straight out again. But he was put into a pot of lukewarm water and the heat was only slowly increased so that, without noticing it, he slowly boiled to death.

What I am trying to describe to you here, then, is what I consider to be a fundamental ‘crisis of perception’. By positioning ourselves outside Nature we have abstracted life. In secularizing Nature and rejecting outright our innate sense of the sacred, we have disconnected ourselves completely from the rhythms of the natural world. And, as a consequence, we have become increasingly out of joint with the natural order. And there is order. Everything depends upon and belongs to everything else: the bee to the flower, the bird to the tree and the man to the soil. Nature is rooted in wholeness.

I believe that true ‘sustainability’, to use a now common word, depends fundamentally upon our shifting our perception and widening our focus, so that we understand, again, that we have a sacred—yes, a sacred—duty of stewardship of the natural order of things. In some of our actions we now behave as if we were ‘masters of Nature’ and, in others, as if we were mere bystanders. If we could rediscover that ‘sense of harmony’, that sense of being a part of, rather than apart
from, Nature, we would perhaps be less likely to see the world as some sort of gigantic production system, capable of ever-increasing outputs for our benefit—at no cost. To rediscover these insights—this ‘common sense’, if you like—we have to modify the Modernistic ideology inherent in education before true sustainability can be comprehended.

For it cannot be achieved solely by relying upon ever more innovative forms of technology. We cannot simply hope to engineer our way out of the problems we have created for ourselves. The crisis is far deeper. To ignore this will only perpetuate the problems we now face.

We need to realize that human nature is innately spiritual and desires to know the origin and purpose of all things. After all, ‘sustainability’ presupposes a ‘sustainer’. I would suggest that this means regaining a proper understanding and an active appreciation of the harmony inherent in all life. And, dare I say it, restoring to the mainstream something of the lost spiritual dimension.

For the imbalance is both outward and inward. Our disconnection from an abstracted Nature is matched by a disconnection from the Transcendent. The present, dominant view of life, with its unrelenting emphasis on the quantitative view of reality, limits and distorts the true nature of the Real and our perception of it. It has certainly brought us material benefits, but it has also prevented us from knowing what I would refer to as ‘the knowledge of the heart’—our God-given intuitive sense which enables us to be balanced human beings.

This is because, despite all of its undeniable benefits, in the end materialist science does not have the language to consider what, ultimately, is the purpose of intelligence and knowledge. Contrary to appearances and despite how easy it is to click a mouse, the answer is not to replace wisdom with information! Quite the opposite in fact. Indeed, I am reminded of those prophetic lines from T. S. Eliot:

Where is the Life we have lost in living?
Where is the wisdom we have lost in knowledge?
Where is the knowledge we have lost in information?
The cycles of Heaven in twenty centuries
Bring us farther from God and nearer to the Dust.

It is perhaps worth considering how we arrived at this situation where so much fragmentation and ‘dis-ease’ abound. I find it a rather
curious aberration that the great advances in technology which engineered the European Industrial Age simultaneously undermined so much understanding of the principles of Harmony when, up until that point, these had been so central to teaching throughout the entire history of Mankind. If one studies the symbolism and mythologies of any of the ancient civilizations that underpin our own, one finds the same central characters signifying the same central principles of Balance and Harmony. All the great civilizations sought to express through their mythology and symbolism the same idea: that the cosmic order, the natural order and the human moral order are interrelated and interdependent and that the natural tendency is towards Balance and Harmony. Now is this superstition or a fundamental law of Nature? From what those at the cutting edge of theoretical physics are now telling us, the ancients were right to recognize that the mathematics of Harmony are universal principles.

I was interested to learn recently that the physicist Werner Heisenberg, who gave his name to the ‘uncertainty principle’ in quantum physics, would tell his students not to see the world as being made of matter. It was, he said, made of music. He recognized what Pythagoras knew well, that chaos is ordered by number and that Nature is made up of precise numerical patterns. We have learned from Heisenberg that the physical world is not made up of individual parts, but is essentially ‘process and movement’. Particles ‘dance’ from order to disorder and back again. They express diverse movement, but always within the defining boundaries of Unity so that there is, even at the very heart of matter, a deep-seated interconnectivity that takes note of an overarching sense of unity. It demonstrates the need for order and an integration that is balanced and harmonic. It holds together the very fabric of Nature.

