November 2014 **18th Year of Publication** Vol 17.11

The science & art of living the way nature intended

The Bond Briefing

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GEOFF BOND

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

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Revisionism

Is Honey all right after all?

Honeyguide Bird

The story of the honeyguide bird has always nagged at me. The bird calls to a forager (for example a Hadza or a San) and guides him to a bees' nest.

The forager climbs the tree, chops open the hole, smokes the bees out, reaches in and, in spite of the stings, pulls out handfuls of honeycomb. It is partly filled with honey and partly with bee larvae. Foragers take a mouthful and, after sucking out the edible parts, larvae and all, spit out the wax [1].

In exchange the honeyguide gets the remaining honeycomb in the nest. (Moreover, these birds are one of the rare species which can digest wax).

This is a wonderful example of an inter-species symbiotic relationship. And this is why it has nagged at me. For this behaviour to become hardwired into a bird's brain, it must have been going on for eons.

This means that, even in Paleolithic times, honey must have been IMPORTANT to both forager and honeyguide. Yet this aspect is routinely glossed over in reconstructing the Paleo diet.

Cont: page 3

Skewering Myths

Got Milk? Die Soon, Brittle Boned

Yet another study, this time in the prestigious British Medical Journal (BMJ), highlights the drawbacks of milk drinking [2].

Those who drank three or more glasses of milk per day had a DOUBLED risk of dying compared to those who drank none.

Women were 60% more likely to suffer a hip fracture. See also: '*Dairy Propaganda – the Hydra Headed Monster'*, Jan 2004 [3].

Interestingly, the authors think that a major factor at work is lactose – or more precisely one of its main components – '*galactose'*.

Galactose is well known to increase inflammation. Indeed, it is routinely injected into experimental mice to accelerate ageing: it shortens lifespans, increases oxidative stress, and promotes chronic inflammation, nerve degeneration, depressed immune response, bone loss, muscle degeneration and malfunctioning genes.

The inflammation also promotes cancer, cardiovascular disease and diabetes, to cite only three lifestyle diseases out of many. See: '*Milk Skepticism*', page 2.

My View? Dairy is not conforming and the body suffers. AVOID!

From the Labs

Ancient Europeans still Lactose Intolerant after Agriculture

By analysing DNA extracted from the 3,000-year-old skulls of farmers in the Hungarian Plain, scientists find that they were still lactose intolerant 5,000 years after they adopted herding [4].

My View? It took yet another 1,000 years for natural selection to breed a people (north-west Europeans) able to put up with lactose. Even then, lactose was still working its inflammatory mischief. See: '*Got Milk? Die Soon, Brittle Boned*', this page.

Olive Oil best for Frying

Researchers trialled oils of olive, corn, soybean and sunflower and reused the oil 10 times [aargh!].

They found that olive oil was the most stable oil for deep-frying at 320°F (160°C) and 374°F (190°C);vitally it oxidised the least. Sunflower oil degraded the fastest when pan-fried at 356°F (180°C) [5].

We recommend olive oil for cooking, but still keep its temperature to no more than 340°F (170°C). See '*Second-guessing Fats*', Jan 2012 [6].

Physicals

Living my way is working for me

Results of recent check-up:
Blood pressure: 119/79
Resting heart rate: 42 bpm
Blood oxygen saturation: 100%

I'm on no medications of course; these figures are in hunter-gatherer territory….

Recipes

From Nicole's latest cookbook: www.paleo-harvest.com

Rich Christmas Cake

Yield: 12–14 servings (slices)

Yes, your Christmas can still have its cake – and you can eat it too!

This recipe contains all the special Christmassy ingredients, but avoids the pitfalls of bad fats, starches and sugars. Your guests won't know the difference.

- 1 medium orange, pref. organic
- 5 tablespoons raisins
- 1/3 cup chopped dried figs (about 4 figs)
- 1/3 cup chopped dried apricots (about 5 apricots)
- 3 tablespoons rum, dark and flavorful
- 2 cups mixed raw nuts (chopped almonds, chopped walnuts and chopped pecan nuts - about 9 ounces all together)
- 6 eggs, omega-3
- 2 tablespoons olive oil
- 1 tablespoon vanilla extract
- 2 teaspoons orange extract
- 1 tablespoon allspice, or to taste
- 2½ cups almond flour (about 9 ounces) – more or less if needed for the thickness of the cake
- 1½ teaspoons baking powder
- 5-6 tablespoons diabetic orange marmalade, more or less to taste
- olive oil spray

Grate the orange skin and set aside the peel. Squeeze the orange to obtain about 1/4 cup of juice. Set aside.

