



The science & art of living the way nature intended

# The Bond Briefing

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RATIONAL EVIDENCE-BASED COMMENT FOR THE GENERAL PUBLIC & HEALTH PROFESSIONALS. WE SAY EXACTLY WHAT WE THINK

**Paleo Food Supply:** Save the Planet – Eat Kangaroo! **Health Policy:** Cookery Lessons for UK Fatties. **Ancestral Lifestyle Research:** Paleo Diet Reduces Inflammation; Space Travel: Immune Dysfunction. **Q&A:** Calories in Dietary Fibers. **Barmy Headlines:** “How soya and almond milk may put health at risk!” **When it Started to go Wrong:** Jaw-dropping Birth of Farming. **Ancestral Health:** Our Living Gut – part XV. Seasonality of Gut Bugs – part II. **From Forager to Astronaut:** Keeping Mars Pioneers Alive (III). **Briefing:** Epigenetic Effects – Part III. **Spreading the Word:** Humarian Radio Interview; USA Book Signing.

## Paleo Food Supply

### Save the Planet - Eat Kangaroo!



We often promote the intake of ‘exotic’ meat products like bison, venison, ostrich, caribou, elk, crocodile, alligator and, yes, kangaroo.

Now it is official: Australians are encouraged to eat kangaroo – not because it is Paleo, but because it needs to be culled [1].

The kangaroo population has boomed, rising to 45 million last year from 27 million in 2010, due to an abundance of food after high rainfall.

Prof. David Paton, University of Adelaide, said we need to support kangaroo culling programmes and eat their meat to avoid wasting carcasses.

They are also a threat to biodiversity: “It’s not the kangaroos’ fault they’re overabundant, it’s just that we’ve been too reluctant to remove them from the system sooner.”

Kangaroos are seen as national pests in Australia; they damage fences, compete with livestock for food and water and trample crops. Also kangaroos can be a danger to humans.

**My View?** Yes – wild kangaroo meat is Paleo – so feel free to use it.

## Health Policy

### Cookery Lessons for UK Fatties



The UK National Health Service (NHS) has grasped the nettle. It recognizes that obesity is costing £billions and that the costs of treating the consequences (such as diabetes, cancer and CVD) is bankrupting the organization.

So the head of the NHS in England, Simon Stevens, started an obesity prevention program last year. Under his guidelines, GPs have already referred some 50,000 patients for 16-hours of cookery and exercise classes [2].

He plans to increase the numbers to 200,000 patients next year rising to yet higher levels to deal with the some 1.7 million patients who need to be referred.

His guidelines also say that everyone over the age of 40, and the obese young, should have a blood test to see if their eating of rubbish has damaged their metabolism.

Observed chairman of the National Obesity Forum, Tam Fry:

“Prevention efforts have to begin earlier in life than middle age. All these problems start early and by the time people have become obese it is too late. We have closed the door but the horse has bolted long since.” **My View?** > p3

## Ancestral Lifestyle Research

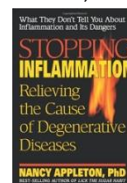
### Paleo Diet Reduces Inflammation

A Swedish study on obese, post-menopausal women finds that a Paleo Diet strongly reduced low-grade inflammation when compared to what they call a ‘prudent’ diet [3].

So far so good – but was it a genuine Paleo diet? It seems so: it was “based on lean meat, fish, eggs, vegetables, fruits, berries, nuts, avocados and oils. They excluded dairy products, cereals, added salt, refined fats and sugar.”

All right, the study doesn’t go into the detail of the oils used, and it doesn’t mention potato. But what they do say is still ‘good enough’.

**My View?** Low-grade inflammation is the ‘worm in the bud’ that undermines the body into a huge range of degenerative diseases: cancer, Alzheimers, cardio-vascular, arthritis, diabetes and many more.



See my Amazon review of Nancy Appleton’s book *Stopping Inflammation* [4]

<http://amzn.to/2zU2ozK>

So this study is a welcome addition to the evidence piling up to support the Paleo lifestyle as the only way to put right the mismatch between the way we live today and the way our bodies recognize.

### Space Travel: Immune Dysfunction

One potential difficulty about space travel is the effect of zero- or micro-gravity on the immune system. In these conditions it goes haywire and refuses to function normally [5].

