



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:** Paleo-climate & Warming. **Ancestral Child Development:** The “Nested” Human. **Ancestral Environment:** Sound of Nature relaxes us. **Recipe:** Greek Almond-Garlic Dip (Skordalia). **Q&A:** Glyphosphate (Roundup) Mischiefs; Yogurt GI & Insulin Index (II). **Ancestral Health: Our Living Gut** – part XVII. **Hints & Tips:** Red Onions Quench Cancer Cells; Mushrooms for Antioxidants. **From Forager to Astronaut:** Keeping Mars Pioneers Alive – part V. **Briefing:** Epigenetic Effects – part V – Pollutants. **Spreading the Word:** Radio Humarian Podcasts; Book Signing; Talk Oxford University.

## Question of Month

### Paleo-climate & Warming

This is an edited exchange from our FaceBook page:

<http://on.fb.me/Group-Bond>

**Q.** *What would be your take on the whole global warming debate? It is true that it is happening. But is it caused by us and should it be mandated at the government level.*

**A.** My view on ‘climate change’ hasn’t changed since the articles I wrote in that 10 year-old [#BondBriefing](#) - notably in the **Viewpoint, Nov 2007** [1]

**a)** In its history, the Earth has gone through 5 major deep Ice-Ages. Super-imposed on those huge cycles have been hundreds of medium cycles and then thousands of minor “little-ice-ages” such as those that have been experienced in recorded history.

**b)** For 85% of the Earth’s history there have been **NO ICECAPS AT ALL!** So it is **NORMAL** for the Earth to be **TROPICAL** from Pole to Pole.

**c)** We are still emerging from the last Ice Age and, **QUITE NATURALLY**, the Earth will continue getting warmer for many more millennia (on average) without our help. However there are bound to be some mini-ice ages on the way.

**d)** Carbon dioxide levels have been up to **8 TIMES HIGHER** in the past, notably during the Cretaceous when dinosaurs ruled the world. So currently, plant life is **STARVING** for want of carbon dioxide.

**e)** I have studied mathematics (including Chaos Theory) to Master’s level > **p 3**

## Ancestral Child Development

### The “Nested” Human



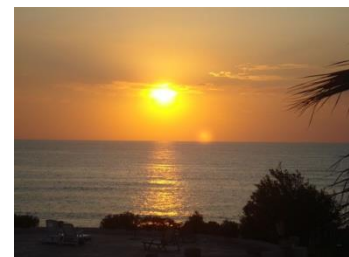
Over the years I have had some contact with professor of psychology, Darcia Narvaez of Notre Dame University, Indiana. She makes a speciality of the fast-developing field of human evolutionary psychology and has shared with me her thoughts on what she calls “The Nested Human” [2].

Compared to other animals, humans are malleable in early life and are very needy at that time. Early life is when a host of epigenetic developments happen, when genes get switched on an off according to the lifestyle and social pressures acting on the child. It is crucial that these happen in a way that nature intended. In contrast, our close cousins, the chimpanzees, lack such plasticity.[1]

The newborn’s brain is only about 25% of adult size, Moreover; humans have the longest maturational schedule of any animal: twenty years for physical growth and closer to thirty years for brain development. > **p 4**

## Ancestral Environment

### Sound of Nature relaxes us



We live 100 yards from the sea (photo), and we delight in its ever-changing moods and sounds.

Ha! Indeed this is not a fluke. The gentle burbling of a brook, or the sound of the wind in the trees, can physically change our mind and bodily systems, helping us to relax. So find researchers at the Brighton and Sussex Medical School, UK [3].

They found that playing ‘natural sounds’ affects body systems that control the ‘fight or flight’ response, or the ‘rest and digest response’.

When listening to **NATURAL** sounds, the brain focused its attention outward.

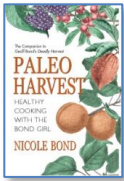
When listening to **ARTIFICIAL** sounds, the brain focused inwardly in ways that favor anxiety, post-traumatic stress disorder and depression.

