The topic of nutrition is of ever-increasing and urgent importance. But as now conventionally framed and practiced, the discipline and profession of nutrition is evidently of ever-decreasing effectiveness.

The Update team reports

This is the third Update special in which modern conventional nutrition science, confined as a biological and biochemical discipline, is indicted. The charges are not levelled at nutrition as a topic, which is of ever-increasing importance. They mainly concern the science and profession in its current state. An indictment is not a judgement. It is a preliminary case to be examined. Debate is invited. In our next issue we summarise the case for judging that conventional nutrition, elaborated as it is from its early 19th century origins, is now burned out. We also will begin to outline how it now can, like the phoenix, transform and arise from the ashes, fit to face the relevant social, cultural, economic, political and environmental and other fundamental circumstances and prospects of this century.
Introduction

The charges here are made on the balance of evidence. There are exceptions. Nutrition as a topic is of ever-increasing significance. This is attested again and again by relevant UN agencies, institutions such as the World Bank and the World Economic Forum, and authorities such as WN contributors Colothur Gopalan and Amartya Sen.

‘Nutrition’ should not be just concern supply of adequate dietary energy and nutrients. It also should mean nourishment of the health and well-being of populations, in social, cultural, economic, political and environmental contexts, within the living and physical world. Thus framed, its importance to public policy and action is self-evident. This is a reason why the broad-based discipline of public health nutrition, with its inspiration derived from the public health movement, was originated and developed. The need for vision of big pictures is crucial now, in the ominous contexts and circumstances that must now be recognised, addressed and improved. These include climate disruption, population increase, continual invasions, mass migration, flight to cities, financial instability, outrageous inequity, gross waste, persistence of hunger, rocketing rates of obesity and diabetes, over-mighty corporations, and a dominant political and economic ideology that is unfair and greedy.

Conventional nutrition as a science and profession, narrowly framed as a biological science dominated by biochemistry and physiology, now has ever-diminishing significance. Once it had great stature. Leading scientists who found that they could boost the size and growth of humans, animals and crops by means of nutrition, walked with rulers and played full parts in great affairs of state. No more now.

The fault is, we suggest, is caused by failure to adapt to the times we live in now. The institution of nutrition now does not have the principles, flexibility, capacity, or authority, needed to cope with the facts and forecasts of this century. Nor as now framed can it make much contribution to the control and prevention of any form of epidemic malnutrition. This amounts to a crisis which like others above, emerged half a century ago, was then debated, and is now beyond question. It is time to act.

Betrayal of good people

The indictments below in this issue of WN, of impotence, complacency and venality, following the previous charges of obscurity, ignorance, obsolescence and irrelevance, may shock good and conscientious people in the profession. We think, as many others do, that it is time now to own up and open up.

Indictment of the faults and failings of an institution does not imply criticism of all within. As an example, to assert that the profession of banking is now corrupted, which is hardly controversial, is not to say that most people who work within the current banking system are corrupt. To the contrary – most people in any line of work surely do the best they can, and most people inside banking may be as disturbed as
everybody outside. The same is true of nutrition. The great majority of people in and around the profession working at all levels are surely conscientious. It does though take courage for people to discern and admit that work to which they are committed, is no longer of adequate value or has fallen into the wrong hands.

‘Dysfunctional, fragmented’

Project Phoenix has been a long time coming. Its gist has been referred to or discussed on many occasions with increasing concern, but rarely until now in the open. An exception was published in The Lancet in the context of its 2008 series on maternal and child undernutrition. The authors of the final paper, who include WN contributor Ricardo Uauy, stated that the international nutrition system was then dysfunctional:

Fragmentation, lack of evidence for prioritised action, institutional inertia, and failure to join up with promising developments in parallel sectors, are recurrent themes.

As summarised by The Lancet, ‘leadership is absent, resources are too few, capacity is fragile’. Since then much responsibility for international nutrition policy and action has been taken up by ‘public-private partnerships’. The ‘private partners’ include transnational corporations whose strategies and initiatives menace public health nutrition and long-sustained food systems. The position of Project Phoenix is more radical than the Lancet concerns. These imply that nutrition in the sense referred to, although broken, can be fixed with more money, more partners, and more corporate-style policies and actions. Thus amplified, nutrition can minister to increasing numbers of impoverished communities, which is immediately good, but still works with political and economic structures that perpetuate and deepen immiseration.

