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# The Bond Briefing

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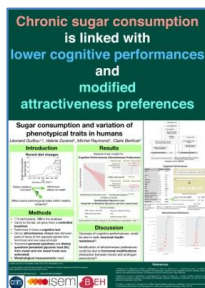
RATIONAL EVIDENCE-BASED COMMENT FOR THE GENERAL PUBLIC & HEALTH PROFESSIONALS. WE SAY EXACTLY WHAT WE THINK

**Conference Report:** Chronic Sugar Intake Harms Cognition and Behavior. **Hints:** Eggs for Breakfast control Blood Sugar for the Day. **Recipe:** Cinnamon & Ginger Cake. **Health Policy:** "Crowd-Sourced Lies, Fake Experts, and Misleading Leaders". **Q&A:** Constipation & Parkinson's; Tagatose Sugar – New Kid. **Ancestral Sleeping Patterns:** Sleep in the Workplace; Later School Start Times. **News Flashes:** Autism – Fecal Transplant Works; Glucose Damages Arteries; Red Meat Intake Generates Heart Disease Molecule "TMAO". **Health Policy:** Docs – Poor Nutritional Training. **Spreading the Word:** Lecture – ARTZ Symposium.

## Conference Report

More feedback from the EHBEA conference, France, [last month](#)

### Chronic Sugar Intake Harms Cognition and Behaviour



Enlarge poster: <http://bit.ly/2lrgb6N>

In a small, pilot study presented in the EHBEA poster session, researchers describe their findings on the link between consumption of refined sugars and the modification of several traits involved in social life (cognition, attractiveness, and cooperation). Their subjects were young and healthy [1]. The results suggest that the chronic over-consumption of sugars:

- Decreases **COGNITIVE PERFORMANCE** in both men and women – possibly due to "early neuronal insulin resistance".
- Causes women to be more **ATTRACTED** to men with more masculine faces – possibly due to the women's increased secretion of androgens (male hormones) [2].

**My View?** This was a small pilot study which raises interesting questions. The connection between high insulin levels and later development of dementia has been well documented. Indeed I wrote in *Deadly Harvest, Alzheimer's Disease and Dementia*, [Chapter 9](#), page 253: >3

## Hints & Tips

### Eggs for Breakfast control Blood Sugar for the Day



Spinach Omelette with garnish

Enlarge: <http://bit.ly/2FELPMH>

Surprise, surprise, a study finds that a low carb breakfast is good for blood sugar levels and is especially beneficial for type 2 diabetics [3].

Says Prof Jonathan Little of British Columbia University, Canada: "The typical breakfast of cereal, oatmeal, toast, waffles and maple syrup is consistently "the problem meal" leading to large sugar spikes".

On the other hand, feeding subjects with an omelette for breakfast led to no immediate blood sugar spikes and better glucose control throughout the day.

In addition the low-carb breakfast lowered pre-meal hunger and cravings for sweet foods later in the day.

**My View?** Eggs any style have always been a mainstay of our suggestions for a Paleo-conforming breakfast – see [Breakfast Ideas](#), [Paleo in a Nutshell](#), Chapter 5, p. 87

The photo above shows one of our omelettes with a spinach filling, but you can keep it simple too.

We give the recipe for a more elaborate version (suitable for serving at an aperitif) in: [Spinach Roly-poly](#), [Feb 2011](#) [4].

## Recipe

### Cinnamon and Ginger Cake



Enlarge: <http://bit.ly/2Zz1KDE>

This recipe is inspired by reader and BondPaleo cookbook author, Jeanne Bouvet. The use of de-fatted almond flour and erythritol reduces the cake's calories to 245 per 100g. >2

## Health Policy

### "Crowd-Sourced Lies, Fake Experts, and Misleading Leaders"

Lament from the American doctors' trade journal, JAMA

"Medical misinformation is nothing new but has become pervasive. Multiple digital sources represent a "new frontier" without editorial oversight or curation.

"Nearly anyone can say almost anything and be taken seriously – at least by some consumers.

"Exciting falsehoods apparently spread faster than boring truths on social media."

"The new online world facilitates direct-to-consume marketing by phoney experts, celebrities with armies of Twitter followers, and legions of independent digital scammers, including some physicians" [5].