**My View?** In the past we have spoken much about ‘natural’ or **GREEN** environments as speaking to our ancestral psyches and so making us feel good. We have even spoken of the role of **LIGHT**.

Now we have another element – **SOUND**. Yes, those architects who install fountains in their atriums...

> **p 4**

## Recipe



This recipe is from Nicole's cookbook: [Paleo Harvest](#) [4].

Also on [Amazon](#) [5] and [Kindle](#) [6].

### Greek Almond-Garlic Dip (Skordalia)

**Yield: about 1 1/4 cup**

*A classic Greek sauce which can be served as a dip, or served with chicken or fish dishes. As a variant use cold pressed, organic Canola oil instead of olive oil.*

3/4 cup blanched almonds (about 4 ounces)

4 large cloves garlic, roughly chopped

1 tablespoon lemon juice

1 tablespoon nutritional yeast flakes

1/2 cup extra virgin olive oil

1/2 cup hot water (more or less, if desired)

salt to taste

freshly ground black pepper, to taste

1. Grind the almonds into a flour in a food processor or blender.

2. Add the garlic, lemon juice and yeast flakes and purée until smooth.

3. Keep the processor running whilst very slowly pouring in the oil.

4. Blend in the water gradually to give the consistency you prefer.

5. Salt and pepper to taste.

6. Chill in the refrigerator before serving.

## Questions

### Glyphosphate (Roundup) Mischiefs

**Q.** Roundup (glyphosphate) is used as a weed-killer in conjunction with the cultivation of genetically modified (GMO) crops like soybean. Now Dr Stephanie Seneff [computer scientist at MIT] has done a YouTube video claiming many harms done by Roundup: <http://bit.ly/2D8s8xp>  
Comments?

**A.** I support Dr Seneff's general drift – it is quite irresponsible and improvident to allow agro-industry to drench our environment with chemicals called “endocrine disrupters”. These are chemicals which mess with our hormones – and Roundup is one of them.

That's beside the iniquities of using it as part of a patented system where, once a farmer plants GMO seeds he is obliged to use Roundup and dare not deviate from the legal straitjacket. It locks the farmer into an infernal financial and legal treadmill.

On the other hand, the scientist in me balks at Seneff's graphs showing “correlations” between glyphosphate use and various conditions like autism, ADHD and so forth.

Such correlations could equally be drawn for a vast range of other variables such as vaccinations, obesity, physical activity, sleep deprivation, etc ...

As we know, “correlation” is not “causation” and she would have to produce firmer evidence on those fronts. Even so, as a chemical which disrupts our hormonal balances, Roundup is surely doing some mischief and we should avoid it by avoiding GMO's in general.

This can be part of a consumer revolt to halt our Gadarene rush towards a cliff-edge of ecological and existential self-destruction.

### Yogurt GI and Insulin Index (II)

**Q.** This [extract](http://bit.ly/2D9vaRh) from *The Journal of Nutrition*: <http://bit.ly/2D9vaRh> [7], says that yogurt GI (glycemic index) is low because the protein content cancels out the sugar content.

**A:** First thing to note is that this study was financed by the dairy behemoth, Danone Inc. Don't be deceived into thinking that scientific integrity is a commonplace. Danone has brought a favourable characteristic of yogurt to the fore and kept secret its drawbacks.

Indeed, because of Danone's commercial interest, *The Journal of Nutrition* classes this article as an “advertisement”, not as a genuine, impartial, study.

Having said that, this study was written by Thomas Wolever who, under the aegis of David Jenkins, was one of the devisers of the Glycemic Index in 1981 [8] so it nevertheless merits consideration. However, the problems with yogurt are not to do with GI – they are to do with its high Insulin Index (II). The high Insulin Index is probably due to the multiplying effect of protein-and-starch (or sugar) combinations. This unnaturally high Insulin Index is a major drawback not an advantage.

