



## 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

**Sunshine is vital Food:** Sunbathers Outlive Sun-avoiders. **Ancestral Lifestyle:** Eat First, Share Later. **Health Policy:** "When Death becomes Optional". **Q&A:** Forager Tooth Cleaning. **Headline Hooks:** "Why it's healthier to cook with lard than sunflower oil". **News Flashes:** Low Vitamin-D in Pregnancy increases Risk of MS in Child; Gut Worms Boost Immune System; Fat Pregnants have Vitamin D Deficient Babies. **Spreading the Word:** Radio Interview with Dr Rita Stec, part III.

### Sunshine is Vital Food

#### Sunbathers Outlive Sun-avoiders



A landmark study from Sweden vindicates The Savanna Model lifestyle: that sunshine is a vital element in human health [1].

Dr Pelle Lundqvist of Karolinska Institute, Stockholm, followed the fortunes of some 30,000 women for 20 years, so this is a robust, trustworthy study.

Chief results: Those women who had MOST sunshine exposure lived up to 2.1 years LONGER than those who had least.

Sunny women also suffered LESS from CVD and other, non-cancer, causes of death.

Moreover, in spite of their sun exposure, they didn't suffer from more cancers than sun-avoiders. In fact we know from other studies that SUNSHINE IS CANCER PROTECTIVE: **Sunshine Beats Cancer**, [May 2010](#) [2].

Another impressive result: Non-smokers who avoided the sun had a life expectancy similar to smokers in the highest sun exposure group. In other words, AVOIDING THE SUN IS AS RISKY AS SMOKING!

Opines Dr Lundqvist: "Guidelines restricting sun exposure may do more harm than good."

**My View?** Join the club!  
**Cont: p 3**

### Ancestral Lifestyle

#### Eat First, Share Later

The study of present-day hunter-gatherers is an important factor in reconstructing the Pleistocene lifestyle. This is not as simple as it sounds: for example the mere presence of an observer will change the way they behave.

One element of major interest is, of course, their diet. Mostly we have looked at what they bring back to camp and share out. This is the principle of 'central place provisioning'. [April 2014](#) [3].

However, many observers have noted that foragers also eat opportunistically as they go about their hunting and gathering. Indeed the men are sometimes embarrassed when an observer notes that they don't share everything they collect. So it is a challenge for us to quantify the foods they eat OUTSIDE the camp. Now a major, well implemented study by Hadza specialist, Frank Marlowe and his team brings more light to the question [4].

They find that most Hadza men (who hunt alone) consume a substantial amount of calories (mean 2,404 kcal) while foraging. That's some 90% of their mean daily requirement.

In contrast, men did not eat much of their food in camp: they shared it out amongst those who were less fortunate that day.

For example some 85% of calories consumed out of camp come from honey whereas only 14% are consumed in camp. In fact the importance of honey in the forager diet is probably underestimated.

See: [Is Honey all right after all?](#) [Nov 2014](#) [5]. **Cont: page 3**

### Health Policy

#### "When Death Becomes Optional"

Such was the provocative title of a panel discussion held by the top debating forum, *Intelligence Squared* [6] in London recently.

I had hoped that it would advance my knowledge of the ageing process and how lifestyle practices might postpone death.

However I, and other members of the audience, found the title misleading: the discussion circulated around how to use technology to more quickly anticipate and treat disease already caused by dysfunctional lifestyle.

**Dr Daniel Kraft**, USA, physician-scientist and innovator, spoke about the wondrous new devices which can continuously monitor your body's vital signs.

Already smart phones are transmitting data from permanently worn, implanted, and swallowed sensors to centralized intelligent systems which flag up incipient health problems long before the symptoms become obvious. Says Kraft, we'll live the 'measured life'.

**Prof Tony Young**, UK's National Health Service's 'disrupter-in-chief' spoke about how the NHS is working hard to move care locally and to the home – and to have the patient in control of his healthcare.

