Defining ‘nutraceuticals’: neither nutritious nor pharmaceutical
Jeffrey K. Aronson
DOI:10.1111/bcp.12935

In this issue you find all the papers about the nutraceutical theme. Since everyone talks about ‘health’ and ‘super’ foods the definition seems obvious but it is not, as Jeff Aronson argues this is not the case. We use water and sodium on a daily basis as a treatment and when we get home we use it in the kitchen to cook potatoes. So is tap water and salt a nutraceutical? Or how about the potatoes? Precision and accuracy in defining must be the start of any discussion about this subject that is clearly not free of controversy.

Traditional Chinese medicines in the management of cardiovascular diseases: a comprehensive systematic review
Kerry Layne and Albert Ferro
DOI:10.1111/bcp.13013

Albert Ferro and Kerry Layne review traditional Chinese Medicine as a treatment for cardiovascular diseases and although they find some associations it is clear that more research has to be done. But is this possible? After all the basis of these treatments is the circulation of ‘qi’ some magical life force that circulates through our bodies, or at least in the bodies of those that are into this form of treatment. As this has not yet been made detectable by a mass spectrometer it is safe to assume it does not exist. Applying trial methodology to such treatments that is based upon sound and tested physical principles is at least questionable, just as clinical trials of prayer are not particularly advisable. Make up your own mind by reading this review!

Systems biology approaches to understand the effects of nutrition and promote health
Lina Badimon, Gemma Vilahur and Teresa Padro
DOI:10.1111/bcp.12965

Whatever we believe or do, once we replace pure molecule interventions by food we are likely to administer a lot of molecules at the same time and not always in the same proportion. When William Withering, who remains an always quotable source for clinical pharmacologists in most situations, introduced tea made of foxglove leaves for the treatment of heart failure there was just the beginning of a realisation by him that there was something like an active substance in it. He admitted that current techniques would not allow him to detect this. However, only 20 years later isolation of alkaloid substances from plants (atropine and scopolamine and colchicine – but not digoxin which took another 130 years) became possible. These were all single compounds, but these times are behind us in regular phamacotherapy (think of HIV or TB) and also in nutrition. Complex system biological tools will therefore become the norm rather than the exception for all drug developers, including those that develop nutraceuticals, whatever they may be.

Edible plants for oral delivery of biopharmaceuticals
Matilde Merlin, Mario Pezzotti and Linda Avesani
DOI:10.1111/bcp.12949

If we could produce proteins for the so-called ‘biologicals’ (aren’t all medicines ‘biologicals’) in plants, in the definition of medicines made by a biological system rather than in a chemistry lab, we could do away with very expensive and complex bioreactors and prices would almost inevitably go down. Such techniques are not yet advanced but Matilde Merlin and colleagues draw attention to the fact that it is also possible to genetically engineer edible plants for the production of oral vaccines or other immunological interventions. Puts a whole different angle on ‘A (genetically altered) apple a day keeps the doctor away’.

Mediterranean diet, dietary polyphenols and low grade inflammation: results from the MOLI-SANI study
Marialaura Bonaccio, George Pounis, Chiara Cerletti, Maria Benedetta Donati, Licia Iacoviello and Giovanni de Gaetano on behalf of the MOLI-SANI Study Investigators
DOI:10.1111/bcp.12924

Two teams from Italy and Spain present data on trials of the Mediterranean diet, especially of the high polyphenol content in these diets. These decrease low grade
inflammation although the effects on hard outcomes is not terribly convincing. As the British Journal of Clinical Pharmacology we must take responsibility for the invention of foods that are probably the lowest in polyphenols (like bacon and eggs, Yorkshire pudding and beer) and are pleased to remind our readers there are diets that at least taste better.

**It is rocket science – why dietary nitrate is hard to ‘beet’! Part I: twists and turns in the realization of the nitrate-nitrite-NO pathway**
Jibran Khatri, Charlotte Elizabeth Mills, Perry Maskell, Chimed Odongerel and Andrew James Webb
DOI:10.1111/bcp.12913

It is rocket science – why dietary nitrate is hard to ‘beet’! Part II: further mechanisms and therapeutic potential of the nitrate-nitrite-NO pathway
Charlotte Elizabeth Mills, Jibran Khatri, Perry Maskell, Chimed Odongerel and Andrew James Webb
DOI:10.1111/bcp.12918

The drink bottle of many professional cyclists contains beetroot juice. So if they think it improves their performance it must be true and these two reviews give our readers a chance to find out all they never dared to ask about the potential active substance, nitrate. Nitrate is in beetroot, rocket salad, but of course also in rocket fuel (do not put this in your drink bottle) and has many potential and proven physiological functions.

**Systematic review and meta-analysis of clinical outcomes of early caffeine therapy in preterm neonates**
Kok Pim Kua and Shaun Wen Huey Lee
DOI:10.1111/bcp.13089

Kok Pim Kua and Shaun Wen Huey Lee review caffeine. Is coffee a nutraceutical? Caffeine is certainly a substance that has an important function in neonatology and they imply that early use may be at least meta-analytically useful. We always stress that this may not be true after a randomised trial has been done.

**What G6PD-deficient individuals should really avoid**
Shaun Wen Huey Lee, Nathorn Chaiyakunapruk and Nai Ming Lai
DOI:10.1111/bcp.13091

Although some foods may be good for you we end this nutraceutical issue with the warning that they may also be bad, especially in patients with G6PD deficiency (of which there are many and not all known as such). And it is not only fava beans, as we all learned in medical school, but probably would be unable to recognise them in the greengrocer.