Even so, don't get too hung up on GI or Insulin indexes. As the study says, they can vary enormously from one subject to another and from one product to another. (See the [Appendix 1](#) [9] in my book [Natural Eating II](#) [10].)

Even the same person can have wildly differing Index measurements from one day to the next.

So Danone is being disingenuous: By giving yogurt ringing praise on the sole issue of GI, thanks to Thomas Wolever's study (which was limited to this aspect), they pass in silence over the main problems which make yogurt a harmful food: its ability to send insulin levels rocketing, and its content of allergens, bad fats (notably palmitic acid & myristic acid [11]) and bad proteins (beta-lactoglobulin & casein)

For Beta-lactoglobulin, see **What about Whey Protein?** [Feb 2013](#) [12].

**Bottom line:** yogurt is not a health food, it is not even a human food, and it is to be avoided.

Yogurt is not a health food, or even a human food, and is to be avoided.

Oh – and if you are still hooked on yogurt there are several Paleo-conforming alternatives on the market made from, for example, coconut.

## Ancestral Health

### Our living Gut - part XVII

[Last month](#) [13] we saw how antibiotics' effect on gut bugs fattens kids and drives diabetes. Continuing: **Modern Era Microbe Extinctions** Many studies have shown that changes in diet can dramatically change the microbial profile for the



better. [14] So is that all we have to do? Be like the Dutch in wartime – and eat more turnip, sugar beet, linseed, tulip bulbs and so on? Not so fast. There are two major obstacles:

- Such studies focus on the major bacterial groupings and ignore the ‘long tail’ of minor species like *Treponema* and,
- Most disturbingly, if you haven’t got the missing bugs in the first place, it is devilishly difficult to conjure them back into your microbiome.

That’s according to Erica Sonnenberg whom we first met in [Sept 2017](#) [15]. She is from Stanford University, California, and she made the dramatic finding that over several generations on a low-fiber diet – as is common now in western societies – there is a progressive loss of diversity.

As a result some bacterial species in our individual microbiomes are **EXTINCT** [16]. The only way to get the species back is to have a “fecal transplant”. (There will be a feature on fecal transplants [Next Month](#).)

Indeed the problem is worse than that. As industrialized lifestyle and processed foods spread to the most remote areas of the globe, microbes are going extinct even in primal societies.

Sonnenburg opines that we should be preserving samples of primal stools and cultivating them so that we can reintroduce them back into our microbiomes.

[Next Month](#) [17]: **Part XVIII** Gut Worm Helpers

### Hints & Tips

#### Red Onions Quench Cancer Cells

On the principle that color indicates the presence of good micro-nutrients, we have always chosen red onions over white ones.

Now Canadian researchers confirm this principle. They find that the redder the onion the higher the content of two important flavonoids: quercetin and anthocyanin [18].

These two work together (they ‘potentiate’ each other) to kill cancer cells. Initially this worked on colon- and breast-cancer cells but

the researchers see no reason it would not work on all cancers

**My View?** Underground corms similar to onion and leek were a regular part of forager diets, we can expect our bodies to need them too.

#### Mushrooms for Antioxidants



*Porcini*

(*Penny Bun, Cèpe de Bordeaux*)

Mushrooms contain unusually high amounts of two antioxidants: glutathione and ergothioneine [19]. Glutathione is well known and I have written several times about it:

**Our Living Gut – Part X**, [May 2017](#) [20].

**Vitamin B12 Brain Health Link**, [March 2016](#) [21],

**Mellow Fruitfulness**, [Aug 2004](#) [22].

On the other hand, **ergothioneine** is much less well known, yet it has equally important function as an antioxidant. According to lead researcher professor Robert Beelman of Penn State University, USA, ergothioneine and glutathione could have a role in decreasing the likelihood of neurodegenerative diseases, such as Parkinson’s disease and Alzheimer’s disease.

