



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

**Q of Month:** Human Species Brain Shrinkage. **News Flashes:** Food Whitener E171 – Gut Attack. **Reinventing the Wheel:** Hunter-gatherer life is easier. **Quote:** Food as Medicine. **Q&A:** A2 Milk. **Ancestral Sleeping Patterns:** Sleeping-in doesn't Mitigate Sleep Deficit. **News Flashes:** Mother-to-be Benefits Offspring by Replacing Steak with Fish; Exercise is Psychiatrist's Primary Prescription; The Problem with Sunscreen. **From the Labs:** Number of Starch Digestion Genes makes a Difference. **Health Policy:** Prioritizing the Important things in Life. **Spreading the Word.**

## Question of the Month

### Human Species Brain Shrinkage

**Q.** What do you make of the study [1] which finds that in the last 7,000 years, the human brain has decreased from 1,500cc to 1,350cc?

**A.** This is a 2014 Chinese study comparing modern Chinese skulls to skulls from a Chinese neolithic (New Stone Age) site.

Even so it follows in the footsteps of a number of other studies finding similar results with other populations.

However, it is hard to know what to make of it. The Neanderthals had even bigger brains than our ancient ancestors had. And in modern humans there is only a weak correlation between brain size and intelligence [2].

Nevertheless, there does seem to be a general loss of cognitive ability over the millennia. Prof. Gerald Crabtree of Stanford University finds that [3]:

"Analysis of human mutation rates and the number of genes required for human intellectual and emotional fitness indicates that we are almost certainly losing these abilities. The average person harbors two intelligence-stunting genetic changes that evolved over the last 3,000 years"

Crabtree attributes the decline to the advent of farming which removed the evolutionary pressures to maintain the complex skills for a forager band to survive not only in hunting and gathering but also in managing social and cooperation issues.

Other factors are at work too.

Psychologist Richard Herrnstein and political scientist Charles Murray >2

## News Flashes

### Food Whitener E171: Gut Attack



To whiten many food and cosmetic products, manufacturers add large quantities of ultra-fine particles ('nanoparticles') of 'titanium dioxide' to them. It is in toothpaste, pastries (image), chewing gum, skimmed milk, sunscreen, skin creams, and much, much more. As an additive, its EU reference number is E171 and in USA its number is 73.575 [4].

Following on from many other studies, the latest [5] finds that these nanoparticles undermine the colon mucosa and create harmful 'bio-films' of bacteria clumped together.

They also interfere with the activities of 'good' bacteria, harming their production of healthy short-chain-fatty acids (SCFAs) like propionic and butyric acids.

The net result is that this product promotes inflammation of the colon, encouraging irritable bowel and colon cancer, and is a factor in colitis, food allergy, asthma and type 1 diabetes.

Germany has already banned the use of E171 and France will do in 2020. The EU is considering declaring E171 'carcinogenic'. However the USA is fiercely opposed complaining that this measure would rule out a huge swathe of products that the USA exports to the EU.

I have already commented on other mischiefs of E171 in >4

## Reinventing the Wheel

### Hunter-gatherer life is easier



Agta Village: <http://bit.ly/2M2TacJ> [6]

Dr Mark Dyble of the London School of Hygiene and Tropical Medicine got to spend time living with 10 groups of hunter-gatherers, the Agta people of the Philippines, who are transitioning to a farming way of life.

He finds that, as foragers, they spent only 20 hours a week working whilst those who had adopted farming worked 30 hours a week. He says:

"The amount of leisure time that Agta enjoy is testament to the effectiveness of the hunter-gatherer way of life. This leisure time also helps them to share so many skills and so much knowledge within lifetimes and across generations."

Well, yes – this has been known for a long time. As I say in [Deadly Harvest](#), Chapter 1, p 31: "The people who adopted farming had, unknowingly, grasped a tiger by the tail. Their population densities had grown well beyond the point where they could return to a simple forager existence." >4

## Quote

"Eat your food as your medicine. Otherwise you have to eat medicine as your food." *Origin unknown but quoted by Steve Jobs amongst many others.*

## Questions

### A2 Milk

**Q.** Is so-called 'A2 Milk' a better option than regular milk?

**A.** Why bother! Just as you can't make a silk purse out of a sow's ear, you can't turn milk from a fundamentally deleterious substance into a healthful one just by tinkering with its components.

