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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

**Briefing:** Sleep in a State of Nature. **Q of Month:** Magnesium Deficiency Anxiety. **Paleo-psyche:** Nervous System Diseases Rocket. **Did You Know?:** Where does the fat go? **Recipe:** Okra & Tuna Hash. **Misleading Headlines:** "Processed Meats Rank alongside Smoking as Cancer Causes". **Viewpoint:** The Black Hole of Healthcare. **Briefing (Cont):** Potatoes and Resistant Starch Revisited, part II. **News Flashes:** School Starts too early; Daylight Savings Stupefies Teens. **Letter:** I Wish I'd Started Younger! (Joe Thompson MD). **Advance Notice:** Lectures Palm Springs, Oxford.

## Briefing

### Sleep in a State of Nature



*Time for a siesta?*

Dr Jerome Siegal of UCLA and colleagues have done something that has not been tried before: to put carefully measured numbers to the sleep patterns of hunter-gatherers [1]. They equipped members of three different tribes, San (Kalahari), Hadza (Tanzania), and Tsimane (Bolivia) with 'Actiwatches'. These are activity measurement devices, worn on the wrist and are similar to fitness monitors. Actiwatches also measure temperature and light levels.

**Cold wake-up.** Perhaps the most remarkable finding is this: the subjects were NOT woken up by the sun as we have all assumed. They were woken up an hour BEFORE sunrise by the night chill. More precisely, the sleeping brain detected a temperature below which the body was losing too much heat and told the blood vessels in the skin to throttle back – a condition called 'vasoconstriction'.

The researchers are quite clear about this: vasoconstriction CAUSED wake-up, NOT the arrival of dawn.

**Morning Sunlight:** Another interesting finding concerned exposure to sunlight. Contrary to what we believed, the foragers received maximum sunlight in the MORNING with a peak at 9:00 am. Reason? **Continued page 3**

## Question of Month

### Magnesium Deficiency Anxiety

**Q.** Carolyn Dean ND, [www.drCarolynDean.com](http://www.drCarolynDean.com), claims that the advisory range for magnesium blood levels, 4.2 - 6.8 mg/dL, sets the bar too low and that we need to be at the top end of the range: 6.0 - 6.5 mg/dL [2]. My blood levels are at the low end: 4.9 mg/dL.

*I feel great. But should I consider supplementation even if I have no symptoms of deficiency? I hate the idea! I follow the Bond Precepts with an ample supply of magnesium-rich nuts. But if the soil is depleted are we all doomed then?*

**A.** YOU ARE FINE JUST AS YOU ARE! Over the years I have written much on magnesium and its importance. The average Westerner is indeed deficient and it matters: it is a factor in a whole range of diseases – from Alzheimer's [3], Migraine and Diabetes [4] to Hypertension, Depressed Immune System, Osteoporosis, and Multiple Sclerosis (through myelin sheath breakdown).

In this regard, and as long ago as 2004, I reviewed these books on Amazon: *The Magnesium Solution for High Blood Pressure*, review link: <http://amzn.to/1MiKvJ6> and *The Magnesium Solution for Migraine Headaches*, review link: <http://amzn.to/1OxUVKS>

Now to set the record straight:

**1. Magnesium Blood Levels:** these are almost irrelevant – they bear no relation to the magnesium in the CELLS and TISSUES – and that is what counts. So don't allow Dr Carolyn to get you anxious on this score.

**2. Depletion:** Plants NEED magnesium to thrive! **Cont: page 4**

## Paleo-psyche

### Nervous System Diseases Rocket

Dementias are starting a decade earlier than they used to in adults [5]. Furthermore deaths caused by ALL nervous system diseases have risen significantly in adults aged 55-74; in 20 years, in the over 75s the rate has DOUBLED in every Western country.

In the US, the problem is acute; neurological deaths in male over 75s have trebled and females have risen five-fold. For the first time since records began, more elderly US women died of brain disease than cancer.

Motor neuron disease, Parkinson's, Alzheimer's have increased "remarkably" – particularly in the under 60s – "something unthinkable twenty years ago".

Author, Professor Colin Pritchard of Bournemouth University, UK, places the blame firmly on a) lifestyle changes and, b) new environmental hazards such as petro-chemicals, pesticides, and electronic radiation.

**My View?** Phew! No humbug here, trying to make out that 'it's only due to us living longer'. We KNOW that life-style has a major impact on nervous system diseases: see 'BRAIN HEALTH', *Deadly Harvest*, [Ch 9](#), p. 251 [6].

