Inauguration of the new nutrition science

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The task for all of us involved in the *New Nutrition Science project* has been of unique importance and relevance in my time as IUNS president. The task been to preserve all that is basic and vital in 'classic' nutrition science, and at the same time to formulate a new definition, new goals and a new conceptual framework, for a science fully equipped to meet the challenges and the opportunities of the world in which we now live, in this new century. This I believe to be the most urgent and exciting task now facing our profession.

For me this task began in 2001 at the time of the 17th International Congress of Nutrition in Vienna, and has been progressed in many international meetings since that time. The project has brought together leaders in the field of nutrition as presently conceived, as principally a biological science, together with scholars and other experts inside and outside the academic community with special knowledge of food and nutrition. Some of these are authors of the papers published here. Some were participants in a workshop at the Schloss Rauischholzhausen in Giessen, Germany, held in April 2005. The setting of Giessen was of special symbolic importance: it was there that Justus von Liebig developed nutrition as a biochemical science in the mid-19th century, according to principles and responding to priorities very different from those of the present and future world.

The Giessen Declaration[1] records the unanimous agreement of the participants at the workshop that now is the time to define and to practice nutrition as a biological and also a social and environmental science, with all this implies. This is the beginning of a new era for our science, with its application to food and nutrition policy.

A new era for all the sciences

The new nutrition science has a context of a new world for all the sciences, which themselves are on the threshold of momentous change. First, the level of enquiry is becoming at once more infinitesimal (with attotechnology, beyond the 'nano', already upon us), and yet also infinite (as even the ultimate measure of time, the light-year, has been challenged by the stopping and starting of light). This will transform our concept of ourselves, of the planet on which we live, of things now referred to as either animate or inanimate, and our systems of values and ethics[2-5].

Second, science is becoming more integrative and less dependent on reductionism. There will be more partnerships both within the sciences and also beyond science, with other types of knowledge creation and management. This will enable new understanding of the human condition. I believe too, that this will create opportunities effectively to address and resolve apparently intransigent problems, like the nexus between poverty and hunger, and nutrition-related susceptibility to disease.

Third, science will be required to acknowledge its social responsibility and its duty to work and act in the best interests of all people, and of the planet as a whole.

There will be many surprises and uncertainties: this is the nature of science. But the process of scientific enquiry should continue to build societal, professional and individual capacity to make innovative, logical and transparent contributions to a sustainable and ethical future.

A new era for nutrition science

What does this mean for nutrition science and for us who profess it? The science will become increasingly exciting, as we understand more about the links between what and how we eat, and our well-being and health in all their many aspects.

There will be new conjunctions between the food and nutrition sciences as they have been conceived, and the cosmological and earth sciences, the geographical and social sciences, and the behavioural, engineering, telecommunication and other sciences. This will require imaginative and pluralistic training and practice. I believe that through such processes nutrition science will become more relevant and more prominent, and gain greater public profile and responsibility.

As we, the new nutrition scientists, seize this moment of scientific confluence, and popularise it, we will reveal and amplify the gains for planetary health and human development beyond our expectations. By engaging with social and environmental issues not as peripheral, but as central to our work, we will be better able to help build a world in which foods in amounts and with the nutritional quality appropriate to our social, emotional, physical and basic biological needs will be available and affordable in a sustainable and equitable way.

The International Union of Nutritional Sciences, with its constituent regional and national bodies, could develop criteria for the conduct and application of the new nutrition science in accredited centres of excellence, designed to encourage and accelerate initiative and innovation. Further, IUNS is a constituent part of ICSU (The International Council for the Sciences); and so our union can be a key player and partner in the whole process of the revitalisation not only of nutrition science, but also of all allied sciences, in the interests of the human and all other species and of the future of the planet.

Indeed, ICSU has already begun an initiative, 'The Sciences for Health and Well-Being', chaired by the IUNS President. In addition, a coalition of all the relevant scientific disciplines assembled by ICSU is examining the whole issue of the sustainability of food systems. Such ICSU initiatives will contribute to and support the new nutrition science.

My own family originated in Europe, and I am a citizen of Australia, one great country whose culture now reconciles indigenous and immigrant traditions, and also in Asia and in particular China, whose civilisations predate those of Europe. The family of my successor as IUNS president, Ricardo Uauy, a Chilian citizen, originated in the eastern Mediterranean, the fount of the most ancient European food systems, and his present connections are in both Latin America and Europe. The 18th International Congress of Nutrition is the first to be held in the African continent, where, after all, the journey of *Homo Sapiens sapiens* began. All in all, this is a uniquely auspicious time in which to inaugurate the new nutrition science.

[Taken from Public Health Nutrition 2005; 8(6A): 1-2]

1 The Giessen Declaration. Public Health Nutrition 2005; 8(6A): 117-120
2 Reich ES. If the speed of light can change… *New Scientist*, 13 July 2004
3 Reich ES. Into the dark state. *New Scientist*, 22 May 2004
4 Muir H. Welcome to attoworld. *New Scientist*, 6 November 2004
5 Ginsburg J. Coughs and sneezes spread mind diseases. *New Scientist*, 6 November 2004

Beginnings of the new nutrition science

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Here are the beginnings of the new nutrition science: for all concerned with the teaching and practice of nutrition from scientists to volunteers to parents; and for all without qualification, because we humans and the whole living and physical world have a shared stake in nutrition. This is what makes our profession vital.