But to answer your question: A2 milk refers to a variety of cow's milk that lacks a form of beta-casein protein called A1, and instead has mostly the A2 form.

Goats and sheep milk also lack the A1 form and is part of their attraction to food-faddists. Moreover, human milk also lacks the A1 form, so this protein is an unknown intruder to our bodies.

Sure enough, a study on the A1 form (compared to A2) found a link to heightened gastrointestinal inflammation, worsening of digestive symptoms, delayed transit, and decreased cognitive processing speed and accuracy [7].

So it can be argued that A2 milk is slightly less bad than regular milk – but it is still bad! – **AVOID**.

See: **Dairy Products**, *Deadly Harvest*, **Chap 5**. p 127 [8].

## Ancestral Sleeping Patterns

### Sleeping-in doesn't Mitigate Sleep Deficit

Yet another study confirms that sleeping-in at the week-end does not undo the damage done by a sleep deficit during the week [9].

a) on average, sleeping-in only recovered 3 hours compared to a deficit of 12 hours.

b) insulin sensitivity decreased by 27% in spite of sleep recovery.

c) calorie consumption increased by as much as 640 calories after weekend dinner with weekday sleep deprivation.

d) sleep deprived groups gained 3 pounds (1.4 kg) after 9 days.

This study was on young, healthy subjects; the scary thought is that the results will be much worse for out-of-shape oldies [10].

The upshot? "Sleep is fundamental, and when we don't get enough, it will disturb a lot of our physiology. Yoyo sleeping is not going to prevent long-term consequences and might even make them worse."

See: **Ancestral Sleeping Patterns**, **last month** [11].

## Continued from Page 1

### Human Species Brain Shrinkage

...in their monumental work, *The Bell Curve* [12] showed how, after several generations of meritocracy in America, the brighter people tended to earn more, that they tended to marry each other and that, as a consequence, American society was stratifying into class layers based on intelligence.

Other researchers have shown [13] that the cognitively challenged tend to have more children than brighter people, so the **AVERAGE** intelligence of the population declines.



**National IQ lost due to Immigration**  
Enlarge: <http://bit.ly/2GyQmAL>

Yet another factor is this: IQ is highly heritable [14] and different ethnic groups have different genetic IQ ceilings [15]. Mass inward migration of lower IQ ethnic groups will depress the IQ average of a country.

A rough calculation suggests that Germany, after the acceptance of some 1 million refugees from Syria (average IQ 83 [16]), suffered a drop of 3% in **AVERAGE** IQ [17].

This phenomenon applies even for refugees' children who have benefited from being born and educated into their new homeland.

**My View?** All this matters since IQ is positively correlated with any number of highly important characteristics like creativity, inventiveness, productivity, enlightenment, democracy, responsibility, conscientiousness, and civic-mindedness.

It is negatively correlated with criminality, welfare dependency,

improvidence, social breakdown, and much more.

As I say (in a slightly different context) in **Deadly Harvest**, p 212:

“... genes in low-status men have been spread at the same rate as those for high-status men. No one knows what this means for the future...”

More **next month** on the 'Good Genes' philosophy which got a bad rap under the name 'eugenics'.

## News Flashes

### Mother-to-be Benefits Offspring by Replacing Steak with Fish

Danish researchers examined the health impact of substituting red and processed meat with 350 grams per week of fish of which 200 grams are fatty fish [18].

They conclude that:

a) 134 years of disability would be averted per 100,000 population,

b) In young women this will have a beneficial effect on their unborn children.

c) seafood is good but **OILY** fish (rich in omega-3s) is best,

We have written many times on the pitfalls of too much red meat (mammal meat). See **last month**, **Red Meat Intake Generates Heart Disease Molecule 'TMAO'** [19]

**My View?** Nothing controversial here. However, it is rare to see studies which take into consideration the unborn child.

