



## A view from the “new world”

Arne Astrup<sup>1</sup> · Dennis M Bier<sup>2</sup>

Received: 16 May 2018 / Accepted: 17 May 2018  
© Macmillan Publishers Limited, part of Springer Nature 2018

The editors of *American Journal of Clinical Nutrition* (AJCN) would like to express warm congratulations to our European sister journal on its 30th Anniversary. Over the last three decades, the editors of EJCN have done an outstanding job of developing the journal into a highly ranked and highly recognized leading journal in nutrition science. On behalf of The AJCN we would like to congratulate past and current editors for their accomplishments. Given that the foundations of nutrition as a science were established and well developed in Europe prior to the 20th Century, it is somewhat ironic that both American nutrition journals, *The Journal of Nutrition* and *The American Journal of Clinical Nutrition*, were founded in the last Century before EJCN. Moreover, while each of these journals was established as a regional journal, all three have developed into true international journals with submissions and publications from scientists from all regions of the world. Although each still publishes papers that have a more local or regional content and relevance, one must query the value of continuing geographical divisions of historical origin in a truly global food economy. Modern genetics has taught us that people worldwide are more similar than they are different and most people eat foods that are not primarily native to their own environments. Think, for example, of the Columbian Exchange, the first American food invasion that brought to Europe maize, tomatoes, potatoes, and chocolate among other foods. Given this globalization, one might ask how do American and the European journals (and Asian and African publications as well) frame nutritional questions that expose the unique information content inherently contained within the geographical, societal, and cultural differences

found in these regions? How are they similar? How are they different? And do these similarities and differences matter in the scheme of global nutritional health?

Both journals continue to wear “clinical” in their titles, but each has extended well beyond the term’s initial meaning of pertaining to hospitals or clinics. Today, the majority of publications in both journals covers studies outside the immediate medical environment. These studies provide us with more knowledge about the mechanisms behind how nutrients and foods influence optimal physiological and mental functions and performance, give insights into how nutrients, foods, meals and diets influences general health and their contribution to prevention of diseases. The gray zone between preventive or population-based human nutrition and strictly-defined clinical nutrition is now often filled with prevention and management of overweight and obesity. As a consequence, our journals are in the center of finding solutions for some of the major global health problems such as undernutrition, a scourge of known pathophysiology and correction that, nonetheless, remains remnant from the 20th Century, and the obesity epidemic with its complications such as type 2 diabetes, cancers, and cardiovascular disease, the yet unsolved problems of the 21st Century.

Over the 30 years of the existence of EJCN, nutritional sciences have undergone dramatic changes, specifically the movement toward evidence-based studies of causality and away from observational studies of association. Emerging approaches like Mendelian Randomization have helped move some nutritional hypotheses closer to the causal pathway than previously possible, but many fundamental problems remain that affect both the rate of this movement and the hope of achieving its goal. Thus, while nutrition is the science of foods influencing human health, we still have only primitive ways of knowing what people actually eat. Moreover, very few of these are truly independent of the biases inherent with human input. Our data on the content and composition of known nutrients in foods (and their variation) remain incomplete. Our knowledge of the hundreds of non-nutrient constituents of foods that might confer

---

✉ Arne Astrup  
ast@nexs.ku.dk

<sup>1</sup> Faculty of Science Department of Nutrition, Exercise and Sports, University of Copenhagen, Frederiksberg C, Denmark

<sup>2</sup> Baylor College of Medicine, Children’s Nutrition Research Center, Houston, TX, USA

human health benefits is primitive at best. “Environment-Wide Association Studies” have demonstrated that traditional adjustments for environmental, chemical, societal, and lifestyle influences on observational associations are seriously underestimated or not estimated at all. There are very few known biomarkers or surrogate-ends points that permit highly accurate and precise hazard or risk estimates. Newer “genomic” approaches for predictive biomarkers remain in their infancy.

Nevertheless, novel approaches to the problems above have started to influence our views several foods and nutrients, and we have large expectations for the future in this area. However, we are still struggling with the challenge that much dietary advice and many dietary recommendations are based almost completely on observational data, and on theoretical considerations about plausible mechanism that are not proven to be causal. The public health and economic burden of obesity and of type 2 diabetes have channeled large resources into research on energy balance and body weight regulation. This field is now enriched by many large-scale dietary intervention studies that tend to bring more robust evidence into the framework that forms the basis of evidence-based recommendation in this area. But, nutrition is a far

bigger field than obesity alone and we cannot lose sight of the fact that many other areas of nutrition deserve a similar magnitude of interest and depth of investigation. Perhaps the “good news” is that the problems identified above ensure the long-term employment potential of young nutritional scientists.

Our journals are the vehicles for novel views and data that challenge current recommendations. This is part of the process in forming recommendations that should always be based on the totality of currently available studies. Therefore, editors have a huge responsibility to be open minded, and an obligation to publish studies that goes against current established views (particularly their own established personal “allegiance biases”). Naturally, this entails publishing research where study design, execution, data management, and interpretation are state of the art and robust. Such studies are the only way to convincingly challenge current views, change recommendations and move the nutrition field to a solid evidence-based foundation.

### **Compliance with ethical standards**

**Conflict of interest** The authors declare that they have no conflict of interest.