Porcini are the most rich in these antioxidants followed by oyster mushrooms. Even white button mushrooms have a rich content.

**My View?** We perhaps do not emphasise enough that fungi are an important part of the forager diet, so it is not surprising if our bodies came to rely on them.

Good news: these antioxidants are heat stable so enjoy mushrooms (any variety) either raw or cooked.

### From Forager to Astronaut

#### Keeping Mars Pioneers Alive (V)

*I am serializing my contribution to Dr. James Melton’s book, Red Planet Leadership* [23]. [Last month](#) [24] we looked at the challenges of sustainable physical activity in space and forager power relationships.

### Leadership in Space

The modern science of Evolutionary Leadership Theory draws comparison with modern systems of management and the ‘mismatch’ with our ancestral past.

Unlike our ancient ancestors, modern leader/managers do have power over their followers; leaders are usually assigned top-down, not emerging bottom-up; and modern leaders are not subject to the STOP sanctions, (notably murder!) that foragers apply to leaders who get out of line.

In summary, the greatest threats to a successful Mars mission are psychological stress and interpersonal strife.

In my view mission leadership must never lose sight of the psychology of our ancient origins; it must strive to work with the grain of our savanna-bred natures; it must avoid the “mismatch” of modern management practice.

**Continued from Page 1**

### Paleo-climate & Warming

... and I know how flaky and unreliable climate modelling really is. So my view is that ‘Climate Change’ is an unstoppable “Force of Nature” and it is the height of hubris to imagine that we humans can do anything significant to change its course.

**HOWEVER:** From a policy point of view I can see that reducing our reliance on fossil fuels makes political sense given:

- their vulnerability to overseas suppliers.
- their association with pollutants.
- the fact that they are a finite resource.

**NEVERTHELESS:** I have grave concerns about the Climate Change Warriors. They have become a fanatical sect bent on using this scare to force irrational policies on governments – irrational policies which impoverish us all, load us with undeserved guilt, inconvenience us, and discombobulate us.

**MY PRIORITY:** [Next Month](#)

## Briefing

**Epigenetic Effects - Part V**

[Last month](#) [25] we saw how *Good intentions pave the way to unintended consequences*. Now:

**Pollutants** can switch on bad genes permanently: In a study on pregnant rats, Michael Skinner of Washington State University tested a range of "endocrine disruptors" (they mess with your hormones). These included: dioxin, jet fuel, DEET (an insect repellent), permethrin (an insecticide), and plastic admixtures Bisphenol A (BPA) and phthalates.

He saw females reaching puberty earlier, increased ovarian cysts, lower numbers of ovarian egg follicles and, in males, increased rates in the decay and death of sperm cells [26]. Said Skinner, "What your great grandmother was exposed to when she was pregnant may promote these conditions in you, and you're going to pass them on to your grandchildren."

[Next Month](#) [27]: **Epigenetic Effects VI**, Moral? & Conclusion

## Continued from Page 1

**The "Nested" Human**

Humans evolved a long "nest period" for their young with these main characteristics:

- **No separation of mother and baby or imposed distress**). Skin-to-skin contact at *birth* facilitates the release of oxytocin in mother and infant, reducing childbirth stress [6], and a more responsive relationship and greater child self-regulation a year later.[7]

**Continued:** [Next Month](#).

## Continued from Page 1

**Sound of Nature relaxes us**

... or naturopaths who play burbling muzak in their waiting rooms instinctively know what appeals to our innermost needs

## Spreading the Word

**EVENTS:** <http://bit.ly/bond-event>  
Talks to private organizations.

**RADIO INTERVIEWS**

My first **Q&A** session with Amy of Humarian [28] is now posted. Listen

to it here on the Humarian site <http://bit.ly/humarian-QA-1>

It is also on [Facebook](#) [29], [Twitter](#) [30].

The second Q&A session will be posted later in January. Watch out for details [Next Month](#).