In my view this is a badly neglected area of health prevention. As we have seen many times in the past, the health of parents, especially the mother, crucially determines the future health of their offspring. See:

**Gluten in Pregnancy linked to Diabetes Type 1 in Offspring**, **Oct 2018** [20].

**Overdosing on Folic Acid**, **Jan 2009** [21].

**Low Vitamin D in Pregnancy increases risk of MS in Child**, **April 2016** [22].

**Omega Imbalances in Pregnancy Affect Child's Brain**, **Feb 2016** [23]. [24].

**Father's high fat diet increases daughters' diabetes risk**, **Oct 2017** [25].

**Pregnancy Weight Gain Decides Baby's Future Obesity**, **June 2007** [26].

**Mother's Sunshine Deficiency & Kid's MS**, **Sept 2017** [27].

**Breast Cancer Risk Tied to Grandmother's Diet**,

[Oct 2010](#) [28]. **Obesity Programs a Woman's Eggs for Three Generations**, [July 2016](#) [29]. **Supplements and Epigenetics: Sins of Mothers Visited on Sons**, [July 2006](#) [30]. **You Are What Your Mother Ate**, [May 2005](#) [31]. **Ancestor's Lapses Visited on Us**, [Dec 2010](#) [32]

### Exercise is Psychiatrists' Primary Prescription

Four times a week, psychotherapists gave 60-minute exercise sessions to patients. They did cardiovascular training, resistance training, and flexibility development inclusive of (a) free-body exercises; (b) stretching and strengthening exercises; and (c) muscle fitness equipment [33].

The study found that physical exercise is so effective at alleviating patient symptoms that they could reduce sharply their psychotropic medications.

Patients reported lower levels of anger, anxiety and depression, higher self-esteem, and overall improved moods.

**My View?** Of course! We have become so divorced from our natural way of life that even simple measures like restoring normal physical activity has remarkable healing effects.

### The Problem with Sunscreen

An editorial in the doctors' trade journal JAMA, takes to task the complete lack of knowledge about the use of sunscreens [34].

In particular the concerns about the "safety and effects of chemical sunscreens on endocrine, reproductive, developmental and cancer-related outcomes."

One might expect that sunscreens have been thoroughly vetted for safety and effectiveness. However this is not the case: "Sunscreens have not been subjected to standard drug safety testing and we lack data on systemic drug levels despite decades of widespread use."

In other words, there are many ingredients in sunscreens that are absorbed through the skin which are known to mess with hormones and which have never been evaluated.

In addition, no data is available to show that sunscreens actually work. Notably the newly invented and so-

called 'broad spectrum' sunscreens that are supposed to filter out the damaging UV-A rays.

**My View?** There is no question that sunshine is a vital feature of human health but the authorities are highly conflicted over it. On the one hand they categorize it as carcinogenic and on the other hand say that it is (at least in its UV-B form) an essential element in human health. –

I have spent most of my life in the tropics and sub-tropics and am now experiencing some skin lesions. Why might this be? I put it down to the use of sunscreens! At the time we simply didn't know any better.

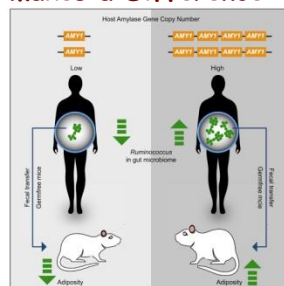
The damage that is now surfacing occurred some 40 to 50 years ago when I was using the first sunscreens on the market like *Ambre Solaire*. It was terrific at preventing UV-B sunburn but useless (we now know) at preventing the UV-A skin damage.

On top of it, we now learn that sunscreens contain all kinds of hormone disruptors that percolate through the skin and mess with the body's workings.

My view for some years now, is to avoid using sunscreen. The skin has its own nature-provided alarm: **REDDENING**. That's the time to get out of the sun.

