

A new covenant? Science and technology for the modern world

John Wood

Imperial College; Chair of the European Research Area Board

On October 6th this year I delivered the first report of the European Area Board to the Commissioner for Research in the European Commission, Janez Potocnik. The event and the report were covered by all the leading media including the Financial Times, Wall Street Journal and Nature. Why this interest? The board consists of 22 independent advisers to the Commission including a UK ex chief government scientist, an ex Director General of CERN and research directors of leading international companies and institutions. We do not represent any one body and are encouraged to challenge the norms, to seek excellence and to foster cohesion. However, as we all acknowledge, in the words of Edwin Muir, "The world's great day is growing late, yet strange these fields that we have planted so long with crops of love and hate, these are our own." We are facing many enormous challenges from energy through to terrorism, from the lack of water to the possibility of a devastating global pandemic. As sea waters rise and flooding becomes more common the politicians and legislators are increasingly turning to scientists and engineers in a spirit of desperation. The report is titled: "Preparing Europe for a New Renaissance" and it concentrates on six key themes which essentially outline how a cohesive Europe can be brought about to act responsibly within the world as a whole. The opening introduction ends with these words: "We believe it an important contribution to our common future to stimulate thought and action on the two basic questions: Where do we want to go, and how do we get there? For, "Without a vision the people perish." The question for us is "Do Christians who are scientists have a vision for our suffering world?"

Yet many of us return home and are depressed by the sheer greed and selfishness of our society, rocked by the financial situation but still burying our head in the sand as others perish or are affected by our lifestyle. Without a spiritual basis which is robust and is centred on wonder and awe of all that creation offers we start to create a god who is man made in our image rather than a God who has made man in his image. While it is audacious to talk of a "new covenant" it is essentially a re-visitation of the old and new covenants of the bible. This is the relationship between God and his creation and our responsibilities in agreeing to that covenant. In a suffering world which seems to be cascading headlong into oblivion and where the irresponsibility of our "civilised culture" has contributed so much to this demise, the Christian has to take up the mantle of an Old Testament prophet, not only to speak out but to lead by example. The ERAB report is based around the fact that scientists must take a "whole body" or "holistic" view of the challenges before us. We need to understand the consequences of our actions within a global context, we need to integrate our outputs with society at large and to ensure that policy makers really do understand the impact of their decisions. If not, society will disintegrate, social upheaval on an unprecedented scale will occur. One of the conclusions of the report states the need for "a universal code of scientific ethics adopted by the whole European research community, enunciating social responsibilities as well as intellectual freedom."

In this talk I hope to throw down the gauntlet to those involved in all aspects of science, engineering and medicine to take our Christian responsibility to a suffering world seriously and to encourage wider participation and leadership in the public arena.

Appropriate technology: how to get down from a yak

Mike Clifford

University of Nottingham

To imitate J.F. Kennedy, wo/man holds within her/his mortal hands the technology to destroy all forms of human poverty and the technology to destroy all forms of human life. The appropriate use of technology can deliver great benefits. Indeed, with his eyes set firmly on the technologically developed world, Radford noted in 1984 that “the progress made in material science, power generation, machine tools, transport, and communication have transformed human existence... removing muscular effort and drudgery from the factory and the home. “ However, in the 21st Century, much of the world still lacks basic technology: one in five people have no access to safe drinking water, a quarter of the world’s population have inadequate shelter, 40% lack access to modern energy services for cooking and heating and roughly half the world have inadequate sanitation. Engineers clearly have plenty of work left to do.

Despite the best of intentions, grand schemes to employ technology to try to solve the problem associated with global poverty have often failed. Indeed, the greatest impact of engineering on a suffering world has arguably been to increase poverty and misery through military actions which have often exacerbated global and local problems for the sake of short-term political gain. Can there be anything as self-defeating as a “war” against terror?

In this presentation, we hear some cautiously optimistic stories of how the appropriate use of technology has had a beneficial effect on communities around the world; a bread oven project in Uganda, a wheelchair designed for use in Kenya, turning banana waste into fuel for Rwanda, Don Matado’s new kitchen, wind power for the Philippines, and, of course, how to get down from a yak.