When we consider this recent development in physics, we begin to see why the ancients also saw that these patterns and codes are similarly symbolic of the inner realm. They are the key to understanding the subtle structure of awareness, which is the ultimate sacred wonder. That is why every traditional civilization saw these harmonic patterns as essential to the education of the soul. It is why they are woven into the designs of all our great cathedrals, mosques, temples and synagogues—everywhere stating that the grand agents of Nature are actually immutable and inextricably linked to the ground of our being.
One still finds that this is so in the world's spiritual traditions. In Islam, for instance, there is no separation between the Divine and the natural world. It is all one harmonic song, a 'Uni-verse'. And in Christian theology it was the same up until around the thirteenth century, when a curious shift occurred in Europe which is worth considering.

If one reads the works of the great thirteenth-century Christian scholar, Thomas Aquinas, one discovers that he held firm to the principle that everything exists within the mind of God. In other words, that the principle of Divinity is disclosed in the world. This saw the world as 'sacred presence' with Man 'participating' in creation. But what has fascinated me for some time now is the discovery that such universal participation in the sacred began to be overshadowed during Aquinas's own lifetime by the notion that God was outside creation and acted upon Nature through Divine Will, rather than through real presence. And so a separation emerged between Nature and God, and between Man and Nature. The world became regarded as an effect of the Divine Will and Man was the instrument of that Will.

I do not want to labour this point, but let us consider the consequence of this shift. In a very short space of time that all-important and timeless principle of 'participation in the Being of things' was eliminated from mainstream Western thinking. With God separate from His Creation, human nature likewise became separate from Nature and began pursuing a mastery of the will over things. So it was a very dramatic shift indeed. It effectively shattered the organic unity of the Western view of reality, and it seems to me that this is where the trouble began. Because, if the whole is forgotten, then fragmentation emerges everywhere and there is no ground for a common vision.

Its legacy was certainly visible by the seventeenth century when those new scientists of their day like Francis Bacon could write that Nature was independent, mechanical and subject to Man's purpose. In Bacon's *Novum Organum*, for instance, he calls for the 'exercise of the full power over Nature granted to us by divine bequest'.

As I have already suggested, many now accept that this shift in the West, away from that principle of participation in Nature and in favour of a claim of mastery over Nature, is reaping a bitter harvest, not least in the way we produce our food. Industrialized agriculture sees Nature simply as a mechanical process, somehow ever capable of producing yet more at no long-term cost. And yet, it is a mind-boggling fact that in one pinch of soil there are more microbes than there are people on
the planet. In one pinch of soil . . . . So what irreversible damage do we do to the delicate, complex balance of such a fragile ecosystem as the topsoil by our industrialized manipulation of the natural order? It is the topsoil which sustains all life on Earth. So its health is our health. We erode it and poison it at our peril.

Of course, I am well aware of the argument that without industrialized agriculture we could not feed the world. But perhaps we should consider more seriously whether industrialized agriculture can feed the world in the way that the self-sustaining, organic system has done for the last ten thousand years. After all, the industrial process operates on a diminishing return. As natural components are eroded by intensive farming, so more chemical fertilizers are used to replace them. But the more that they are applied, the less balanced and sustainable the ecosystem becomes—to the extent that, since the 1950s, ‘feeding the world’ using this industrialized approach has succeeded in eroding one third of the world’s farmable soil. So how likely is it that such an approach will keep us going for the next ten thousand years? Once again, we must recognize that farming is not independent of everything else; that it cannot be run in a sustainable way by reductionist science alone. If we do not embrace this fact of Nature, I fear She will rebel and we will remain dangerously disconnected and vulnerable.

There are, of course, scientists who realize the limitations of a purely rational approach and are working with the grain of Nature. I wonder if you have heard of a new branch of engineering called Biomimetics or Biomimicry? It takes designs from Nature that have been perfected by millions of years of evolution to the point where they are much more efficient than those of our industrialized world. For example, in Nature there are no wastes; everything is recycled and is part of a whole. Biomimetics applies such natural designs to human problems. There are some wonderful examples:

A man called George de Mestrel, for instance, studied the way the hooked seeds of the burdock plant stick to the fur of a dog and he came up with the concept of Velcro.