### From the Labs

#### Number of Starch Digestion Genes makes a Difference



Enlarge: <http://bit.ly/2M6MXfQ>

Humans do have some ability to digest starches through the secretion of the enzyme 'amylase'. See: **Why do Humans have the Starch Digestion Enzyme 'Amylase'?** [March 2013](#) [35]

Amylase is produced through the action of the gene called 'AMY1'. Some people have few copies of this gene – as low as two, whereas some have as high as 30 copies.

The study [36] found that subjects with high AMY1 had:

- higher than normal levels of the bacterium '*Porphyromonas*' in the mouth. This increases risk of gingivitis.
- increased abundance of gut bugs capable of digesting resistant starch. See **Resistant Starch** [Jan 2014](#) [37].

With this increased ability to digest resistant starch, the subjects had:

- higher gut levels of short-chain fatty acids (a healthy thing).
- increased body fatness (not so good).

**My View?** It is intriguing and suggestive that humans can have such a wide variation in the ability to digest starches. Maybe natural selection operated, due to the prevalence of famines after the farming revolution, to favour those with the most copies of AMY1 to extract the maximum of calories from starch-bearing plants.

Be that as it may, these findings do lead to the promotion of 'personalized medicine' whereby dietary and lifestyle advice would be adapted to your genetic make-up.

The purist in me is leery of this approach. For example, just because your body handles starch well, for all sorts of other reasons it doesn't mean that it is safe to eat wheat.

### Health Policy

#### Prioritizing the Important things in Life

Sociologists Sarah Bowen of North Carolina State University and team, are authors of *Pressure Cooker: Why home cooking won't solve our problems and what we can do about it* [38]. They observe that:

"We need to consume whole, fresh foods grown on a farm rather than the engineered pseudo-foods that populate the interior aisles of supermarkets."

So far, so good. However, they then go on to say that it takes money – and that it takes all the adults in a family (some working multiple jobs) to make ends meet.

Secondly, that most families feel completely overwhelmed by hectic schedules and competing demands.



Thirdly, that cooking from scratch requires, at a minimum, a working stove and money to pay the electricity bill.

**My View?** This is the most prosperous society on Earth, and yet everyone is working harder than ever, is overwhelmed by hectic schedules, and doesn't have the means to run a cooker! **WHAT IS GOING WRONG?**

When I was an adolescent in the 1950s, average disposable income was **HALF** what it is now. Even though our family had only modest means, we needed only one breadwinner in the family, and we cooked our local-produce meals from scratch on an antiquated gas stove.

No, Sarah Bowen doth protest too much. The problem is not resources but **PRIORITIES**. In 1929, Americans spent some 20% of disposable income on food at home; today it is only 5.3%. [39]

Agreed: we are living in a dystopian world which ruthlessly drives us to be **ENSLAVED** by debt and **ADDICTED** to consumption.

So it **DOES** take willpower to resist these pathological pressures and **TAKE BACK CONTROL** of our lives. Then we can have the best of both worlds!

Then we can, like the foragers of old (**Hunter-gatherer life easier**, page 1) forego the Netflix subscriptions, the 4x4 SUV, and the second mortgage, and split out for ourselves the **TIME** and the **MEANS** to live healthily, like nature intended.

**Continued from Page 1**

**Food Whitener E171 Gut Attack, Titanium Nanoparticle Gut Attack, March 2017** [40]. Here studies found that, this time, it undermines the **SMALL** intestine's wall, withering its micro-villi and disrupting its ability to absorb nutrients.

**My View?** As always, the safest is to avoid manufactured foods wherever possible, read labels if you have to, and also go for 'free-from' toothpastes and creams where you can.

**Continued from Page 1**

**Hunter-gatherer life easier** Nevertheless, Dr Dyble makes a valuable point. In forager societies, people had so much more time for each other – and the exchange of knowledge and skills added a richness that we have lost today.

**Spreading the Word**

**UPCOMING EVENTS: Summer Recess**

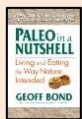
**ADVANCE NOTICE: Lecture**

**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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