The New Nutrition Science project is work in progress. Its purpose is to transform the discipline, so that it becomes increasingly effective in this time of unprecedented and accelerating change, comprehension of which tests us past any normal limits[1]. Its method is the creation of a new conceptual structure, itself groundwork for a new general theory. Its intention includes inspiration of new teaching and practice, creation of new networks and alliances, and development of new understanding of the need for enlightened global, national and local agriculture and food practices and policies. Its mission includes empowerment of all professionals to handle the relevant most important and urgent opportunities and challenges faced by humanity in the twenty-first century. Its vision is to help us all continue to make a lasting difference for the better in the world.

Natural philosophy

There is nothing new under the sun. Every student knows that until very recently in human history, the study, teaching and practice of nutrition has been part of the philosophy of life. From the first records in Egypt around 6,000 years ago until the first period of industrialisation in Europe about 200 years ago, dietetics – as the discipline became known – was concerned with the relationship of foods and drinks with the health of humans within society and nature, and as recently as 1800 was defined as: 'A systematic view of all objects relative to health in general and to food and drink in particular'[2].

Indeed, until fairly recently the concept of 'diet' meant much the same as 'way of life', and 'health' included mental, emotional and spiritual well-being, not just physical health – and certainly not just mere absence of disease. This remains so in traditional and native teaching and practice. Also, the idea that the purpose of the living and physical world is as an infinite human resource, is historically and culturally unusual. For instance, traditionally in China 'the natural world was… the greatest of all living organisms, the governing principles of which had to be understood so that life could be led in harmony with it'[3].

These ideas resonate in our world now and to come; for we need to take care in order to leave a world fit for future generations. We seem to be coming full circle. What does this mean for nutrition science?

Modern science

Nutrition as a biological science, with its physiological, biochemical and medical aspects, took shape in Europe in the first half of the nineteenth century in special circumstances. At that time the social and political ideologies forcing the beginnings of modern science and technology were those of power: industrial revolution in the dominant European states, and then later in the USA, so enabled to develop, expand, control and conquer[4]. The governing principle was that of fast growth.

It is not by chance that most of the original advances in nutrition science were made in Germany and Britain (the countries of which we are citizens), and then in the USA. The first discovery that gave modern nutrition science its influence on the fate of nations was of protein as a growth promoter. This has shaped the nature of global food systems and the size of the human race. The later discovery of other vital nutrients further enabled nutrition scientists to advise governments how to create sturdy young generations. Half the economic growth of Western Europe between 1790 and 1980 is attributed to improvements in public health including nutrition[5], which also have had the effect of multiplying the global human population.

More recently what is now known as public health nutrition has addressed chronic diseases at first in rich parts of the world, and nutritional deficiencies and infectious diseases especially of childhood mostly in impoverished parts of the world. Throughout this time nutrition science has remained identified principally as a biological discipline

Our new world

So why a new nutrition science? What for? The over-riding reason is that the world now is transformed from what it was two centuries ago, and even two decades ago. We are disorientated, as is inevitable in revolutionary times. We need new maps.

As stated in *The Giessen Declaration*[6]: 'The human species has now moved from a time in history when the science of nutrition, and food and nutrition policy, have been principally concerned with personal and population health and with the exploitation, production and consumption of food and associated resources, to a new period. Now all relevant sciences, including that of nutrition, should and will be principally concerned with the cultivation, conservation and sustenance of human, living and physical resources all together; and so with the health of the biosphere'.

In his paper published in this issue[7] Ricardo Uauy, president of the International Union of Nutritional Sciences 2005-2009, states: 'The most important and urgent issues that confront food and nutrition scientists in the twenty-first century are beyond the scope of conventionally defined human biology. We must be willing to encompass the social, economic, political and human rights dimensions of nutrition'. This is what the new nutrition is all about. It is a biological and also a social and environmental science, with scope and responsibilities that include and also go above and beyond those of the current conventional discipline. It is concerned with personal and population health, and also with planetary health – the welfare and future of the whole living and physical world of which humans are a part.

This is meant as a beginning: a revival and renewal of the original vision and achievement of nutrition science, a return to the dietetic wisdom of the ages, and the outlines of a map to chart our course in our new world. Those brought together here so far have done their best. What now and in future depends on us all as professionals, and also as citizens.

Process

The New Nutrition Science project began to take shape during the 1990s, including at the 16th and 17th International Congresses of Nutrition in Montreal, Canada in 1997 and Vienna, Austria, in 2001; at the first meeting of the World Health Policy Forum in Camogli, Italy, in

2001; at conferences held in Melbourne, Australia, and Auckland, New Zealand, in 2002; at the World Summit on Sustainable Development in Johannesburg, South Africa, in 2002; and at annual meetings of the UN Standing Committee on Nutrition in Chennai, India, New York, USA, and Brasília, Brazil, in 2003, 2004 and 2005.

Drafts of the papers published here were presented, examined and revised during and as a result of a four-day workshop meeting in April 2005, jointly convened by the International Union of Nutritional Sciences (IUNS) and the World Health Policy Forum, held at Schloss Rauischholzhausen, a facility of the Justus-Liebig University at Giessen, Germany.

The New Nutrition Science project is also the subject of two plenary lectures and a linked symposium at the 18th International Congress of Nutrition. These present the findings and conclusions of the project, and consider how its principles are already being applied and can be further developed in food and nutrition policies and practices, in order to identify, create, conserve and protect rational, sustainable and equitable communal, national and global food systems, and thus sustain the health, well-being and integrity of humankind and also that of the living and physical worlds.

You are invited to join the *New Nutrition Science project.* Please fill in the accompanying form and return it to us.

[Taken from Public Health Nutrition 2005; 8(6A): 6-7]

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6 The Giessen Declaration. Public Health Nutrition 2005; 8(6A): 117-120
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