Corporations are inside the UN

The United Nations is a unique and crucial force for good in the world, and needs constant affirmation of its principles and values. But support is now coming from some wrong sources. ‘Public-private partnerships’ are now embedded in the cash-starved UN system. These undermine the integrity of nutrition planning and action. On the 70th ‘birthday’ of the United Nations on 26 June, James A Paul, founder-director of the Global Policy Forum for 20 years, pointed out that:

Increasingly, faced with urgent needs and few resources, the UN holds out its beggar’s bowl for what amounts to charitable contributions, now totaling nearly half of the organization’s overall expenditures…This ‘extra-budgetary’ funding enables the donors to define the projects and set the priorities … Corporations and the mega-rich have flocked to take advantage of the opportunity. Today, the UN is riddled with ‘public-private partnerships’ and cozy relations with the corporate world. Pepsi-Co and BP are hailed as ‘partners.’ Policy options have shifted accordingly.

In the area of public health nutrition, this helps to explain why relevant UN agencies seek support from and share policy-making agenda with representatives of transnational food and drink product corporations.
‘Industry’ is not the problem. Nor is ‘the food industry’, of which cooperative and family farmers, and shopkeepers and restaurateurs, are examples. Partnership is essential, with accountable and open-minded representatives of the vast majority of industries concerned with nutrition whose business is or can be harmonious with improvement and protection of population health.

But UN agencies seem to see the problem as the solution. They continue to partner with representatives of the transnational corporations whose products are usurping long-established rational sustainable food systems and damaging public health. An office of the UN general secretary, with its own ‘special envoy’, is set up to finance the 2016-2030 Millennium Development Goals, by solicitation of corporate money.

Nutrition professionals are not responsible for intolerable pressures imposed on the UN system. But policy decisions taken at international and also national levels permeate the practice of nutrition at all levels. Inasmuch as professionals and their associations know what is going on, they have apparently acquiesced in bad practice. As far as we know, no formal protest from any international or national body representing the nutrition or allied professions has been published.

**Root causes are ignored**

International and national initiatives that supposedly address malnutrition of any type, usually avoid questioning or even identifying any of its root causes. The same is too often true of investigations and interventions headed by senior scholars.

One root cause – which is conspicuous, with its impact on human body fat – is the activity of transnational purveyors of ultra-processed products, including burgers, cola drinks, and oily, sugary or salty packaged snacks. Another is the global political and economic system whereby farmers in impoverished countries indebted to foreign financial institutions are forced to stop producing adequate varied food for their communities and localities and instead, to grow cash crops for export to wealthy countries, and are liable to be put out of business by subsidised cheap imported goods.

Professionals who are doing their best in whatever setting, may well feel that such vast issues are beyond them. By analogy, branch or district bank managers are not in a position to denounce a rotten system. Similarly, physicians or surgeons are not likely to challenge the bases for their work of individual diagnosis, treatment and intervention, when they are overloaded with such work that is needed every day.

With nutrition, the way through these back alleys to wide horizons is to see the discipline in principle and in practice as a branch of public health. This implies whole new systems of teaching new generations of students, as discussed in this issue of WN by David Raubenheimer of the University of Sydney, Australia, and Claus Leitzmann of the University of Giessen, Germany.

In two successive Public Health Nutrition editorials published in June and in August 2006, the then editor wrote:
As professionals we have a duty… to discuss some of the issues that we know are most important and also disturbing to us as a profession… We do have some elephants in our room… The journal must engage actively in discussion about the big issues that affect the nutrition-related well-being of society… If we are to engage in finding ways to make a difference we have to accept, work with and understand [the] wider social, environmental and cultural context. We must also face the political realities of the world we live in.

The discipline of public health nutrition, with emphasis on public health, was created and developed with such aims in mind. Progress has been made in the last decade, but against the odds. Change must come now. Those who are ready and willing need to raise their game, envision nutrition according to principles that face the facts of this century, and need to combine and take responsibility. As Pope Francis states (not in these exact words) in his Laudato Si' encyclical issued in June, the time to hesitate is through. In our conclusions below, we look forward to the next issue of WN, which will outline solutions, so that the phoenix will indeed arise and fly from the ashes.

Impotence

This map is one of a series showing prevalence of obesity and diabetes rapidly rising in recent decades in the US. Similar series could now be drawn in most countries. Conventional nutrition is impotent in the face of epidemic chronic conditions and diseases, because these are symptoms of sick societies.

In her address to a global conference on health promotion held in Helsinki in June 2013, WHO director-general Margaret Chan said:

Let me remind you. Not one single country has managed to turn around its obesity epidemic in all age groups. This is not a failure of individual will-power. This is a failure of political will to take on big business.