In particular they want to bring WELL people into the system so that prevention using Dr Kraft's technology, becomes possible.

He also thought there was much mileage in understanding, and manipulating the human microbiomes (e.g. of the gut, mouth, lung etc).

**Cont: page 4**

## Questions

### Forager Tooth Cleaning

**Q.** *I recently had to go without cleaning my teeth but found that when I returned to it, the process seemed intrusive and harsh. How do foragers manage?*

**A.** The short answer is that they don't bother too much! They just pick out, with a stalk, the occasional stuck morsel of food.

In other words, they are like other beasts of the field: by living the way nature intended, their teeth are self-cleaning.

Truswell, in his 1960s studies of the !Kung bushmen [7] found them with perfect dentition without the aid of toothbrushes or toothpaste.

We forget that our current obsession with cleaning teeth is very recent and driven by the exponential rise in dental caries (cavities) in the last 250 years of industrialization.

Mind you, the trend started with the rise of farming and the consumption of cereals. See: **Food & Ancient Plaque Bacteria**, [April 2013](#) [8]. Even so, the pioneering dentist, Weston Price raised the alarm some 80 years ago, in the 1930s [9].

Searching for the causes of dental decay and physical degeneration that he observed daily in his dental practice he toured the world looking at primal peoples and other peoples in various stages of development.

He attributed the fine teeth of "isolated primitives" to the absence of processed foods.

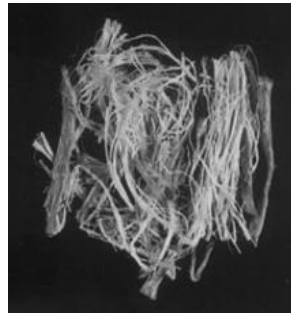
Today we particularly finger 'fermentable carbohydrates' – sugars and starches.

I have covered much of the same ground in: **Mouth Flora in Evolutionary Perspective**, [Oct 2008](#) [10]

**My View?** In theory, if we live and eat the way we say, it should not be necessary to clean our teeth.

However, there are still imponderables: for example, foragers eat a much more chewy, roughage-rich diet than we can obtain today. We simply do not

know how important that is for the self cleaning process.



*Quid of tuber fiber after chewing*  
It is a niggling issue for me that, even when eating modern Paleo, most of our food lacks stringy fiber like in the image.

See: **Your Jaws are what you Chew**, [Aug 2011](#) [11].

In contrast we have learnt that a naturally healthy mouth microbiome is a vital factor in general health, See: **Mouth Flora not all Bad**, [Sept 2008](#) [12].

So does ANY kind of tooth-brushing disrupt it? Again, we don't know, but we think it wise to question the routine use of antiseptic mouth washes.

See also: **Sugar Drowns out Fluoride**, [June 2001](#) [13].

## Headline Hooks

**"Why it's healthier to cook with lard than sunflower oil"**

Daily Mail: <http://dailym.ai/1SIjt0U>

On previous occasions, including [last month](#) [14], I have been sharply critical of the Daily Mail's highly misleading headlines.

Credit where credit is due. While this headline tests the boundaries of the truth, the article behind it is highly pertinent. It is written by Dr Michael Mosley, also known for his BBC program, "Trust me, I'm a Doctor".

In this article he debunks many of the myths about cooking and vegetable oils. He makes the point that most vegetable oils, such as sunflower oil, oxidize badly when heated and that this oxidation is as harmful as lard.

Have you heard this before? Yes – from me! See **Heart: Saturated Fat no worse than Omega-6**, [March 2014](#) [15].

Dr Mosley says that when poly-unsaturated vegetable oils like sunflower and safflower are heated, they oxidize and produce noxious substances called aldehydes. These are the precursors to the dreaded AGEs that I wrote about in: **What are AGEs? Part II**, [Jan 2012](#) [16]

AGEs are implicated in cancer, diabetes, heart disease, Alzheimers, rheumatoid arthritis, CVD and many other degenerative diseases [17].