**My View?** JAMA has no easy answers – just to say that every authority in a position to do so, (including social network platforms) should work on >4

## Recipe

## Cinnamon and Ginger Cake

**Yield: about 14 servings (slices)**



4 tablespoons raisins  
 1 tablespoon dark rum  
 4 eggs, omega-3  
 5 tablespoons erythritol, or to taste  
 ¾ cup (100g) coconut milk  
 2 oz (60g) de-fatted almond flour  
 2½ oz (70g) almond flour  
 1¾ oz (50g) unsweetened shredded coconut  
 1 teaspoon baking powder  
 1 tablespoon ground cinnamon  
 1 tablespoon vanilla extract  
 1 tablespoon lemon juice  
 1 ½ teaspoon lemon gratings  
 2 teaspoons grated ginger  
 3 tablespoons coconut yoghurt  
 Spray: olive oil

1. In a small bowl soak the raisins in hot water about 10 minutes. Drain the raisins, add the rum and mix well. Set aside.
2. Break the eggs and carefully separate the yolks from the whites into 2 separate mixing bowls. Set aside the egg whites.
3. Beat the egg yolks and the erythritol with an electric hand-mixer for a minimum of 2 minutes, until the mixture is very fluffy.
4. Mix in the coconut milk and then mix in both types of almond flour until smooth.
5. Mix in all the other ingredients and fold in the raisins.
6. Beat the egg whites with an electric hand-mixer, until very stiff.
7. Carefully fold the egg whites into the egg yolk mixture.
8. If necessary, adjust the sweetness by adding more erythritol.
9. Spray a round loaf mold with olive oil and fill with the mixture.
10. Bake in a fan assisted oven at 300°F (150°C) for about 35 minutes. Check the center for doneness.

## Questions

## Constipation and Parkinson's

**Q.** *I have heard that people who have a bowel movement (BM) less than once a day are twice as likely to get Parkinson's as those who have a BM once a day. What is your opinion?*

**A.** There is definitely a connection between Parkinson's disease and constipation. However, the literature seems to point to the constipation as being a **SYMPTOM** of Parkinson's, not the cause of it [6,7].

In fact constipation is regarded as a possible forewarning of Parkinson's developing many years before other symptoms become evident [8].

These studies do suggest that, for example, people who have less than one BM a day are 2.7 times more likely to develop Parkinson's compared to those who have one BM a day or more.

But all this tells us is that chronic constipation might be **AS A RESULT** of Parkinson's developing, not that it is causing Parkinson's.

**My View?** I have long been a promoter of the view that the gut microbiome has a powerful influence on a host of other biological and cognitive functions. But in the case of Parkinson's, the jury is still out.

## Tagatose Sugar - New Kid

**Q.** *What do you make of the low-calorie sweetener Tagatose?*

**A.** Tagatose is very similar in texture to sucrose (table sugar) and is 92% as sweet, but with only 38% of the calories. It has a very low Glycemic Index (GI) so it has a minimal effect on blood glucose and insulin levels. It is a naturally occurring sugar, present in fruits (and in dairy products).

So it appears to be a useful alternative to table sugar. However, it does not have the advantage of being a dietary fiber (like xylitol and erythritol).

Chemically it is more like sucralose (Splenda) which creates havoc with the gut microbiome (See: **Sucralose Inflames Crohn's (and more)**, [April 2018](#) [9]. However, **UNLIKE** Sucralose, Tagatose does have a **BENEFICIAL** effect on gut bacteria [10]

Tagatose is hard to find and is expensive since it is difficult to extract in commercial quantities. This might

change soon, since a new process using yeast fermentation promises to produce Tagatose cheaply and in quantity [11]. When that happens we will give it a try.

## Ancestral Sleeping Patterns

## Later School Start Times

## Fewer Teen Car Accidents

The evidence is piling up about the harmful effects of early school start times on teens' cognitive performance. See **School Starts too Early**, [Oct 2015](#) [12] and **Immature Adolescent Brain Wiring**, [last month](#) [13].

Now a study on students in Fairfax County, Virginia finds that, with a quite modest delay in start time from 7:30 to 8:10 a.m. the rate of car crashes reduced by 6% and distraction accidents reduced by 9% [14].

Meanwhile, remaining Virginia counties (which had not changed start times) saw accident rates **INCREASE** by 3.5%.

## Daylight Savings Paradox

Meanwhile California is confused. Two bills are working their way through the legislatures:

- a) to stay permanently on Daylight Savings Time (DST),
- b) to prohibit school start times before 8:30 a.m.