## Did You Know?

### Where does the Fat go?

When Prof Andrew Brown, New South Wales University, Australia asked health professionals where the fat goes when you lose weight, fewer than 50% knew the answer [7].

Many thought it went out as heat. In truth it is breathed out as carbon dioxide (CO<sub>2</sub>). 10 kg of fat loss uses 29 kg of oxygen and produces 28 kg of CO<sub>2</sub> and 11 kg of water.

## Recipes

### Okra & Tuna Hash

**Yield: 2 servings**

*Most of the time our meals are simple ones, like this hash which can be tossed together in 15 minutes.*

- Onion, one medium, 5.5 oz (160g)
- Okra, frozen, 5 oz (150g)
- Garlic, 6 cloves, peeled
- Tomatoes, chopped,  $\frac{1}{2}$  can, 7 oz, (200 g).
- Tuna, 1 can, 7 oz, (200g), drained
- Capers, pickled, 2 teasp.
- Worcester sauce, dashes to taste
- Paprika,  $\frac{1}{4}$  teasp. or to taste.

1. Put  $\frac{1}{4}$  inch (5 mm) of water into an 8 inch (25 cm) saucepan and bring to a simmer.

2. Roughly chop the onion and drop into the simmering water for 3 minutes.

3. Drop in the garlic cloves and the frozen okra. Bring back to a simmer, cover, and cook for 8 minutes.

4. Drop in the chopped tomatoes, capers, paprika, and Worcester sauce and stir well. (No need to heat any more.)

5. Drop in the tuna, flaking it as you go. Stir well. (No need to heat any more.) Serve.

## Misleading Headlines



### Processed Meats Rank alongside Smoking as Cancer Causes – WHO

Headline in *The Guardian* [8]

After a recent World Health Organization (WHO) report [9], media worldwide splashed headlines like this – but what is the truth? I hold no brief for red meats or processed meats (see later) but do they “cause” cancer, and is the effect really as bad as smoking?

No, this is journalist’s scientific illiteracy, compounded by sloppy disregard for the facts.

First, the report was chiefly about COLON cancer, not just ANY cancer.

Second – and most importantly – the report makes NO comparisons with the risks of smoking. That is an invention of the journalists.

In fact the risks of smoking are FAR GREATER: Smoking raises a person’s lifetime risk of developing lung cancer by a staggering 2,500%.

Meanwhile, two daily strips of bacon, based on the associations identified by the WHO, would increase lifetime risk for colon cancer by just 1%. (Even those who NEVER eat processed meats have a 5% risk.)

**My View?** In spite of the journalistic exaggerations and inventions, there is still a problem with processed meats and it is not new: I wrote about them last in: ‘*Death-Dealing Processed Meat*’, [March 2013](#) [10]

**Red Meats:** the report also fingered RED MEATS, by which they mean mammal muscle like beef, veal, lamb, pork and so forth.

However, the verdict was less damning: The Working Group classified consumption of red meat as only “probably” carcinogenic.

**My View?** Cancer is not the only risk: modern mammal meats are also connected with CVD, Diabetes and other degenerative diseases.

Foragers ate mammal meat, but not processed meats of course. Their meat was low fat and had a very different fatty acid profile. See: ‘*Food Type Impacts Body-fats*’, [Jan 2014](#) [11].

So we avoid both red meats and processed meats until modern livestock farming alters its ways to paleo-conforming standards..

See also: ‘*Red Meat Inflammation Molecule*’, [Jan 2015](#) [12].

## Viewpoint

### The Black Hole of Healthcare

I recently attended a Health Conference held by the UK think tank “*Reform*” at which Jeremy Hunt, UK Minister of Health, was the keynote speaker. He breezed in, gave a stump speech, and left

shortly after. I didn’t get a chance to ask him a question, but I did get to ask a question of the panel consisting of **Claire Murdoch**, Chief Executive, Central and North West London *NHS Foundation Trust*; **Sarb Basi**, Managing Director, *Vitality Partnership*; and Dr **Penny Dash**, Senior Partner, *McKinsey & Company*. My question was:

“The Conference has devoted most of its energies to making the fire brigade more efficient, faster and productive.

“But, what about the other side of the equation – the pyromaniacs SETTING FIRES at an exponentially increasing rate?

“The hugely increasing burden on the health service: cancer, heart disease, diabetes, obesity, Alzheimer’s, osteoporosis, and many more, are basically lifestyle diseases – what are we doing to stop people trashing their bodies?”