Astronauts who spent 6 months >p4

## Questions

### Calories in Dietary Fibre

**Q.** You remark favourably on many dietary fibres like inulin, psyllium and so forth. Since they are not easily absorbed by the body, why, in Nutrition Tables, do they have the same caloric value as table sugar or starch?

**A.** The ways of measuring carbohydrate for Nutrition Tables are archaic and very unreliable. In particular, even in the best of tests, all they do is burn the carbohydrate in a calorimeter and measure the calories given off as heat.

But of course, the body is not a calorimeter. And, as you say, dietary fibres are only partially digested. I wrote about this in: **Not all Calories are the Same**, [May 2013](#) [6]. For example, the dietary fibers used as sweeteners, such as xylitol and erythritol, are largely excreted undigested and unfermented.

In fact this question was recognized many years ago by Dr Marcel Roberfroid of Louvain University, Belgium [7].

His study recommends that, for nutrition labelling, dietary fibers be given a caloric value of some 30% of regular sugar or starch – that is, some 115 calories per 100g.

However, as you point out, nutrition labelling rules, in USA and UK at least, have not yet adopted this recommendation.

But, for your own calorie-counting purposes, feel free to use this lower figure.

## Barmy Headlines

### “How soya and almond milk may put health at risk!”

So screamed, recently, many similar headlines in the tabloids [8] – the broadsheets were more restrained but equally misleading.

So what are they on about? It's all to do with cow's milk and iodine. Prof Margaret Rayman and team at University of Surrey, UK, did a study to see how much iodine is in milk replacements compared to cow's milk [9].

They find that cow's milk has much more iodine and the conclusion they draw, (Worthy Idiots!) is that people

who shun dairy are at high risk of goitre and other thyroid problems.

This is rubbish of course. In fact iodine is plentiful in many other foods, notably eggs, seafood and even kelp (an edible seaweed).

Indeed, UK cow's milk only has iodine in it because, in the 1930s, farmers began to add iodine to cattle feed in order to improve cattle health – not for human health!

For more on all this see: **Seaweed, Iodine and Thyroid**, [Nov 2009](#) [10]

Oh, and by the way, some of the researchers have a vested interest. They are members of the pressure lobby, The UK Iodine Group [11].

## When it Started to go Wrong

### Jaw-dropping Birth of Farming

In **Mouthpart Underdevelopment in**

**Westerners**, [Aug 2016](#) [12], I

explored paleo-orthodontist Dr Kevin Boyd's research showing how Westerners jaws have become deformed since the industrialisation of our food supply just in the last 150 years.

Also, in: **Your Jaws are what you Chew**, [Aug 2011](#), [13], we looked at how the move to softer foods is a factor in malocclusion (jaws too small for the teeth).

This information plays into research by Dr David Katz, UC Davis, California, on skulls of people living through the transition from hunter gatherer to farming [14]. It finds that the first farmers have, compared to their forebears, small, slender heads and weaker jaws, because of their move to soft foods like dairy and cereal mush.

Without the daily work-out of crunching, grinding and gnawing, the farmers' bones and muscle declined, weakening their jaw-lines. One of the chewing muscles, the “temporalis”, became smaller and changed position. As a result the upper jaw became shorter and the lower jaw smaller – as Dr Boyd says.

The largest changes occurred in groups consuming dairy products. Katz notes dryly, “In early farmers, milk did not make for bigger, stronger skull bones.” [Just so!]

Meanwhile, earlier studies found that human hunter-gatherers from around 7,000 years ago had bones comparable in strength to modern orang-utans. In contrast, farmers from the same area had 20% lighter and weaker bones. That is the equivalent to what an average person would lose after three months of weightlessness in space.

**My View?** While it is impractical to go back to hunter-gatherer levels of food chewiness, we can do ourselves much good by avoiding modern pap and focussing on generic (but Paleo) foods just like our grandparents used to eat.