In a bowl soak the raisins in hot water for 10 minutes. Drain the raisins.

Combine the raisins, figs and apricots in a medium-size bowl. Add the rum and mix well. Fold in the chopped nuts and set aside.

Meanwhile take a medium-size mixing bowl, and with an electric hand-mixer, beat the eggs with the olive oil, vanilla extract, orange extract and allspice to taste.

Mix in the orange juice, the almond flour and baking powder.

Sweeten with the orange marmalade to taste and add the orange peel.

Fold in the raisins, figs, apricots and mixed nuts.

Spray a cake mold 9" x 5" x 3" (23cm x 13 cm x 7.5 cm) with olive oil and fill with the cake mixture.

Bake in a hot oven at 340°F (170°C) for about 40 minutes, or until golden brown. Check for doneness.

Allow the cake to cool down. De-mold and top with the **icing** below.

Creamy Cashew Icing

Yield: about 1½ cups

- 1 cup raw cashews (no soaking!)
- ½ cup almond or coconut milk (more or less for consistency)
- ½ teaspoon vanilla extract to taste(§)
- ½ teaspoon fresh lemon juice
- 1 tablespoon powdered xylitol(**), or to taste

Blend the ingredients in a high-powered blender, until smooth and creamy.

Chill in fridge for 1 hour. Spatula it over your **Christmas Cake** (above) or other baked goods.

Questions

Acid/Alkali (Base) reference Values: (Continued)

Last month I promised to provide the full listings in McCance & Widdowson's *'The Composition of Foods'*, 1960 edition. Over 20 years ago I unearthed the 1960 edition in the British Library and paid to make copies.

You can now benefit from these since I have now posted the relevant pages on my website: http://bit.ly/Bond-science, #157

Otherwise, I know of no other systematic and authoritative source – although it is hard to believe that none exists. If anyone knows, please let me know.

Milk Skepticism goes Mainstream

Q. *The word on milk is getting out. This NY Times article on why milk might not be that good for you. Comments?* *http://nyti.ms/1s0XHy0*

A. Milk is not human food and it does us harm; I've been banging on about it for 20 years! At that time it was very counter-culture, so we know progress has been made when the New York Times takes it mainstream! They base their comments on a British Medical Journal article which I review in *'Got Milk? Die Soon, Brittle Boned'* page 1.

Here is a selection of my previous Briefing articles:

'*Milk Desperation*'. July 1999: http://bit.ly/1vpEO8x

'*Got Milk Farce*': Nov 2002: http://bit.ly/1y8YviY

'Health Warning for Milk? 'Oct 2006 http://bit.ly/1xUJHWp

'Got Milk? Mischief' June 2009: http://bit.ly/WdLM0Z

'*Doc: 3-Cups Milk Daily – Really?*' Feb 2014 http://bit.ly/1F3JBy1

Avocado Oil

Q. *Avocado oil is purported to have many health benefits and possess a high smoke point (520℉) so it should be safe for gentle sautéing, frying, etc... Do you have any position on using this oil for salads, cooking, etc.*

A. Avocado oil has a very similar fatty acid profile to olive oil. If anything olive oil has a slight advantage, with more mono-unsaturated oil and less omega-6.

Their smoke points are about the same too at 190°C to 205°C (375°F to 400°F). These figures are for both oils being unrefined, virgin. If avocado is fully refined it has a smoke point where you say, 520°F (271°C).

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§ Feel free to substitute for other extracts (like caramel or chocolate).

** I recommend powdering the xylitol in an electric coffee grinder.

BUT - we shouldn't be heating ANY oil until it smokes! Noxious oxidation products are formed well before this temperature is reached. That is why we recommend keeping cooking temperatures below 170°C.

My view is that avocado oil has no particular advantage over olive oil but, if you like the flavor or whatever, then by all means use the unrefined version. But no need to make a fetish of it either!

Balancing Acid/Base Intake

Q. *Is acidity measured as the grand total at the end of the day? Or is acidity dealt immediately after the food has been digested? That is, should we always make sure to eat alkaline food with acidic food and never eat acidic food by itself?*

A. No. The body is constantly compensating, minute by minute for the surges of acidity or alkalinity coming from food. The problem arises when the intake is relentlessly one or the other and various functions cave in under the pressure.

