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SORRY, MARGE

GEORGE SCIENCE CAUTIONS AGAINST THE IDEOLOGY OF 'NUTRITIONISM'

The world is very, very large
 And butter is better than marge
 And love is better than hate.
 —'Meaningless Songs', The HeebeeGeeBees

MARGARINE was invented in the 1860s as a cheap alternative to butter, and partly in response to butter shortages in Europe. Since then, margarine producers have used any number of processes and additives in an attempt to imitate the colour, taste and texture of butter. Up until the middle of the twentieth century it would have been taken for granted that the original, butter, was better than marge—the artificial copy, the cheap imitation. But by the 1960s and 1970s, a number of forces had conspired to turn this perception on its head, and margarine took on the status of being superior to butter in almost every respect—except for taste, that is.

Margarine already had two advantages over butter: it was cheaper and it was also more spreadable. Spreadability was no doubt an important consideration in the era of white sliced bread, given that this substanceless product was unlikely

to withstand the rigours of hard buttering. But what elevated margarine from its cheap-imitation status was the claim by nutritionists that it was 'healthier' than butter.

Nutritional scientists manufactured 'the cholesterol scare' in the 1950s and 1960s when they argued that high levels of cholesterol contributed to heart disease. As butter and dairy products contain high levels of cholesterol in the form of saturated fats, it seemed logical to argue that too much of these foods would be bad for you. Institutions such as the National Heart Foundation subsequently endorsed this connection. The polyunsaturated fats in vegetable oils that were used to make margarine, on the other hand, apparently did not contain cholesterol, and so (by the same logic) margarine must be better for you. The margarine industry used this tick of approval from nutritionists and the National Heart Foundation in their marketing campaigns, and the rest is history. In Australia today two and a half times more margarine is consumed than butter.

While the cholesterol-free status of margarine may now be a matter of common knowledge, not so commonly known are the more recent 'discoveries' that tend to question this knowledge. Chief of these is that the 'hydrogenation' process used in the manufacture of margarines—a chemical process for transforming liquid vegetable oils into solids—produces 'trans-fatty' acids. Although cholesterol is not a constituent of these trans-fatty acids, they produce it in the body when they are consumed.

Second has been the discovery of different types of cholesterol, one (LDL) that is considered harmful to your health, another (HDL) that is considered relatively beneficial. These two types are now often referred to, respectively, as 'bad' and 'good' cholesterol. Saturated fats apparently raise the level of bad cholesterol but trans-fatty acids have been found to lower the level of good cholesterol and raise the level of bad cholesterol, while polyunsaturated fats, though reducing the levels of bad cholesterol, also reduce the level of good cholesterol. This means that nutritionists no longer consider margarine to be as good as they once made out, though many of them calculate that it's still probably better than butter.

The big winners have been the oils high in monounsaturated fatty acids, such as olive and canola oil. These are supposed to raise or preserve levels of good cholesterol and to lower levels of bad cholesterol. While nutritionists used to be a bit cool towards olive oil, now it, and the so-called Mediterranean diet of which it is a key part, have become hot favourites. The good news for the margarine industry has been that canola oil—which is cheaper to produce than olive oil—could also claim this nutritional advantage, and has since become one of the most

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PROCESSED PYRAMID
BY PETER EPISIOU

common oils used in margarine. The fact, however, that even monounsaturated-oil margarines contain trans-fatty acids—and therefore raise bad cholesterol levels—does not make it onto the packaging labels.

I am not concerned here about the scientific accuracy of nutritional analyses of butter and margarine. Rather, what I am questioning is the use of and reliance on nutritional categories, and this whole framework of analysis, to guide us in our everyday quest to eat well. Certainly there has been no need for this approach to food among the peasants of the Mediterranean region, whether the olive-oil-guzzling variety in Greece or, more remarkably, those in the south of France whose diets are high in dairy products and saturated fats. The eating habits of the French peasants go against much current dietary advice. This phenomenon is known to some nutritionists as the 'French paradox', but it only appears that way to those who can't see beyond such nutritional categories. The peasants involved might well refer to it as the 'Nutritionists' Paradox'.

Most traditional peasant cuisines from around the world provide good examples of well-balanced wholefoods diets. A wholefoods diet consists of plenty of grains, vegetables, fruit, wild and cultivated greens, legumes, dairy products, real bread and a smattering of meat. Modern 'industrial' diets, on the other hand, are generally characterised by the overconsumption of meat (red and white), and high levels of 'fast', 'junk', overrefined, processed and chemically modified foods. While maintaining a simple distinction between wholefoods and industrial foods, it's important to recognise the way some traditional wholefoods have been transformed into industrial foods. Meat, for example, becomes an industrial food when consumed in mass quantities. Much of the bread now consumed has also been transformed into a processed food. It contains hardly any flour, thus stripping it of its traditional wholesomeness. And it now incorporates any number of additives (vitamins, fibre, soy and so on) in order for producers to market it as 'healthy' and nutritionally enhanced.

