



Welcome

Innovation for a planet free from malnutrition

Innovation is one of the most studied and debated themes in social sciences, management, and business. Diverse views abound concerning what it is and what makes it successful.¹ “Change that creates a new dimension of performance” is the management theorist Peter Drucker’s pithy definition;² others describe innovation as “the generation, acceptance, and implementation of new ideas, processes, products, or services”;³ “the creation of new knowledge and ideas to facilitate new business outcomes,”⁴ and “the effective application of processes and products new to the organization and designed to benefit it and its stakeholders”⁵ – to cite but a few.

Creating value for people

However we define it, innovation is about change created by *people* to create value for *people*, and therefore should have people, rather than technology or processes, at its heart. Innovation can modify or generate new products, processes, services, or systems. In speaking about innovation, we may be referring to the process involved, or to the outcome of that process, or indeed to both. Recent emphasis on innovation as a disciplined and repeatable process has somewhat obscured the fundamental role that creativity plays in it. Whatever the process and its outcome, it is the human creative spark that fuels innovation. As Mauro Porcini puts it, “what really drives innovation is not the process, it’s the mind, the soul, the heart of whoever drives that process.”⁶ That creative spark emerges from multiple sources: the *curiosity* to gain insight into what makes people tick and operate the way they do; the *openness* to look at a problem from fresh, completely different angles; the *attitude of becoming one* with those whose lives one aspires to change for the better; the sharp *attunement* to the major trends shaping humanity and to scientific and technological breakthroughs; the *exploration* of adjacent or analogous fields of knowledge; the *synthesis* of new ideas from previous ones; the *observation* of outliers and positive deviances; the *passionate pursuit* of the question “why not?”; and so forth.

Food product innovation

In this issue, we focus on product innovation – specifically, *food* product innovation, which implies some degree of food transformation or processing, be it artisanal, lab-based, or industrial. We live in exciting times. The food and beverage industry is going through a period of intense innovation, which can be appropriately characterized as a *revolution*, influenced by the broader Fourth Industrial Revolution.⁷ This food industry revolution is propelled by a number of factors. There is growing realization of the unsustainability of the world’s current approach to food. Poor diets lead to the double burden of concurrent undernutrition and overnutrition, which substantially contributes to the unsustainable burden of non-communicable diseases on health systems. Many agricultural practices imperil our ability to adequately nourish nearly 10 billion people by 2050 and indeed threaten the survival of the planet itself. Advances in food and nutrition sciences and increased access to nutritional knowledge are transforming consumer preferences. Both aging populations and millennials are demanding healthier, transparently sourced and produced, and also sustainable foods. Having learned the lesson that they are not adequately positioned to develop and market disruptive food innovations, large food companies are investing in myriad venture capital funds and startups to innovate with healthier and more credible products. These products are novel along the various dimensions of food – experience, function, convenience, health, accessibility, and sustainability – and the multiple associated product attributes.

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We are delighted to publish in this issue of *Sight and Life* magazine contributions from a broad range of authors, spanning the public, private, social, and academic sectors. Our thanks go to them all. Contributors from the private sector, in particular, carried out a task not usually included in their job descriptions, and for that we are especially thankful. Their perspectives highlight not just the vital role the food and beverage industry has to play in overcoming malnutrition, but also the sincere commitment so many industry professionals share with professionals from the other sectors to meaningfully contribute to a healthier world.

The process of innovation

A number of articles featured in this issue address the process of innovation. Lynda Deakin from IDEO discusses the application of some of the intriguing design approaches her firm has successfully employed in other domains to food system innovation. Jörg Spieldenner from Innosuisse and Klazine van der Horst from Bern University introduce us to the evolutionary approach of food product reformulation. A thought-provoking approach and tools that draw on dietary trajectories to facilitate optimal choices for both food innovators and consumers are presented by Heribert Watzke from Watzke Heribert Consulting. Various facets of the concept of innovation and the relevance of Human-Centered Design to food innovation and public health problem-solving are explored by Alain Labrique from Johns Hopkins University, Cesar Vega from Mars, Inc., and their coauthors. David Ball and his colleagues at SecondMuse familiarize us with the concept of network-centered innovation and argue that “collaborative equilibrium” in an innovation ecosystem leads to more and better innovation than a purely competitive model. Simone Frey from the Nutrition Hub gives us an illuminating tour of the thriving food innovation ecosystem. Henk Bosch from DSM broadens our perspective on food innovation by addressing its ever more important dimension of sustainability. Continuing their engaging Sizanani Mzansi series, my colleagues Kesso van Zutphen and Madhavika Bajoria take us through the journey of new product development and pricing targeting low-income consumers. Together with Darshana Joshi and Preen Moodley from Africa Improved Foods, we describe a nutrition-focused social enterprise that is building a new public-private partnership model in East Africa and innovating on several fronts to reduce malnutrition in the region.