The question was received with amusement by the audience and some bewilderment by the panel. No one questioned my premise. Sarb Basi had a go at answering my question.

He agreed that this is the elephant in the room – but the only (and unlikely) way he could see would be to pass draconian laws – just as had been done successfully with regard to smoking and with seat belts.

I quipped – “yes, bring back war-time rationing!” [of which I have personal experience].

So I don’t think there is much hope that politicians are going to make the tough choices and drive a top-down transformation.

Rather, the most hopeful route to success is for us to continue doing what we are doing and encourage a popular ground-swell of people taking lifestyle into their own hands.

## Briefing (Cont)

### Potatoes & Resistant Starch Revisited – part II

Continued from [last month](#) [13] where we saw that potatoes do have a low ‘Glycemic Load’ and do contain some ‘resistant starch’, a dietary fiber...

...However, the percentage of cooked potato starch that is ‘resistant’ is very low: about 1.7%.



This can be quadrupled by eating the potato cold [14]. It needs to be chilled at 4°C (normal fridge temperature) for several hours [15]. If you reheat the potato, that ruins the gains just made.

Helen Elmståhl of Lund University, Sweden found that cold potato salad, chilled for 24 hours, had up to 7% resistant starch [16].

This is in contrast to the percentage of resistant starch in RAW potatoes-78%. Yes, raw potatoes are indigestible but it means that there is some interest in using raw potato flour, as a dietary fiber, in various raw products.

Finally, Brand-Miller found some evidence that young (new) potatoes are less glycemic and contain more resistant starch than older ones.

**My View?** POTATOES ARE STILL NON-PALEO for all the usual well-known reasons: they are still GLYCEMIC, ACIDIFYING, POOR IN MICRONUTRIENTS and potentially TOXIC with their glycoalkaloid ANTINUTRIENTS.

However, if you do indulge from time to time, eat them young (new), boiled, then well chilled for 24 hours, -- and in small portions.

**Green Bananas:** Oh, and when it comes to boosting your resistant starch intake, it is much better to focus on green banana – some 65% of it is resistant starch [17]. See also: ‘*Almond Flour Substitutes*’, [January 2015](#) [18]

### News Flashes

#### School Starts too Early



An easy fix for improving education? Teach pupils when they aren't too sleepy to learn! So says an Oxford University study [19]. These are the start times they recommend:

at age 10: 08:30 or later

at age 16: 10:00 or later

at age 18: 11:00 or later

“Implementing these start times would protect students from short sleep duration and chronic sleep

deprivation, which are linked to poor learning and health problems.”

“Circadian rhythms determine our optimum hours of concentration” and, according to the researchers, “in adolescence these shift almost 3 hours later.”

How does this chime with ‘*Sleep in a State of Nature*’ (page 1)? Presumably in the phrase ‘OPTIMUM concentration’. Forager children woke up along with the adults – but at no time were they subject to the bizarre constraints of a school classroom requiring concentration on demand.

#### Daylight Savings Stupefies Teens

I have long argued that we should stop monkeying around with seasonal clock changes and stick with highest sun at noon throughout the year, see: *Social Jetlag, Fatigue & Obesity*, [Sept 2012](#) [20].

In my view, the disruptions in health and well-being far outweigh any advantage calculated by the time-and-motion bean-counters.

Confirmation comes in a study on teenagers [21]: Average cumulative sleep loss on weeknights following the time change to Daylight Savings was 2 hours, 42 minutes.

Students displayed increased sleepiness, a decline in psychomotor vigilance, lower cognitive function, longer reaction times and increased lapses of attention.

I rest my case! See: ‘*School starts too early*’, this page; and ‘*Sleep in a State of Nature*’, p 1.

### Letter

#### Wish I'd Started when Younger!

I read your missive faithfully and appreciate it for the renewed inspiration that it gives. I've tried to follow your savanna diet for over 2 years, and when I deviate, it bothers me. It's not difficult to keep on the "straight and narrow" for that reason.

Like you advised when I first heard your lecture, it took some time to adjust and overcome some cravings, but now it's a natural for me. Thank you for guiding me to this status. I wish I had started at a much younger

age! I encourage my family to do the same, but either being 'set in your ways' for the older ones, or on a busy fight to survive this modern world, it's easy for them to fail in the effort. But we keep trying!

Joe Thompson MD, Wisconsin.