Foragers just ate what came their way and there might be times when they gorge on meat and others when they fill up on fruits. But it all balanced out in the end. To be sure, they had no idea about acid/alkali balance!

Continued from Page 1

Is Honey all right after all?

Writers like Brand-Miller [7], Boyd Eaton [8], and Cordain [9] focus on meat and savanna plant foods whereas they overlook the impact of honey and larvae intake.

But other authorities report that honey WAS important: Alyssa Crittenden, University of Nevada, from the evidence of ancient forager rock art and current forager consumption finds that honey provided a significant proportion of calories to our Paleo forebears [10].

Likewise, Dr Karen Allsop makes the case that honey was much more plentiful in the human diet down through the ages than is fondly thought [11].

Hadza boy eating honeycomb

HOT NEWS: Brian Wood of Yale University, in a study of the Hadza, comes up with hard facts [12]. These confirm the colossal quantities measured by Hadza specialist, Frank Marlowe [13].

Wood calculates that 1 square inch of comb contains 4.7 grams of larvae-in-comb which provides 5.3 calories, and the honey-in-comb contains 6.9 grams of honey, providing 25.1 calories.

Overall they estimate that, on average, honey provided 16% to 20% of total calories per day. Taking the lower figure, that works out at some 125 grams (4½ oz), or about 18 teaspoons per day. That's equivalent to about 14 teaspoons of table sugar.

What is honey made of?

Honey is fundamentally a cocktail of two sugars: glucose and fructose. However, the proportions vary depending on which flowers the honey comes from.

In ordinary commercial honey, the ratio is about 50/50. In other words, honey is little different to High Fructose Corn Syrup (HFCS). Indeed fraudsters often pass off HFCS as honey.

As such, honey has a 'bad' glycemic index of around 65. But does one teaspoon make a difference? Probably not: GI is measured by feeding doses of 50 grams of the glycemic substance to elicit the required response. Since honey is almost 20% water, that's an intake of 62 grams (9 teaspoons).

The body should easily handle one teaspoon – just one ninth of the test dose.

What about speciality low GI honey? For example Yellow Box honey has a GI of only 35 (see *Deadly Harvest*, Chapter 5, p 132, http://bit.ly/DH-5).

Honeys that are low GI have a much higher percentage of fructose. But we need to go easy on fructose too. So it's a trade-off with a small balance in favor.

My View? It is clearly Paleo-conforming for honey (or similar sugars) to be part of the diet. However these are still dangerous substances and, where nature provided immense barriers to their use by foragers, today we must apply self-discipline in consuming them.

In a sense we are already admitting this principle by using carefully metered amounts of sugar-rich ingredients like raisins, dried figs, dried apricots and suchlike in our recipes: see *Christmas Cake*, page 2, and Ugg's *Fruit and Seed Loaf* [14]

Taking these into account and provided the total does not add up to more than about 18 honey teaspoons spread out through the day, then the sweetening of tea or coffee (say) with a tea-spoon of honey is possible.

Shift in Thinking

Yes, this is a shift in thinking, but we are doing this all the time as new evidence emerges and we edge closer to emulating the diet of our ancestors – and just think: a 12 oz can of cola **ALONE** has 10 teaspoons of sugar! – a honey equivalent of 12 teaspoons. But either way honey and sugar are still EMPTY CALORIES.

Next month: What about the larvae?

Bond-Paleo Strategy

Surprise Sweetener Spook [Cont]

Continued from last month where we learned that the artificial sweeteners, (known as Non-Nutritive Sweeteners, NNS), aspartame (Equal, Canderel), sucralose (Splenda) and notably saccharine (Sweet N Low), increase glucose intolerance.

… For the technically minded

In addition to glucose intolerance, the study found significant links between NNS intake and:

increased weight, increased waist-to-hip ratio, and raised fasting blood glucose levels.

There were 'significantly' raised levels of glycated haemoglobin (HbA1c) - which are indicative of poor glucose control over the previous three months.

There were elevated serum alanine aminotransferase (ALT) levels, indicative of liver problems.

At the metabolic level, there was a strong increase in glycan degradation pathways, in which glycans are fermented to form various compounds including short-chain fatty acids (SCFAs) like 'acetate' and 'propionate'.

Although both these substances have a healthful role, in excess they are indicative of increased 'calorie harvest' in stools where they serve to trigger increased glucose and fat creation in the gut. Such phenomena are common in diabetics and the obese.