Wholefoods and industrial foods are the only two food groups I'd consider including in any useful food 'pyramid', the charting device that summarises official wisdom on the relative nutritional value of foods. Such pyramids usually include and distinguish between five or so food groups, such as fruit and vegetables, grains, dairy products, proteins, carbohydrates—all of them wholefoods or nutrient categories; yet processed industrial foods do not rate a mention. What, then, is the relevance of such charts to the average consumer?

Most nutritional advice does advocate eating more wholefoods and cutting down on processed foods. Yet this advice is justified on the basis of the superior

nutritional profile of these wholefoods—such as the high levels of anti-oxidants contained in fruit and vegetables—and the beneficial chemical reactions they produce in the body. By focusing so firmly on the nutritional constituents of foods, this approach blurs the otherwise clear distinction between industrial foods and wholefoods and may therefore lend direct or indirect support for the consumption of certain processed foods, such as margarine.

Nutrition science engages with all foods at the abstract level of their chemical compounds and constituents. It considers foods in terms of certain categories: vitamins, minerals, fats, calories, cholesterol, proteins, fibre, carbohydrates and kilojoules. At this level our bodies are understood as having nutritional 'requirements' in terms of quantifiable amounts of these nutritional constituents.

The scientific management of nutrition emphasises quantification and a calculating approach to food and the body. Witness the contemporary obsession with counting calories and cholesterol levels. These abstract categories are supposed to reveal the underlying 'truth' of one's physical wellbeing, and are meant to be measured and managed for optimum results. The implication is that in order to achieve a good or balanced diet, one needs to have an understanding of the nutritional constituents of foods and to assemble the appropriate balance of these nutrients. This regimen can include the direct consumption of these nutrients in the form of vitamin supplements or the consumption of nutrient-fortified processed foods. It also requires keeping up with the constant stream of new and sometimes contradictory research findings that appear almost daily in the media. Often funded by commercial interests, these researchers attempt to link a specific food or nutrient to some positive or negative biochemical reaction in the body or disease incidence. Some of the latest nutritional buzzwords and wonder-nutrients include omega-3 fats, anti-oxidants, phytochemicals and pro-biotics. These words are now finding their way onto the labels of processed, even non-processed, foods.

On the basis of this abstract understanding at the chemical level, certain wholefoods have been deified and others vilified, with little attention paid to cultural or social contexts or broader dietary habits. For example, fish, olive oil and some vegetables are now celebrated because they contain a high concentration of some nutrient deemed desirable, or produce a beneficial chemical reaction in the body that researchers have managed to identify. At the same time, wholefoods such as dairy products and eggs have been viewed with suspicion, even considered 'unhealthy' because they contain 'too much' fat or cholesterol. As a result, we have tended to lose faith in the simple goodness of all wholefoods and been made to feel guilty for eating some of these foods. In line with the latest

nutrition advice, some wholefoods, such as milk, are now even processed or modified to remove certain nutritional elements, such as their fat, or to enhance others, such as proteins.

The qualitative distinction between wholefoods and industrial foods is thus obscured if not erased. At the chemical level, all foods are understood only in terms of the various quantities of nutrients they contain, and so even processed foods may be considered to be 'healthier' for you than wholefoods if they contain the appropriate quantities of some nutrients. Many processed foods now come with claims such as 'no cholesterol', 'fat reduced', 'lite', 'high fibre' and 'vitamin enriched' in order to reflect the latest nutritional fetishes, and are purposely modified so that such claims can be made on the packaging. Those who believe in the truth of these nutritional categories, and focus primarily on this way of understanding food, may end up eating more rather than fewer industrial foods in an attempt to devise a better diet.

An understanding of the product simply in terms of its nutritional contents—fats, protein, iron and so on—has played into the hands of the marketers, who can focus on the presence or absence of these constituents in certain products (meat, for example) to the extent of concealing the overall demands placed on the body by the overconsumption of these products or the dangers of processing. My critique here is of this focus on nutritional analysis and understanding of food—what I call the ideology of nutritionism—rather than of the particular dietary advice that nutritionists now commonly give. Most nutritional advice does advocate the eating of more fruit and vegetables and fewer processed foods. Any such specific dietary advice is really secondary, however, to the main message promoted by the nutrition industry: namely, that we should understand and engage with food and our bodies in terms of their nutritional and chemical constituents and requirements—the assumption being that this is all we need to understand.