Prof Anne Skeldon of Surrey Uni, UK, points out that the two measures will cancel each other out [15]. For example from a biological perspective, teenagers would find it as hard to get up at 7am under DST as getting up at 6am during Standard Time.

**My View?** I have long promoted the view that we should live as nature intended and stay on Standard Time, that is, when the sun is at its height at noon. See: **Social Jetlag, Fatigue & Obesity**, [Sept 2012](#) [16].

## Sleep in the Workplace

Following on from [last month](#) with insights from sleep scientist Prof. Matthew Walker's latest book [17].

In many workplaces, there is still a glorification of high powered executives burning the midnight oil and at their desks by 7:00 in the morning.

Apart from the harm to health, this is highly detrimental to performance. A plethora of studies find that "under-

slept” employees have less creativity, intelligence, cognitive performance, motivation, effort, efficiency, and team effectiveness.

Moreover under-slept employees are more “ethically deviant” – they are lazier, more emotionally volatile, rash in decision making, given more to lying, and more ready to blame colleagues for their own mistakes.

All is not lost. Some forward-thinking companies like Nike and Google have adopted a more relaxed approach to work schedules. They allow employees to work hours that fit with their body clocks and “chronotype” see **Night Owls: ‘Fast-Life’ Histories**, [Aug 2017](#) [18]. They even allow employees to ‘sleep on the job’ in relaxation rooms and ‘nap pods’.

**My View?** For as long as we are condemned to be cogs in a machine: see **Nature’s Misfit with the Modern World**, [Dec 2010](#) [19], we can make the best of a bad job by giving ourselves enough ‘sleep opportunity’, living in tune with our ‘chronotypes, and giving our alarm clocks to someone we don’t like.

**Insomniac Tip from Prof. Walker** Have enough sunlight exposure. Get out into natural daylight every morning for at least 30 minutes – one hour is better. If possible wake up with the sun. See: **Sleep in a State of Nature**, [Oct 2015](#) [20]. **Morning Sun keeps off Pounds**, [May 2014](#) [21]; **Forager vs Modern Light Exposure**, [May 2018](#) [22].

#### News Flashes

#### Autism: Fecal Transplant Works

Autists typically suffer from bowel disorders, constipation and or diarrhea. Moreover, their gut microbiome has lower diversity and is depleted in helpful bacteria, such as Bifidobacteria and Prevotella.

This led researchers to see if transplanting bacteria from a healthy donor would make a difference [23].

Remarkably they found that, not only did the symptoms improve after the transplant, they **CONTINUED** to improve by a further 45% for two years after. The microbiome stayed healthy too. There was also a 58% improvement in bowel disorders.

At the start of the study, 83% of participants were rated as having

“severe” autism. At the end of the study, only 17% were rated “severe,” 39% were “mild/moderate,” and 44% were **BELOW** the cut-off for mild ASD.

Many of the participants in the trial shared common traits, including birth by C-section, reduced breastfeeding, increased antibiotics, and low fiber intake by the mother and child, all of which lead to limited biodiversity in their gut bacteria.

**My View?** The way that autism is rocketing just in the last 50 years certainly suggests that the problem lies with lifestyle factors. The researchers have named a few (above):

Over the years I have reported on a number of other connections:

**Food/Autism Connection**, [Sept 1999](#) [24]. **Autism: Mum’s Mum smoking**, [May 2017](#) [25]. **Autism-Glycemia Link**, [Dec 2015](#) [26] **Food/Disease Link – Autism**, [May 2001](#) [27]. **Excess folate & B12 in Pregnancy greatly ups Autism Risk**, [Nov 2016](#) [28]. **Autism: Good for Foragers?** [June 2011](#) [29]. **Gluten- & Dairy-free Aids Autism**, [April 2012](#) [30]

#### Glucose Damages Arteries

High blood sugar (glucose) levels are well known to damage blood vessels. However, this risk is not run by those on a keto diet (see **The Ketogenic Diet**, [April 2010](#) [31]).

Except, that is, if they have a “cheat day”. This study finds that those who have one day a week of normal glucose intake, the glucose spike undid the benefit of the keto diet [32].

**My View?** Even though foragers probably went into ketosis from time to time, it is not a healthy lifestyle choice on a permanent basis.

But the moral is that, whatever eating pattern you adopt, high blood sugar levels damage blood vessels. In this regard, the Paleo way of life will keep you protected from glucose damage.