NNS mess with the metabolism of 'sphingolipids'. Sphingolipids perform vital roles in signal transmission, cell recognition, and neural tissue function.

NNS increase endotoxin making. 'Endotoxins' poison all kinds of pathways, including those leading to septic shock, leaky gut, and abnormal immune flare-ups.

Both 'Sphingolipids' and 'Endotoxins' invoke diabetes and obesity.

What about our Xylitol?
We use xylitol in our Paleo Harvest recipes [15] and in Ugg Foods mixes [14]. Be reassured that xylitol has nothing to do with NNS. It is a bulk dietary fiber (with a sweet taste) and, contrary to NNS, it actually promotes healthful gut bacteria.

My View? I have regularly thumped the drum about how our gut bacteria manipulate, in vital and radical ways, our entire health. (See: '*Make of your Gut a Herb Garden*', Feb 2009.) Here we have a classic example of how, quite innocently, what we put in our mouths can be a factor in 'gut dysbiosis' – bacterial imbalance in the gut. For a good run-down on the consequences of dysbiosis, see [16].

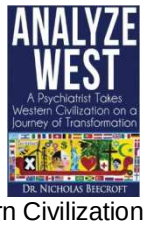
Take Home Message: The artificial sweeteners aspartame, sucralose and notably saccharin, have a significant downside for most people.

It would seem prudent to reduce intake to close to zero. (See '*Shift in Thinking',* page 3). Possible similar drawbacks of stevia, acesulfame, cyclamate and other NNS remain unknown.

See also: '*Splenda Sweetener Woes*', Jan 2009, where I report that Splenda (sucralose) makes drastic changes to gut bacteria.

Amazon Book Review

'Analyze West'
Dr Nicholas Beecroft.



Western Civilization on the psychiatrist's couch

Readers will know that I take great interest in the mismatch between the stresses put on our brains by today's Procrustean Bed [17] and our savanna-bred mentalities. This mismatch is at the origin of so much neurosis, stress and immune system failure. For review, see: http://bit.ly/Bond-1rSwxti

1 See Deadly Harvest, Chapter 1, p.17. http://bit.ly/DH-1

2 K. Michaelsson et al. Milk intake and risk of mortality and fractures in women and men. BMJ, 2014; 349 (oct 27 1): g6015 DOI: 10.1136/bmj.g6015

3 http://bit.ly/1uh9rGV

4 Ron Pinhasi. Genome flux and stasis in a five millennium transect of European prehistory. Nature Communications, 2014; 5: 5257 DOI: 10.1038/ncomms6257

5 Mohamed Bouaziz. Monitoring of Quality and Stability Characteristics and Fatty Acid Compositions of Refined Olive and Seed Oils. J Agr Food Chem, 2014; 62 (42): 10357 DOI: 10.1021/jf503146f

6 http://bit.ly/yU25Zs

7 J Obes. 2012;2012:258624. The carnivore connection hypothesis: revisited. Brand-Miller JC et al. http://bit.ly/Bond-science, #95.

8 Paleolithic Nutrition - Twenty-Five Years Later; Melvin Konner & S. Boyd Eaton (Nutr Clin Pract. 2010;25:594-602. **Full Text:** http://bit.ly/Bond-science, #25.

9 Origins and evolution of the Western Diet - Cordain, Boyd Eaton. Cordain et al, Am J Clin Nutr 2005;81:341–54. **Text:** http://bit.ly/Bond-science, #35.

10 Crittenden A (2011) The Importance of Honey Consumption in Human Evolution; Food and Foodways; 19:4, 257-273; **Full Text:** http://bit.ly/Bond-science, #159.

11 British Journal of Nutrition (1996), 75, 513-520 513; Honey revisited : a reappraisal of honey in pre-industrial diets; Allsop KA. **Full Text:** http://bit.ly/Bond-science, #158.

12 Mutualism and manipulation in Hadza–honeyguide interactions; Wood, Brian M. et al. Evolution and Human Behavior , Vol 35 , Issue 6 , 540 - 546

13 The Hadza: Hunter-Gatherers of Tanzania, Marlowe, F. ISBN 978-052025342.

14 www.uggfoods.com

15 www.paleo-harvest.com

16 Chan Y et al, Clinical Consequences of Diet-Induced Dysbiosis. Ann Nutr Metab 2013;63 (suppl 2):28-40. **Text:** http://bit.ly/Bond-science, #154.

17 See 'Procrustean Bed', Dec 2012: http://bit.ly/BB-2010-12