See also: **Jaws Change with Age**, [May 2010](#), [15]

## Ancestral Health

### Our living Gut – part XV

[Last month](#) [16] we saw how gut dysbiosis is a factor in Type 1 Diabetes; and how Injected antibiotics also cause gut dysbiosis. Continuing:

### Antibiotics Damage Cells

Ever wonder how antibiotics kill bacteria? A few years back, Dr James Collins and his team at Harvard University found that they do so by causing oxidative free-radical damage to the bacterium's DNA, enzymes and membrane. [17] Collins then wondered if antibiotics do the same free-radical damage to human cells. Indeed they do [18]. Over the years reports have piled up about antibiotic side-effects, including tendonitis, inner-ear problems, hearing loss, diarrhea, impaired kidney function, and other problems. Collins says that oxidative stress is a major factor in many of them.

### Hospital Danger: Sepsis

It's a cheap jibe to suggest that hospitals are places to go to get sick. But it seems to be true in the matter of sepsis. Hallie Prescott MD, University of Michigan, finds that older adults are three times more likely to develop sepsis – a body-wide catastrophic response to infection – in the first three months after leaving a hospital than at any other time [19].

Every year sepsis affects some 750,000 U.S. hospitalized patients [20], and costs more than \$24 billion annually.

According to the researchers the culprit is the profligate use of antibiotics in hospital. Not, as one might suspect, because they promote resistant bugs, but because the antibiotics have created death and destruction in the microbiome.

[Next Month](#) [21]: Link of Antibiotics to Diabetes II and Fat Kids.

**Continued from Page 1**

### Cookery Lessons for UK Fatties



Home economics class, 1959. [22]

**My View?** Tam Fry is right: we need to start with the young. So what happened to the school cookery classes of my youth? They were abandoned in the 1960s with the insinuation of social engineering policies.

There was even the thought in the air that we would stop preparing food at home altogether. We have seen new condos in California where the developer put in the most rudimentary of kitchens, based on the assumption that purchasers would either eat out, order home delivery meals, or heat up the occasional frozen pizza in a microwave oven.

Mercifully this insanity did not last and the wheel is turning back to a more human mode of living.

### Ancestral Health

#### Seasonality of Gut Bugs - II

[Last month](#) [23] we saw how Hadza gut-bugs varied according to seasonal changes in diet. Now:

... In particular Sonnenberg notes that forager tubers are, nutritionally, very different to what we call tubers (for example, potato). Forager tubers are really woody and fibrous and contain a complex diversity of dietary fibers. See **Forager Tubers**, [July 2012](#) [24]. **Defining Dietary Fiber**, [August 2016](#) [25].

A forager microbiome produces a prodigious amount of 'short chain

fatty acids' (SFAs) such as acetic acid, propionic acid and butyric acid. In Sonnenberg's view, western populations are hugely deficient in SFAs. As a result, we have dysfunctional hunger signalling, poor immune system function and undermining of the powerful killer cells, 'Tregs' (see **Gut worms Boost Immune system** [April 2016](#) [26]).

Yet another dimension: soil bacteria. Foragers have quite an intake of soil bacteria just in the normal course of living and eating (notably tubers). We don't do that today. Is this important? We simply don't know yet. On the other hand, Sonnenberg finds that an intake of saturated fats (as we do in the West) encourages bacteria which produce inflammatory molecules – not good.

**My View?** We still have a very long way to go before we thoroughly understand the highly complex interplay of gut bugs and how to micromanage our food intake. However, the Paleo precepts signpost the way.

### From Forager to Astronaut

#### Keeping Mars Pioneers Alive (III)

*I am serializing my contribution to Dr. James Melton's book, Red Planet Leadership* [27].

[Last month](#) [28] we saw how the psyche is challenged when humans are cooped up for months in a small space. We continue:

But what about the physical conditions? Here we are on firmer ground. Apart from the experiences of intrepid Victorian explorers, we have several decades of space experimentation to fine-tune our techniques.

One major concern is the food supply. Until now, NASA and other space agencies have focused entirely on the external supply of pre-packaged, preserved foodstuffs. The nutritionists have pretty much homed in on an astronaut diet which keeps them in stable health. However, it still is far from being the ideal for humans – the hunter-gatherer regimen otherwise known as "Paleo".