What is the point of such fine deliberations on the precise quantities of these nutritional compounds when, I would argue, the more important issue is the high levels of fast-processed-industrial foods currently being consumed: foods that have been stripped of their original wholesomeness and drenched in invisible sugar, salt, fats and chemical additives? There are continuing concerns about high salt consumption, but in practice these tend to translate into reductions in the amount of salt that individuals directly add to their food in their cooking or at the table. Yet around 75 per cent—and perhaps as much as 90 per cent—of the salt in many people's diets derive from these industrial foods rather than from their own salting practices.

Rather than offering clear guidelines to healthy eating, the ideology of nutritionism has led to a great deal of confusion. Who could blame most of us for being confused, especially considering some of the back-flips in nutritional recommendations that have occurred over the years, as well as the sometimes contradictory advice we're fed!

Having presented the food-processing industry with a powerful strategy for marketing its products, the ideology of nutritionism is now being exploited to prepare the mass of consumers for the next wave of nutritionally modified foods, and for the next stage in the commodification and industrialisation of food production and consumption practices.

One response of the food industry to the dietary advice of nutritionists and the demands of nutrition-conscious consumers has been to develop artificial substitutes for suspect ingredients such as sugars and fats. The resulting products are not so much nutritionally enhanced foods as nutritionally neutral or non-nutritive foods, which, ideally, just sail through the body without having any nutritional effect. The idea is to be able to *continue* eating the foods you love and to 'experience' the same tastes and sensations of the real ingredients, but without consuming the nutritional nasties we're supposed to avoid. There isn't even a pretence here that these ingredients are anything other than fake, yet this fakeness has become the very source of their perceived goodness. Not surprisingly, some of them, such as the artificial sugar, aspartame, are now suspected of having nasty side-effects.

Another relatively new and perhaps more ominous category of food that we will be seeing a lot more of in future is *functional foods*, also known as 'pharmafoods' or 'nutraceuticals'. Functional foods are those that purport to serve a specific medicinal use of a preventive or a therapeutic nature, and the food industry will be able to make open claims about the medicinal qualities of these foods. While nutritionally modified foods already come with specific nutritional claims on their packaging—such as that they contain high or low levels of this or that nutrient—producers of functional foods will be permitted by government regulators to go further and to advertise a more direct link between these foods' nutritional or chemical constituents and some beneficial outcome, such as reducing the risk of some cancers or lowering cholesterol levels.

Having the freedom to fortify products with vitamins was a first step for manufacturers of breakfast cereals or other nutritionally modified and functional foods. Some cereals now come with the addition of folate, which is marketed as helping pregnant women prevent neural tube defect births. Another recently

trumpeted functional food is a 'cholesterol-lowering' margarine containing plant sterols derived from vegetable oils, which allegedly reduce the body's absorption of cholesterol when eaten in sufficient quantities. Once again we see margarine leading the way, as it takes on the status of a functional super-food. Unfortunately it has also been found that consuming high levels of these plant sterols reduces levels of some anti-oxidants in the body. Now, anti-oxidants happen to be found in fruit and vegetables as well, and are considered to be a 'good nutrient'. So those eating plant-sterol-enriched margarines are now advised by some nutritionists to eat more fruit and vegetables to make up for this loss of anti-oxidants.

One of the main aims of producing nutritionally modified and functional foods is to ensure that everyone—even those suffering physical illnesses or fearful of nutritional deficiencies in their diets—keeps eating more and more of these processed and value-added industrial foods, instead of switching from industrial foods to (non-modified) wholefoods. Like nutritionally modified foods, functional foods promote the idea that there is something lacking, inadequate or dysfunctional in non-modified wholefoods or in our diets overall. Furthermore, they work on the assumption that we are always in need of medical therapies, or else we are on the way to developing a disease unless we consume these preventive medicinal foods. But why shouldn't those who are suffering from some kind of serious dietary deficiency or medical condition just take nutritional supplements or chemical medicines directly, rather than having them inserted into everyday foods?

Functional foods effectively blur the distinction between industrial foods and chemical medicines. The idea of 'food as medicine' is not new, of course. Herbal teas, for example, have for a long while been viewed as beneficial for specific ailments or conditions. Within this traditional (what I'd call 'organic') approach to food and the body, wholefoods are used in the manner of traditional ('holistic') medicines. The new functional foods, however, are fitted with chemical and molecular compounds that are designed to act in the manner of modern chemical medicines. They have no affinity with, and represent no return to, any organic understanding or practice of food as medicine.

What is also new is that engagement with nature, food and the body at the genetic level is emerging as the dominant means of control, thus overlaying and reinforcing the engagement with nature at a chemical level. I refer to this as a shift from a chemical-industrial to a genetic-industrial food system and mode of agricultural production. New genetic and cellular technologies will enable the production of modified foods and new types of processed foods that are