Mosley's main recommendations:

1. Best for cooking: Olive oil and rapeseed (Canola) oil.
2. Avoid cooking or frying at high temperatures. If the oil smokes that is already too much.
3. Use minimal oil in frying.
4. For olive oil the maximum temperature would be, according to type, between 320°F (160°C) and 375°F (190°C).

Again, you have heard all this before in: **Second-guessing Fats**, [Jan 2012](#) [18].

See too: **Cooking Canola (Rapeseed) Oil**, [Dec 2010](#) [19] – (its omega-3 content gets some oxidizing protection from its naturally occurring vitamin E content.)

Incidentally, this is why the muffin and bread mix company, [Ugg Foods](#) [20], specifies the use of olive oil – and cooking at low temperature.

Where I part company with Dr Mosley is when he says vegetable oils [like sunflower, safflower, corn and peanut] are fine to use cold.

As we know, and he apparently doesn't, these are omega-6 oils and, whether hot or cold, are pro-inflammatory and do all the same mischief as AGEs.

See also: **Heated Oil is not Transfatty**, [Dec 2004](#) [21] – (The rightly demonized transfats – also known as hydrogenated fats – are not caused by heating – they are artificially manufactured and used to make products like margarine.)

**Olive Oil vs Ghee**, [Jan 2004](#) [22]

(Olive oil is good, ghee is saturated like lard)

**Avocado Oil**, [Nov 2014](#) [23] – (it is as good as olive oil)

### News Flashes

#### Low Vitamin D in Pregnancy increases risk of MS in Child

The risk of MS as an adult was 90% higher in children of mothers who were vitamin-D deficient in early pregnancy (blood levels less than 12.02 ng/mL) compared with the children of mothers who were not vitamin D deficient [24]. These were the results of a study, published in the USA doctors' trade journal JAMA, on some 500 subjects, so the study has a good level of authority.

**My View?** Many studies have established a connection between low levels of the sunshine hormone, vitamin D and MS in adults. This one draws a link between mother and fetus. See: **Sunbathers Outlive Sun-avoiders**, p. 1. **Fat Pregnants have Vitamin D Deficient Babies**, this page.

#### Gut Worms Boost Immune System



*Gut worm Heligmosomoides polygyrus approx 1/2 inch (12 mm) long*  
Gut worms (helminths) still infect billions of people and, because of their long co-evolution with us, have developed a close relationship with our immune system, to the point that they can regulate it in beneficial ways. For example, helminths can improve diseases such as allergic asthma, arthritis, IBS, and MS. Nicola Harris of École Polytechnique Fédérale de Lausanne (EPFL), Switzerland, has discovered one interesting way that this happens [25]. The gut worms trigger good gut bacteria into making short-chain fatty acids (SCFAs). In turn SCFAs activate receptors which influence the immune system. These receptors are known to modulate colon function (and malfunction) and even allergic airway disease (asthma). A second pathway is via the regulation of Tregs which are

powerful immune system killer cells (See: **Inflammation and Auto-immune Diseases**, [April 2009](#) [26]).

Various chemicals that the worms excrete or secrete educate Tregs in such a way that they only attack bad bacteria.

Without this education, Tregs can also deregulate other T-cells such that they erroneously attack body tissues – that is, provoke auto-immune reactions.

In this way, the absence of gut worms can trigger a cascade of events which finish in diseases like psoriasis, multiple sclerosis, inflammatory bowel disease, and Type I diabetes.

**My View?** Foragers are, as far as we know, always host to gut worms. Thus, it would seem, to live the authentic life, so should we be.

However I, along with most of us, balk at deliberately seeding ourselves with gut worms.

Nevertheless, gastroenterologists use this technique with great success on patients with inflammatory bowel diseases such as colitis, Crohn's and IBS. See: **Worms are good for you**, [Nov 1999](#) [27]

**Gut Worms Help Colitis**, [Dec 2012](#) [28].

**Type I Diabetes: Gut Worms**, [Sept 2012](#) [29].

#### Fat Pregnants have Vitamin D Deficient Babies

Vitamin D deficiency is common in fat people partly because they have reduced ability to make it bioavailable [30].