### Advance Notice

For details and updates:

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

**LECTURE:** (Open to the public)  
**January 20, 2016, Palm Springs Library, CA, USA**

**LECTURE:** (Open to the public)  
**March 16, 2016, Oxford, UK**

For Speedwell Trust, Green-Templeton College, Oxford University.

### Continued from Page 1

#### Sleep in a State of Nature



Reason? From that time on, the foragers sought the shade if possible. The researchers opine that this phenomenon could explain why light IN THE MORNING works best for many ailments, notably depression. It is also vital for maintaining the body clock synchronized: see: ‘*Morning Sun keeps off the Pounds*’, [May 2014](#) [22].

**Insomnia Unknown:** None of the forager tribes have a word for ‘insomnia’. After close questioning 1.5% said that they had difficulty getting to sleep once in the year (!) and a further 2.5% said they had difficulty STAYING asleep – once a year. These figures are dramatically lower than the some 10% to 30% chronic insomnia rates reported in industrial societies.

**Sleep Length and Napping:** The media FIXATED on this one aspect. The foragers were asleep, an average of some 7.75 hours a night. ‘Healthy sleepers’ in industrial societies sleep almost the same. That only applies to length of sleep and not its quality. Moreover, foragers fall asleep quickly. According to the Actiwatches, the foragers napped 7% to 22% of days – lower than reported by previous observers.

**My View?** One potential flaw, admitted by the researchers, is that the Actiwatches UNDERESTIMATE sleep hours. They rely on measuring wrist movements. They are not as accurate as the gold-standard: measurement of BRAINWAVES with electrodes taped to the head and other parts of the body - a process called '*polysomnography*'.

Be that as it may, the fact remains that there are aspects of forager sleep patterns which are AT ODDS with what we do today. Notably:

- as a prelude to sleep, they spend some 3 hours IN THE DARK, talking quietly around a campfire.

- they sleep in a chilling environment until the SHIVERING COLD wakes them up in the early hours. [From other sources we know that the men often set off on the hunt in the dark.]

- they are exposed to BRILLIANT SUN throughout the MORNING with a peak at 9:00 a.m.

As the researchers say, "re-creating aspects of forager environments in industrial societies will have beneficial effects on sleep and insomnia."

**My View?** Too true! But it's a tall order to be woken up, in the dark, by night chill!

See: '*School Starts too early*', and '*Daylight Savings Stupefies Teens*', page 3.

See '*Evolutionary Sleep Patterns*', [Sept 2015](#) [23]

### Continued from Page 1

#### Magnesium Deficiency Anxiety

So, if you are eating healthy plants, you are SURE that they are not depleted. Moreover magnesium is a component of CHLOROPHYLL, so eat up your greens!

It also follows that "we are NOT doomed"! See: '*Magnesium Depleted Foods*', [Aug 2008](#) [24]

**3. Supplements:** you are right to be wary of supplementation. Like all nutrients they work in concert with a myriad other nutrients – and monkeying around with just one will upset all kinds of other reactions we cannot even guess at. See: '*Play Down Magnesium Pills*', [Dec 2010](#) [25] and '*Lack Magnesium, Lack Memory - Supplements Don't Work*', [April 2010](#) [26]

#### 4. Magnesium malabsorption:

Even though magnesium is readily available in food, it requires a large number of favorable conditions for it to be ABSORBED and RETAINED. Here are some hindrances:

DISEASES: like celiac disease, Crohn's disease, ulcerative colitis.

DRUGS: beta-blockers, corticosteroids, antacids.

EXCESSES OF: alcohol, coffee, tea, phosphoric acid (sodas), carbonic acid (sodas), salt, sugar, calcium, potassium, copper, iron, vitamin C, vitamin D.

DEFICIENCIES OF: sunlight, vitamin D, zinc

CANCER: Cancer cells suck magnesium out of healthy tissue to support their very high rate of DNA and protein fabrication.

**My View?** So, once again, we need to get away from simplistic ideas of MICROMANAGING these processes!

You are doing the right thing and LIVING RIGHT. Don't let manipulative infomercials (like Dr Carolyn's) bamboozle you into buying their attractively packaged, expensive, yet pointless supplements.

For a brilliant review paper on the 'multifaceted and widespread pathology of magnesium deficiency', go to this link on my website: <http://bit.ly/1kDYmm5> [27]



**Deadly Harvest:** Geoff's latest work encapsulates current thinking on lifestyle anthropology. [www.deadlyharvest.com](http://www.deadlyharvest.com)



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