This is true, but not the whole truth. It is also a failure of conventional nutrition science. This stems from the identification of nutrition with nutrients, and the
preoccupation of the profession with ‘hard’, quantitative, detached, biological science dominated by biochemistry and physiology, which in effect makes nutrition a junior branch of medicine.

The maps above show ‘snapshots’ of the failure of conventional nutrition to address chronic epidemic conditions and diseases. The conspicuous example is obesity. The most shocking is early-life diabetes. The maps show prevalence in the US in 2010, state by state. The darker the colour, the higher is the prevalence. Maps drawn for previous decades show most states orange or light red, few dark red. With every year, the colours become darker. The same pattern is evident all over the world. That is to say, obesity and diabetes are out-of-control pandemics.

Nutrition science as invented in Europe in the first half of the 19th century was once useful and effective on a grand scale. Management of macronutrients accelerated growth. Supply of adequate micronutrients prevented and treated corresponding deficiencies. Wars were won by the best-fed soldiers and workers. Relatively recent triumphs are the uses of iodine to prevent goitre championed by Basil Hetzel; of zinc to prevent failure to grow by Ananda Prasad; and of folic acid to prevent neural tube defects. It is also still generally agreed that engineering of food supplies so that they contain less saturated fat prevents coronary heart disease, although this consensus position is now persistently disputed.

**Irrelevance to epidemics**

But reshaping of food supplies so that they contain different balances of specific nutrients evidently has little or no good effect on obesity and diabetes, which are now raging pandemics, or on cancer and other chronic diseases.

The answer has been pioneered in the pages of *World Nutrition*, and now in the new *Brazilian official dietary guidelines*. With chronic conditions and diseases, the big issue is not nutrients, and not even foods, so much as what is done to food before it is acquired and consumed. The problem is ultra-processing, and the solution is freshly prepared meals. This implies defining nutrition also as a social science with cultural, economic, political and environmental dimensions, which is to say, also a ‘soft’ qualitative discipline concerned with all aspects of human well-being, within the living world and the biosphere. More on this in our next issue.

Of course many teams working on nutrition issues continue to make advances of vast benefit to health and well-being. One example is the work of the Centre for Indigenous Nutrition and Environment, convened for many years by WN contributor Harriet Kuhnlein, with the CINE global network. As its title indicates, the Centre is dedicated to nutrition in a social, cultural, environmental and political context.

Another example is the current infant and young child growth standards determined by a WHO multi-centre network led by Cutberto Garza, Mercedes de Onis, César Victora, Kaare Norum and others. They have moved from ‘value-free’ references, to ‘the explicit recognition of... standards... that enable value judgements’. These are
based on the qualitative judgement that breastfeeding, with all its emotional, cultural, social and other aspects, shows how ‘children should grow’ and is normally right. They state that standards derived from breastfeeding are ‘an important first step in carrying forward our duties and obligations to the human family’. This commitment, also derived from interdisciplinary teamwork, steps out of narrow bounds.

But in general, conventional nutrition has diminished. Publishers, reviewers and editors of academic journals typically insist that contributions must be technical. Anything identified as ‘personal’, ‘emotional’ or ‘political’ is expunged. The required style is flat, abstract and neutral. When causation is proposed, this is usually narrowly biological. Conclusions too often state that more research is needed. The profession, once a great endeavour, has mostly become rather out of touch and even trivial.

**Complacency**

Sumptuous gala dinners are a feature of nutrition congresses. These may include speeches of mutual congratulation by the organisers and sponsors. Hard-working professionals are entitled to rest and recreation, but feasting could be more restrained, in the current state of all forms of malnutrition.

The profession is also inward-looking. Most nutrition journals are mainly repositories for original papers whose purpose is to increase knowledge and to develop the careers of the researchers. That is how the academic system now works. More often than not, the journals carry few debates or contributions that are contentious, little if any correspondence, and only occasional contributions from authors who, while being outside the profession, have a keen knowledge of or insight into nutrition.

The sense of conventional nutrition being a ‘closed shop’ is heightened by journal editorials that ‘walk through’ highlights of the issue, and that every year may celebrate increased ‘impact factor’. This, as every researcher knows, is a measure of the number of times contributions in the journal are cited in – other journals.
The overall sense is one of self-protection. Occasionally editorials are published deploring ‘unscientific’ publications by authors whose work is outside the still-surviving though rickety paradigm. ‘Activism’ is abhorred. The torrent of ideas, research, and assertion about nutrition and health on the internet and other media, much of which is trivial, but quite a lot of which is cogent, is ignored or denounced as ‘quackery’. The analogy with a furiously anxious mediaeval Church denouncing heresy and schism is rather obvious.