Moreover, children born to fat, vitamin-D-deficient mothers are fatter [31] and have higher risk of food allergy [32].

In fat mothers, this is linked to the placenta having reduced ability to transfer Vitamin D to the fetus [33].

The latest study, which is well designed and credible, confirms these findings with additional levels of detail [34].

The study took care to select mothers who lived in a tight range of latitude – 41° to 43° – so that sunshine levels were the same for all of them.

The study also checked for season of birth: as expected, babies born in the summer had better vitamin D levels than those born in the winter. See:

**Sunbathers Outlive Sun-avoiders**, p. 1  
**Low Vitamin D in Pregnancy increases risk of MS in Child**, page 2.

Continued from Page 1

#### Sunbathers Outlive Sun-avoiders

Apart from the fact that humans grew up with sunshine as a constant form of nutrition, a flood of studies shows how absence of sunshine is a factor in a vast range of diseases.

Certainly a deficiency of the sunshine hormone, vitamin D, plus other factors – some as yet unknown – are also at work.

See: **Low Vitamin D in Pregnancy increases risk of MS in Child**, p 2;

**Fat Pregnants have Vitamin D Starved Babies**, this page.

Continued from Page 1

#### Eat First, Share Later

See: **Is Honey all right after all?**, [Nov 2014](#) [35].

On the other hand, men consume 11% meat while hunting, whereas women rarely eat meat while foraging.

All this suggests that men and women have different diets and that the men's is more energy dense. These ideas are corroborated by studies both of tooth wear and of gut flora.

Summing up, Marlowe says that men take advantage of high quality foods – especially honey and ripe berries and that, if they come back to camp empty-handed, it just means that their day out simply failed to produce enough surplus to share in camp.

**My View?** We are constantly fine-tuning our ideas about the Ancestral diet and this study provides interesting twists.

However, the Hadza is just one tribe, living in marginal land, with their own behavioral patterns.

Whilst this information shifts the center of our ideas from our archetypes, the !Kung San and the Australian Aborigine, it doesn't mean it is the final or definitive answer either.

**Continued from Page 1****"When Death Becomes Optional"**

Finally, he expected all this new technology to make possible 'personalized medicine' – the right drug for the right person at the right time.

**My View?** All this is to do with creating a faster, more anticipatory fire brigade, - but nothing to stop the fire-setters – the unmanageable hordes who trash their bodies with poor lifestyle habits.

I didn't get a chance to make this point in the way I did at the Reform Conference last year: see **The Black Hole of Health Care**, [Oct 2015](#) [36].

Finally, the Portuguese **Prof Pedro Magalhães**, now of

Liverpool University, UK, was the only panelist to tackle the ageing process itself. He is studying what gives long, cancer-free lives to species like naked mole-rats and bow-head whales (which can live up to 200 years).

He has sequenced the genomes of both creatures, but he had no insights to share as yet.

Prof Pedro noted that the only technique proven to extend lifespan so far – in mice and worms at least – is calorie-restriction.

Nothing new there either! However, it doesn't seem to work in monkeys. See: **DiETING Monkeys Don't Live Longer**, [Oct 2012](#) [37].

**My View?** Dr Kraft's vision is scary – already there is a huge

torrent of information coming from personal devices allowing doctors and healthcare workers to supervise your every vital sign. I have the impression we are on a runaway train heading, unquestioned and uncontrolled, into an unhuman future.

**Spreading the Word****Radio Interview #3 with Dr Rita Stec on the Tom Read Show**

While in USA this winter, Dr Rita Stec and I recorded three interviews for Tom Read on station KTRW. This is **Part III**. (30 min) <http://bit.ly/1rkQzgw>

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**6** [www.intelligencesquared.com](http://www.intelligencesquared.com)

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**12** <http://bit.ly/1STLWDq>

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