The Mars mission poses a new challenge: unlike with the space station, it will not be possible to

resupply it with food at regular intervals: the mission will have to feed itself – at least in part. For a decade or more, NASA and other bodies have been experimenting with growing foodstuff under Martian conditions. Mainly these are fruits, salads, vegetables and (for protein) beans like soy and lentils. They would all be grown hydroponically in a process called a "bio-regenerative life-support system".

On the other hand NASA still expects the mission to take with it enough preserved foodstuffs like meats, dried egg, and milk powder. Even so, to make meats bio-regenerative too, much research has gone into growing meat tissue from stem cells. The first lab-grown hamburger was produced and eaten in August 2013.

That, it seems, is as good as it gets – at least for the time being. Attempts to create completely self-contained eco-systems – like Biosphere-2 – have consistently failed. After a couple of years they become completely unstable and unliveable – to say nothing of the interpersonal freak-outs and psychiatric breakdowns of the participants.

[Next Month Part IV](#) – Physical activity in Space and on Mars.

See also: **Space Travel: Immune Dysfunction**, p1.

### Briefing

#### Epigenetic Effects - Part III

[Last month](#) [29] we saw the unintended consequences of *Supplements, Sunshine Deficiency, and High Fat Diet*. Now:

**Father's high fat diet** increases daughters' diabetes risk [30]; a father's gene variant can affect his sons' and descendants susceptibility to food intake and obesity [31]

#### Psychological Stress

Children subject to high levels of *psychological stress* are more likely as adults to have cardio-vascular disease, autoimmune disorders, and die younger [32].

**Pollutants** can switch on bad genes permanently: In a study on pregnant rats, Michael Skinner of Washington State University tested a range of "endocrine disruptors" (which mess

with your hormones). These included: dioxin, jet fuel, DEET (an insect repellent), permethrin (an insecticide), and plastic admixtures Bisphenol A (BPA) and phthalates. He saw females reaching puberty earlier, increased ovarian cysts, lower numbers of ovarian egg follicles and, in males, increased rates in the decay and death of sperm cells [33].

Said Skinner, "If we can apply to humans what happens in rats, then what your great grandmother was exposed to when she was pregnant may promote these conditions in you, and you're going to pass them on to your grandchildren."

**Next Month** [34]: **Epigenetic Effects IV, Feel Hungry Regularly, Unintended Consequences; Conclusion**

**Continued from Page 1**

**Space Travel: Immune Dysfunction** ... on the Space Station lose protection from the simplest viruses.

Those who went into deep space on lunar missions came back 5 times more likely to die from cardiovascular disease than the general population – in spite of these astronauts having far better health and healthcare than the average American.

**My View?** It is astonishing that the human body can put up with micro-gravity at all, considering that this was never part of our evolutionary past.



Even so, the earlier thinkers about space travel, like Arthur C Clark and Isaac Asimov, used the idea of rotating space ships to create artificial gravity through centrifugal

force. Think of the space station in *2001: A Space Odyssey* which is in the form of a gigantic wheel.

See **Keeping Mars Pioneers Alive**, p.3.

### Spreading the Word

**EVENTS:** <http://bit.ly/bond-event>

Talks to private organizations

### RADIO INTERVIEWS

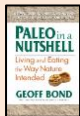
My 30 minute podcast with Shawn Benzinger of Humarian [35] went live on Tuesday, Nov 7<sup>th</sup>. Find it here: <http://bit.ly/Bond-audio>. Direct mp3 link: <http://bit.ly/humarian-1>

Also, on November 9 I recorded a follow-up **Q&A session**. More details soon and on [Facebook](#) [36], [Twitter](#) [37] and [Next Month](#).

**USA TOUR 2018** Jan 20 to March 18

**Book Signing:** Friday March 9.

I will be signing copies of *Paleo in a Nutshell* [38] at the [Square One](#) [39] stand in the Natural Products exhibition, Expo West, Anaheim, Los Angeles, CA [40]



**Paleo in a Nutshell:** Geoff's latest work encapsulates, concisely and easily, current thinking on living the way nature intended. [www.paleo-nutshell.com](http://www.paleo-nutshell.com)



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1 <http://bit.ly/2zNVVGK>

2 <http://bit.ly/2yTCkn4>

3 Obesity (Silver Spring). 2017 May;25 (5):892-900. doi: 10.1002/oby.21815. Paleolithic Diet - Attenuated Low-Grade Inflammation... Blomquist C, Olsson T et al.