Influencing nutrition outcomes

We also cover several innovations that have had enormous impact on nutrition outcomes or hold the potential to do so in the years to come. Senoe Torgerson and Dipika Matthias from the Bill & Melinda Gates Foundation argue the need for evolution in one of the most successful nutrition-relevant innovations in

history – food fortification. An interesting frugal innovation research effort to produce high-protein-quality spreads for pregnant and lactating women in India is presented by Andrew Tony-Odigie from Bern University of Applied Sciences and coauthors. Simon Billing and Heidi Spurrell from the Protein Challenge 2040 Initiative at Forum for the Future walk us through the effervescent landscape of new protein sources and the promise they hold. Mark Manary and Meghan Callaghan-Gillespie from Project Peanut Butter expand on the past, present, and future of another highly successful, life-saving innovation: ready-to-use therapeutic foods. Mark is also featured in our A Day in the Life interview as a bright example of an entrepreneurial scientist who has spent most of his career innovating for impact in low-resource settings. Danone’s research-driven effort to improve nutrition during the first 1,000 days is described by Eline van der Beek from Danone Nutricia Research. Together with colleagues from Yoba for Life and PATH, we explore the potential for innovation drawing on emerging microbiome science to improve nutrition and gut and overall health, particularly using probiotic fermented foods. Panam Parikh and Rolf Bos from FrieslandCampina highlight the potential of prebiotics to, combined with iron supplements and micronutrient powders, more effectively and safely combat iron deficiency in vulnerable populations.

We can also relish in this issue another delicious serving of Jonathan Steffen’s Nutrition in Literature series, this time thoughtfully exploring references in Homer’s *Odyssey* to the Mediterranean Diet.

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Food for Thought

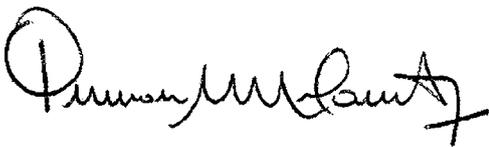
Last but not least, I’d like to draw your attention to two highly current Food for Thought pieces. The first one, by Klaus Kraemer, revisits the topic of the use of stunting as the main success indicator of nutrition interventions from the study or program level through the Sustainable Development Goal level. His article gives voice to a growing community of researchers, practitioners, and funders that acknowledge the need to expand the array of responsive outcomes and indicators associated with nutrition interventions and evolve to a more holistic framework of child development that includes but goes beyond linear growth. The second piece, by Saskia de Pee from the World Food Programme, offers important clarifications on the

WHO *Guideline for assessing and managing children at the primary health-care facilities to prevent overweight and obesity in the context of the double burden of malnutrition* issued in October 2017. The points Saskia makes represent the consensual position of WHO, WFP, and UNICEF on the implementation of that guideline.

By itself an exciting topic, innovation is a source of even greater enthusiasm when done with the most vulnerable and our planet in mind. From the most frugal to the most sophisticated innovation, whether aimed at urban or rural populations, transforming ideas and science into nutrition and health impact for people – humanity as a whole and the underprivileged in particular, as illustrated by the articles in this issue – is a noble and high-value endeavor that accelerates our journey towards a world worthy of our descendants.

We hope this issue of *Sight and Life* magazine will sharpen your curiosity, spark your own insights and ideas, and intensify our collective sense of urgency, possibility, and optimism towards a sustainable planet that is free from malnutrition.

Warm regards,



Peiman Milani

Global Lead, Public-Private Partnerships
Sight and Life

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