A self-preoccupied profession, with only occasional serious engagement with the world outside, suits the forces in government and industry whose policy is to keep the corporate wheels grinding with ever-increasing power and force. The established institutions of conventional nutrition are rather like monastic orders withdrawn from the hurly-burly of the secular world, whose abbots are invited to participate in councils of state, while expected to be docile.

Another aspect of this complacency is what professional societies count as success. In general they are now ‘market’-driven. Not-for-profit bodies concerned with nutrition and obesity, diabetes, cancer or heart disease, compete with one another, and brag about the opulence of their conferences, the number of their journals, and the media coverage of their publicity. Perhaps they do not see that all such success is a function of more obesity, diabetes, heart disease and cancer.

**Venality**

These ‘lovelies’, so-called in the public relations trade, were hired by Coca-Cola to attract delegates to the Coke stand at an international nutrition conference. Organisers solicit ‘support’ from transnational corporations also for sponsored scientific sessions which make money for their professional bodies.
Venality here means making decisions meant to be in the public interest which also or actually are warped by mercenary motives. These may be personal, or collective. This is a sensitive area. Here is what the then editor of *Public Health Nutrition* had to say, *in another editorial published in 2006*:

There are degrees of venality. Besides which, many scientists see no problem with accepting money from commercially or ideologically interested parties, whether or not disclosed, and some are prepared to ‘speak for the product’… Such competing or conflicting interests may be considered so common as not to be worth mentioning. Observers are likely to think differently. To quote an old saying: ‘Whose bread I eat, his song I sing’. In courts of law, evidence is given less or even no weight when a witness is known to have an emotional, financial or other interest in the case. The same applies – or should apply – in science.

Pressures to make music with corporate interests have increased in the last decade, and the profession and practice of nutrition has become more commercial. We conclude with one large example, and one general observation.

The first example is from the US, and a report by the public interest lawyer Michele Simon, published in June. Its title is *Nutrition Scientists on the Take from Big Food*. It is an investigation of the ties between the American Society for Nutrition, the leading US professional representative organisation, with transnational and other corporations. ASN takes at least $US 10,000 a year each from its ‘sustaining partners’, 30 companies that include Cargill, Coca-Cola, General Mills, Kellogg’s, McDonald’s, Monsanto, the National Cattlemen’s Beef Association, Pepsi-Co, the National Diary Council, and the Sugar Association. It also successfully charges large sums for its conference corporate initiatives such as hospitality suites, networking breakfasts, and ‘satellite’ sessions controlled by sponsors to promote their products.

The conclusion of the report is

> ASN has many problematic ties with the food and beverage industry. These ties can taint scientific objectivity, negatively impact the organization’s policy recommendations, and result in industry-friendly research and messaging that is shared with nutrition professionals and the general public alike.

Other US nutrition associations, which include the Academy of Nutrition and Dietetics, may also be unusually corporate-friendly, as may be UN universities and their departments and research teams. So here is our general observation, to which the World Public Health Nutrition Association is an exception. Anybody who wants to participate in any congress mounted by a substantial global, regional or national nutrition society, but who is not willing to attend meetings with formal links with transnational and other food product corporations, will find that this is impossible. All such meetings now are mounted in collaboration with conflicted industry. As far as we know, all substantial nutrition societies are ‘supported’ by conflicted industry. This is a bad business.
The next issue of *World Nutrition* will complete this *Project Phoenix* series. It will summarise the indictments of conventional nutrition, but will mainly consist of notes towards a new nutrition science fit to face the facts of this century.

The fruit of many discussions in many parts of the world in the 2000s so far, it will take into account comments, clarifications, corrections and criticisms of the series as published since our April issue, that are received up to the end of July. Members of the *Update* team will coordinate this process. They will also encourage letters for publication in our *Feedback* section, in the next and later issues of *WN*.

We will also warmly welcome contributions from readers who are in general agreement with points made in *Project Phoenix*, who wish to contribute to our proposals for a science and a profession that will recover and develop the ability to match the importance of nutrition as a topic, throughout this century.

It is apparent from what we have published so far, that a fruitful approach will be trans-disciplinary, involving professionals from many other fields whose work does or can enlarge the scope, range and power of nutrition as taught and practiced. We also suggest, with respect, that nutrition is too important to be the sole responsibility of nutritionists. This observation implies mutually trusting partnerships, to include partners whose idea of nutrition is rooted in various concepts of life and nature. Relevant professionals include journalists, gastronomes, toxicologists, agronomists, historians, anthropologists, psychologists, economists, and lawyers, and also representatives of public interest organisations and social movements.