4 Stopping Inflammation, Nancy Appleton, Square One, 2004, ISBN-13: 978-0757001482.

<http://bit.ly/AAppleton-stopping-Inflammation>

5 Expert Rev Proteomics. 2017 Jan;14(1):15-29. doi: 10.1080/14789450.2017.1258307. Spaceflight induced changes in the human proteome. Kononikhin AS et al

6 <http://bit.ly/1G5Gfjx>

7 J Nutr. 1999 Jul;129(7 Suppl): 1436S-7S. Caloric value of inulin and oligofructose. Roberfroid MB

8 <http://dailym.ai/2AX3IYp>

9 Iodine concentration of milk-alternative drinks available in the UK in comparison with cows' milk., Rayman MP. J Nutr. 2017 Oct;118(7):525-532. doi: 10.1017/S0007114517002136. Epub 2017

10 <http://bit.ly/1x9B4Zb>

11 [www.ukiodine.org](http://www.ukiodine.org)

12 <http://bit.ly/2cD2HCJ>

13 <http://bit.ly/S9uaNs>

14 Proc Natl Acad Sci U S A. 2017 Aug 22; 114 (34):9050-9055. doi: 10.1073/pnas.1702586114.

Changes in human skull morphology across the agricultural transition ... Katz DC et al.

15 <http://bit.ly/1r6BoFh>

16 <http://bit.ly/2gzpAtX>

17 Cell. 2007 Sep 7;130(5):797-810. A common mechanism of cellular death induced by bactericidal antibiotics. Collins JI.

18 James J. Collins et al. Bactericidal Antibiotics Induce Mitochondrial Dysfunction and Oxidative Damage in Mammalian Cells. Sci Transl Med. 2013 Jul 3;5(192):192ra85.

19. Hallie C Prescott, et al. Hospitalization Type Predicts Risk of Subsequent Severe Sepsis. Am. J Resp. Critical Care Medicine, 2015; DOI: 10.1164/rccm.201503-0483OC

20. Data from Centers for Disease Control and Prevention.

21 <http://bit.ly/2AN9Xri>

22 By Chris Lund - [www.flickr.com/photos/lac-bac/28903490693/in/album-72157669921465116/](http://www.flickr.com/photos/lac-bac/28903490693/in/album-72157669921465116/), CC BY 2.0, <https://commons.wikimedia.org/w/index.php?curid=55996169>

23 <http://bit.ly/2gzpAtX>

24 <http://bit.ly/1K8vIBT>

25 <http://bit.ly/2cD2HCJ>

26 <http://bit.ly/2akfPxN>

27 Red Planet Leadership, James Melton, ISBN: 978-0-9604752-3-0. [www.jamesmelton.com](http://www.jamesmelton.com)

28 <http://bit.ly/2gzpAtX>

29 <http://bit.ly/2gzpAtX>

30 S.F. Ng, et al. Chronic high-fat diet in fathers programs B-cell dysfunction in female rat offspring, Nature, 467:963-7, 2010.

31 Ancestral paternal genotype controls body weight and food intake for multiple generations, Soha N. Yazbek et al, Hum. Mol. Genet. (2010) 19 (21): 4134-4144. doi: 10.1093/hmg/ddq332

32 Psychological stress in childhood and susceptibility to the chronic diseases of aging: Miller G et al. Psychological Bulletin, Vol 137(6), Nov 2011, 959-997.

33a - Skinner M et al (2012) Transgenerational Actions of Environmental Compounds on Reproductive Disease... PLoS ONE 7(2): e31901. Full Text: <http://bit.ly/JLh7K3>.

8b - Skinner M et al. Environmentally Induced Epigenetic Transgenerational Inheritance of Ovarian Disease. PLoS ONE, 2012; 7 (5): e36129

34 <http://bit.ly/2AN9Xri>

35 <http://bit.ly/Humaria-podcast>

36 <http://on.fb.me/Group-Bond>

37 <https://twitter.com/savvyeater>

38 <http://www.paleo-nutshell.com/>

39 <http://www.squareonepublishers.com>

40 <https://www.expowest.com/>