Others have questioned how lotus leaves manage to keep so polished and clean when pond water is so muddy. They discovered that the leaves have microscopic structures that stop water droplets from getting a grip. They roll across the leaf rather than slide, collecting the dust as they go and depositing it on the edge of the leaf. So
now we have a paint called Lotusan which replicates the surface of the leaf on man-made structures so that when it rains the surface cleans itself at no cost to the environment.

Zoologists have also studied a beetle which uses the same microscopic structure to collect very scarce water from desert fogs in the Namib Desert, the hottest and driest place on earth. And with that knowledge engineers have designed sheets with a surface that replicates that structure to create air conditioning units that do not use oil-powered machinery. This ‘fog-harvesting’ also offers huge promise in countries where water is scarce.

You can see the point, I am sure. These examples are ‘good’ examples. They are benign and operate within the realm of human values, within the limits of Nature’s law. But how do we know them to be good? What is the sense that tells us this is so? Could it, perhaps, be that much maligned sense, our intuition?

We forget that our intuition is deeply rooted in the natural order. It is ‘the sacred gift’, as Einstein called it. Indeed, as I hinted earlier on, it may be worth considering whether we need to look towards an education system which balances the rational approach to life with intuitive learning, one which does less to eradicate our intuitive, instinctive attributes. It concerns me that, although young children are encouraged to use all their senses as they learn about the world, including their sense of beauty, as students progress to a more senior level there is decreasing emphasis on an overall view and appreciation of the world and an increasing emphasis on specialization. But what if we attempted to reintegrate our intuitive response in such fields of education? Would it encourage a healthier approach to Nature—one that would develop an appreciation of the natural world at a more profound level? For surely, that is the proper aim of education: to give to each a deeper understanding of how we relate to the world around us and the order of things. It may even restore wholeness to people, in that seeing organisms as coherent wholes enables us to recognize just how much a part of that coherent whole we are too. After all, if one feels no connection to a limb, it is easier to let damage be done to it. But if you know that it is your own arm—well, you might just think twice about it!

Ladies and Gentlemen, I have tried to suggest that the denial of our microcosmic and real relationship with the universal truths and the laws of Nature is engendering within us a dangerous alienation. In
denying and forgetting that invisible ‘geometry’ of Harmony that was always recognized and sanctified by our forebears by the means of spiritual practice and lore, we create cacophony and dissonance.

The question then is how, within a contemporary framework, we can reintegrate the best parts of this abandoned and ancient understanding, this Harmony, with the best of modern technology and science. Many will say that this is impossible, but it seems to me that a good start would be to take a long, hard look at ourselves and question very seriously whether the dominant attitude of our day will do, whether it really enables us to see things as they truly are. We need, I suggest, to reconfigure our view of the world and heal the crisis in our perception to which I have referred. And that can be done if we begin to treasure diversity; if we encourage and reward collaboration; if we build skills and learn to encompass complexity; if we nurture and maintain all those subtle checks and balances that keep any economy, community or eco-system vibrant and healthy. We need to learn all that we can from the natural world and its rhythms while at the same time developing the kinds of innovative and more benign forms of technology that work with the grain of Nature. It is a shift in perception that we can all work to create. It is a shift, dare I say it, from Modernism to Holism.

Here in Liverpool you are in the midst of anniversaries that look back—two hundred years to the abolition of the slave trade and eight hundred years to the granting of your charter. But what of the view, two or eight hundred years from now? What will our descendants think of our present endeavours? Will they see the efforts of enlightened people who, at such a crucial moment, introduced a profound shift in their thinking? Will they see, as a result, a more participative, integrated way of living; one that placed greater value on coherence and the limits of Nature? I pray and hope that they will, and that they will see that we were not misguided after all.

We face seemingly intractable worldwide problems at the present time, but there is still a chance—just—that we can turn the tide, if we have the confidence again to look at the world aright; to see it from the inside out and to allow ourselves to be guided by a proper appreciation of those timeless principles of Balance, Harmony and Unity that I have tried to share with you today. All we need is the courage to start, the wisdom to change and that sense of real urgency that escaped the senses of the unfortunate boiled frog.