



HOW WILL THE FUTURE TASTE?

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Eating beef without having to kill the cow—thanks to technologies such as tissue engineering, that may be possible in the future

Steaks produced in a bioreactor? Anti-aging agents for dessert? Bacteria that cure cancer? The future of nutrition offers a wide range of opportunities to enhance health and well-being that are worth exploring

Sir Winston Churchill was not only one of the most significant statesmen of the twentieth century but also a serious futurologist. “Fifty Years Hence” is the title of an article the future British Prime Minister wrote for the magazine *Popular Mechanics* in 1932. In his article Churchill already envisioned a hydrogen economy, smartphones—and a time when “[we] shall escape the absurdity of growing a whole chicken in order to eat the breast or wing, by growing these parts separately under a suitable medium.”

MARVELS OF THE MICROBIOME

Today this vision is starting to become reality. Last December Singapore became the first country in the world to approve “Chicken Bites” from the US company Eat Just—pieces of meat grown from chicken cells in a bioreactor.

Today meat substitutes made from plant proteins are available in almost every supermarket. According to a study conducted by Boston Consulting, “peak meat”—the point at which consumption of animal proteins starts to decrease—could be reached in Europe and North America between 2025 and 2035. Experts at the consulting firm Kearney estimate that 60 percent of today’s meat products could be replaced with plant-based or artificially generated alternatives by 2040—with positive effects on land use and climate protection.

Meanwhile, there is increasing scientific evidence that illnesses such as diabetes and intestinal cancer can be avoided and even combated by means of targeted nutrition. The human microbiome is turning out to be the “missing link” that is helping us understand more clearly the interactions between food and our bodies. Scientists suspect that the causes of many diseases can be found in the complex interplay between nutrients, microorganisms, and metabolic products. The research community is convinced that proper nutrition plays a key role in preventive medicine.

DIETS THAT MAKE YOU YOUNGER AND HEALTHIER

Researchers also hope that findings from the field of epigenetics—the science of gene regulation—will have positive effects on human health. Isabelle Mansuy, Deputy Head of the Institute for Neuroscience at ETH Zürich, assumes that the expression of particular genes is controlled by an individual’s diet, and that this makes it possible to switch genetic predispositions, such as a tendency toward metabolic diseases or overweight, on and off.

For example, scientists suspect that the consumption of olive oil significantly reduces an individual’s risk of arteriosclerosis. According to Mansuy, it’s even possible to influence the aging process through diet. Epigenetic studies have demonstrated that some people’s bodies are younger or older than their date of birth might suggest.

The field of nutrition still offers ample room for innovations in many areas, including epigenetically effective combinations of nutrients, microbiome tuning, and plant-based or artificially cultivated meat. That’s a good reason for the Foresight team at Creavis to make the future of nutrition its next focus topic. Under the heading “Sustainable Food Futures 2040” it plans to identify new innovation opportunities along the changing food value chain so that Evonik can play a role in ensuring a sustainable future for nutrition.

Such a future would certainly be to Churchill’s taste as well. —



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