#### Red Meat Intake Generates Heart Disease Molecule ‘TMAO’

TMAO\* is a molecule which can increase inflammation and can be a factor in cardio-vascular disease.

We first met TMAO in **Two-faced Carnitine**, [May 2013](#) [33] where gut

bacteria make it from carnitine supplements.

Now a high quality study finds that red meat (the study used beef & pork) does something similar [34]. Gut bugs make TMAO from nutrients – like carnitine – that are abundant in red meat.

The subjects who ate 8 oz of steak daily or two quarter-pounder beef patties had **THREE TIMES** the levels of TMAO compared to those who ate white meat (poultry) or plant-based proteins.

**My View?** Not so fast. Like so much about our biology, the situation is much more complex than appears at first sight. TMAO also has a healthy role: it performs vital functions in our cells [35]. Furthermore, paradoxically, it is present in many heart-healthy sea-foods [36].

Moreover foragers certainly consumed red meats (antelope, warhog and so forth) in modest quantities. And, for all we know, it was present in their other foods too.

Finally, individuals vary wildly in their TMAO reaction to red meat intake. Maybe their gut-bug profile is responsible.

Meanwhile in **Red Meat Inflammation Molecule**, [Jan 2015](#) [37] I reported on another molecule: “Neu5Gc”† which is also inflammatory.

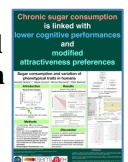
**Bottom line?** It is wise to avoid red meat, particularly pork – but the main reason is due to red meat’s bad fatty acid profile. See: **Food Type Impacts Body-fats**, [Jan 2014](#) [38].

#### Continued from Page 1

#### Chronic Sugar Intake Harms Cognition and Behavior

“High insulin levels stimulate a protein called “Tau” which tangles brain cells into Alzheimer knots. [39.] “High blood sugar levels shrivel the hippocampus, the region of the brain where short-term memory is stored. The higher the blood sugar levels, the more it fogs memory” [40].

However, the discovery that chronic sugar consumption can have an **IMMEDIATE** effect on both cognitive



\* trimethylamine N-oxide

† N-Glycolylneuraminic acid

function and female hormonal behaviour is novel.

Similarly, the idea that high sugar levels can modify female behaviour is unusual and not well documented elsewhere.

This was a pilot study which merits development into a robust investigation – it will be interesting to see if these initial results can be developed and confirmed.

### Health Policy

#### Docs: Poor Nutritional Training

Says the prestigious doctors' journal JAMA [41], on average **MEDICAL STUDENTS RECEIVE ONLY 19 HOURS OF NUTRITIONAL TEACHING** over 4 years. Even that is largely focused on biochemistry and vitamin deficiency. "This is misplaced focus, because nutritional deficiency diseases, such as scurvy (vitamin C deficiency) and beriberi (vitamin B1 deficiency), are not the problem in America."

The US Burden of Disease Collaborators identified **POOR-QUALITY DIET** as the **LEADING CAUSE OF DEATH** in the United States [42]. The prevalence and cost of diet-related diseases will rocket if left unchecked.

**My View?** I don't know how doctors cope with the huge information load they already have to master in their profession. Yet there does need to be a shift in emphasis. In past times the main challenges were infectious diseases like cholera, tuberculosis, typhus, measles, polio and smallpox. Today, the chief illnesses are lifestyle ones, like cancer, diabetes, heart disease, and Alzheimer's. In this regard, conventional doctors' lifestyle training is woefully inadequate – although the trend to 'Integrative Medicine' is a welcome move in the right direction.

Even so, doctors who can give expert advice on dietary matters are still quite rare (our MD readers excepted!)

Continued from Page 1

**Crowd-Sourced Lies, Fake Experts, and Misleading Leaders**" disseminating accurate information by all means at their disposal.

That is also what we try to do here, notably in our '**Humbug Watch**' columns. More specifically we have had a go at a celebrity (Gwyneth Paltrow) in **Gwyn's Raw Food Diet Fatal?** [May 2017](#) [43], and a physician who will remain nameless in: **Lectin Cure-all – or Snake-oil?** [Mar 2018](#) [44].

### Advance Notice

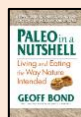
#### Lecture

**Date:** Feb 1, 2020

**Time:** 14:15 – 15:15

**Title:** The Paleolithic lifestyle for optimum health and fitness. Insights from our evolutionary origins.

**At:** ARTZ Symposium, Montabaur Castle, nr Frankfurt, Germany.



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