**USA TOUR 2018** Jan 20 to March 18

**Book Signing:** Friday March 9.

I will be signing copies of [Paleo in a Nutshell](#) [31] at the [Square One](#) [32] stand in the Natural Products exhibition, Expo West, Anaheim, Los Angeles, CA  
[www.expowest.com](http://www.expowest.com)

**PUBLIC TALK**

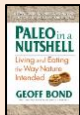
**Oxford University:** April 11, 2018  
**7:15 pm** for 7:30 pm sharp

**For:** Speedwell Trust,  
**At:** Green-Templeton College, Woodstock Road, Oxford, OX2 6HG

**Map:** <http://goo.gl/maps/iky30>

**Title:** To be announced  
**Contact:** Mary Perryman. +44 (1865) 552688.

[mary.perryman4@gmail.com](mailto:mary.perryman4@gmail.com)



**Paleo in a Nutshell:** Geoff's latest work encapsulates, concisely and easily, current thinking on living the way nature intended.  
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1 <http://bit.ly/22Riu6h>

2 <http://bit.ly/2mr0Ozc>

3 Cassandra D. Gould van Praag, Hugo D. Critchley et al. Mind-wandering and alterations to default mode network connectivity when listening to naturalistic versus artificial sounds. *Scientific Reports*, 2017; 7: 45273 DOI: 10.1038/srep45273

4 <http://www.paleo-harvest.com>

5 <http://amzn.com/0992751209>

6 [www.amazon.com/dp/B00HKOZXTM](http://www.amazon.com/dp/B00HKOZXTM)

7 Yogurt Is a Low-Glycemic Index Food, Thomas MS Wolever doi: 10.3945/jn.116.240770, *J. Nutr.* July 1, 2017, vol. 147 no. 7 1462S-1467S

8 *Am J Clin Nutr.* 1981 Mar;34(3): 362-6. Glycemic index of foods: a physiological basis for carbohydrate exchange. Jenkins DJ, Wolever TM et al

9 <http://bit.ly/2CYL6IU>

10 <http://bit.ly/NE-II>

11 MacGibbon AHK, Taylor MW. Composition and structure of bovine milk lipids. *Advanced dairy chemistry*, Fox PF,

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12 <http://bit.ly/1mJMVXI>

13 <http://bit.ly/2AN9Xri>

14 David LA et al. Diet rapidly and reproducibly alters the human gut microbiome. *Nature*. 2014;505:559-563.

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16 Erica D. Sonnenburg, et al; *Nature* 529, 212-215 (14 January 2016) doi:10.1038/nature16504

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19 Michael D. Kalaras, Robert B. Beelman. Mushrooms: A rich source of the antioxidants ergothioneine and glutathione. *Food Chemistry*, 2017; 233: 429 DOI: 10.1016/j.foodchem.2017.04.109

20 <http://bit.ly/2r4XWxD>

21 <http://bit.ly/24iqSz0>

22 <http://bit.ly/1OzxbWF>

23 Red Planet Leadership, James Melton, ISBN: 978-0-9604752-3-0.

[www.jamesmelton.com](http://www.jamesmelton.com)

24 <http://bit.ly/2AN9Xri>

25 <http://bit.ly/2AN9Xri>

26 - Skinner M et al (2012) Transgenerational Actions of Environmental Compounds on Reproductive Disease and Identification of Epigenetic Biomarkers of Ancestral Exposures. *PLoS ONE* 7(2): e31901. Full Text: <http://bit.ly/JLh7K3>.

- Skinner M et al. Environmentally Induced Epigenetic Transgenerational Inheritance of Ovarian Disease. *PLoS ONE*, 2012; 7 (5): e36129

27 <http://bit.ly/2oFlhog>

28 <http://bit.ly/Humaria-podcast>

29 <http://on.fb.me/Group-Bond>

30 <https://twitter.com/savvyeater>

31 <http://www.paleo-nutshell.com/>

32 [www.squareonepublishers.com](http://www.squareonepublishers.com)