AGRICULTURAL PROGRESS FOR A SUFFERING WORLD

John Wibberley¹

Agriculture is crucially important and relates directly to the pursuit of at least two of the Millennium Development Goals (MDGs) – 1. on Eradication of Hunger and 7. on Environmental Sustainability. Agriculture's objectives are manifold, including linking simultaneously to food, water and energy security. This paper outlines these objectives in relation to the amelioration of suffering, both human and non-human. Suffering variously requires relief, development and welfare responses to address it, as well as endurance to survive it. Suffering is inherent in a fallen world and is supremely experienced by God Himself as Creator. Suffering of various kinds can be mitigated by the proper and simultaneous application of sciences – natural, social and theological (this last dubbed the Queen of Sciences!). Agriculture most obviously provides the physical needs of food, fibre and fuel, and thus depends on the application of natural sciences to soils, micro-organisms, crops and livestock via the art of husbandry. However, this is done by farmers - who manage 75% of UK land and the majority of earth's habitable ground – on behalf of all consumers, also affecting the wider communities of the biosphere. Thus, agriculture's progress critically involves the social sciences too. 'Progress' is a subjective term requiring theological and ethical contextualisation if it is to be truly sustainable. Alleviation of suffering in this generation must not be attempted to the detriment of future generations.

The paper touches on examples of agricultural progress from molecular to international levels – from sub-microscopic processes to microscopic, from well-trained naked eyes viewing crops and livestock, to using metaphorical 'telescopes' to survey the global agricultural economy, and geosatellites to monitor land. The roles of sciences in improving both temperate and tropical agriculture to address suffering derive from the possibilities of beneficial changes at all these levels. To be classed as improvements, these changes need to be scientifically monitored – to be biodiversity-proofed (do they conserve or diminish it?), to be ecological-footprint tested, and to ensure they contribute positively to long-term rural and international vitality. The challenge for integral management towards sustainable Farming Systems Development (FSD) to pursue these aims is enormous. It demands reliance on the Almighty Creator and Sustainer of the Universe – Father, Son and Holy Spirit.

¹ Professor John Wibberley MA, BSc (Hons) MTh, MSc, PhD, NSch, FRAgS is an agriculturalist and rural resource management consultant who works in both temperate and tropical agriculture. He is UK Coordinator and Hon. Secretary for the Council for Awards of **Royal Agricultural Societies** which seeks to recognise outstanding contributions to agricultural progress within the UK, is a Secretary of State appointee on **Exmoor** National Park Authority, and serves with **RURCON Africa** – an otherwise all-African team of Christian Development Practitioners serving throughout sub-Saharan Africa since 1971. He is a past Chairman of ACF (Agricultural Christian Fellowship) and of FCN (Farm Crisis Network) and serves within the **ATP** (Agriculture & Theology Project supported by ACF, Church Mission Society – CMS, and John Ray Initiative, JRi).

If Jesus were a medical scientist what would he be researching?

Chris Lavy

Nuffield Orthopaedic Centre, Oxford and London School of Hygiene and Tropical Medicine

Chris Lavy is an orthopaedic surgeon at the Nuffield Orthopaedic Centre Oxford. He holds honorary professorships at the universities of Malawi, Oxford, and the London School of Hygiene and Tropical Medicine. He spent 10 years setting up an eastern African regional training scheme in Surgery, and a Christian teaching hospital in Malawi. He will look critically at the direction of medical research in UK in the 21st century. He will encourage the audience to ask whether some areas of research in medicine are more in line with Jesus teaching than others. In particular he will look at Jesus' bias to the poor and ask whether we should use Jesus' words in Matthew 25 as a guide to our research areas: "what did you do for the hungry, thirsty, strangers, naked, sick or prisoners?". He will suggest some areas of medical research that are both exciting intellectually and also have the potential to make changes in the lives of many people in the less well resourced parts of the planet. He will also illustrate the talk with examples of research that makes a difference. In the discussion time there will be the opportunity to ask whether as Christians we are free to advance knowledge and science in all directions or whether some areas are more 'Christ like' than others. All opinions will be welcomed and valued as together we seek as Christians in Science to live our personal and professional lives in the service of Christ.