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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

Our Evolutionary Heritage: How Forager Children learn Life Skills. **Evolutionary Biology:** Gut Viruses: Breastfed vs Formula. **News Shorts:** Less Sex, Earlier Menopause; Hunter-gatherers have deep relationship with the animals they hunt. **Quote:** Carl Jung. **Q&A:** Vegan Baby & Calcium; Baby: What age to begin meat? **The Long View:** The Flood & our Forager Forebears; When the Sahara was Savanna. **Breaking News:** Organic Foods – less Cancer. Exercise Helps Cancer Patients; Kids' 15-Minute Daily Mile; Virus: Immune Response; Protein Deficiency Drives Carb Over-consumption. **Viewpoint:** Weights & Measures (2).

Our Evolutionary Heritage

How Forager Children learn Life Skills



San Children (Alamy)

<https://bit.ly/30f00Bm>

Mostly forager children socialise amongst themselves, and the older children teach the younger children what they know about getting on in life. See: **Childhood**, [Deadly Harvest, chapter 8](#), page 218 [1]

A recent study of Hadza children looked at more of the detail [2]. It finds that, unsurprisingly, teaching tends to be: from older children to younger ones; within closest kin (siblings); and between same sexes.

Parent involvement was strong in their early years but weakened as the parents got older up to the age of 30.

Parents would provide young girls with suitable-sized digging sticks and boys, as young as 2, would start to learn with their first bows and arrows. Boys as young as 12, armed with their bows and arrows, would 'ride shotgun' to protect the women on their foraging parties.

Of course, young children of both sexes would accompany the women as they foraged and, so, learned 'on the job'. ➤4

Evolutionary Biology

Gut Viruses: Breastfed v Formula



Mother Breastfeeding: Mosè Bianchi

We usually focus on the **BACTERIA** in our guts, but there are **VIRUSES** too, but we know much less about them.

Now a study in the prestigious journal 'Nature' has looked at the viruses in new-born babies' guts, comparing breastfed with formula-fed [3].

Two groups were studied: 100 San Bushman (forager) babies who were 4 months old, and 125 US babies who were 3 to 4 months old.

Interestingly, the babies were born without any viruses but within a few months their guts became home to billions of viruses.

In the breastfed babies, most of the viruses infected only the gut bacteria (such viruses are known as 'bacteriophages').

The formula-fed babies had a much higher percentage of viruses which infect human cells. This, opines the researchers, lays formula-fed babies open to a higher risk of infection.

My View? We still don't know fully what the difference in virus populations signifies, but it is clearly wise to go the way Nature intended and stay with 'breast is best'.

News Shorts

Less Sex, Earlier Menopause

Women who engage in sexual activity weekly were 28% less likely to enter menopause at any given age than those who had sexual activity less than monthly [4].

The researchers speculate that if a woman is not having sex, and there is no chance of pregnancy, then the body 'chooses' not to invest in ovulation, as it would be pointless.

The presence or absence of a live-in man with his male pheromones had no influence on the outcome.

Hunter-gatherers have deep relationship with the animals they hunt.

Humans felt deeply connected to the animals they hunted, considering them partners in nature, and appreciating them for the livelihood and sustenance they provided [5].

Hunter-gatherer societies are highly respectful of the animals they hunt. They regard them as partners in the Great Wheel of Life. They say a little prayer over the prey as they give it the death-blow, thanking it for giving up its life so that the hunter and his family can live.

My View? This behavior applied especially to the larger mammals. Truly, when we think of how we impersonally slaughter cows, chickens and pigs on an industrial scale, we have lost all contact with our humanity.

Pause for Thought

"Everything that irritates us about others can lead us to an understanding of ourselves." *Dr. Carl Jung, founder of analytical psychology*

Questions

Vegan Baby & Calcium

Q. My daughter has put my two-year-old grandchild on a vegan diet. In particular I worry about the child getting enough calcium. Thoughts?

A. Let me first deal with the calcium myth before coming on to the perils of a vegan diet.

In my lectures to doctors and health professionals on the subject I ask the audience the question: "How do horses and cows build bones?"

Answer: "By eating grass!"

So, even though we are not horses or cows, it shows that there is sufficient calcium in even grass to build solid bones.

I also quote Henry Thoreau:

"One farmer says to me, "You cannot live on vegetable food solely for it furnishes nothing to make bones with"... walking all the while behind his oxen which, with vegetable-made bones, jerk him and his plow along... Walden, 1847

See also the segment "**Bone Health and the Calcium Myth**" in [Paleo in a Nutshell](#), page 46 and, "**Osteoporosis**" in [Deadly Harvest](#), p 266.

Of course, in a State of Nature, forager mothers largely breast-fed their 2-year-olds – so the question does not arise.

Nevertheless, as you hint, a vegan diet is not as nature intended and putting a baby or toddler on a vegan diet is a high risk strategy. It has led to several tragedies for parents who did not do this skillfully enough. See [Vegan Diet: Baby gets Rickets, Jan 2019](#).

For a short run-down on what vegans need to pay special attention to see: [Practising Paleo-Veganism, April 2017](#).

Baby: What age to begin meat?

Q. At what age would you introduce meat into a baby's diet?

A. As seen in the previous question, in a State of Nature babies would be mostly breast-fed.

However, from the age of about 6 months forager mothers would begin to introduce solids. They would pre-chew all kinds of vegetables and

meats and feed the pap into the baby's mouths. See [Foragers Fed Pap to Babies, June 2012](#) [6]



Actress Alicia Silverstone feeds her baby by mouth

https://youtu.be/qj_OBfO5xgq

Some foods, like raw eggs and animal brains did not need pre-chewing and were fed directly.

Today the food processor can replace pre-chewing – but it can't substitute for the loss of immune cells and other good molecules transferred in the mother's saliva.

The Long View

The Flood and our Forager Forebears

At the end of the last Ice Age 15,000 years ago, melted water caused the sea level to rise 400 ft (120 m) within 9,000 years.

Long-standing primal coastal dwellers in many parts of the world have traditional 'Flood' legends that have survived intact for thousands of generations.

They relate how peoples at that time recognized the threat from continuing sea-level rise and that they sought various ways of stopping it.

Some Aboriginal Australian 'dreamtime' legends explain practical (but hopeless) measures that include tossing hot rocks into the encroaching ocean and building wooden fences along the shoreline [7]. At its peak the seas advanced down the Gulf of Carpentaria at a rate of 3 miles per year [8].

My View? Foragers are strongly territorial with a deep emotional attachment to 'their' land. See [Myths & Rituals, Deadly Harvest, Chapter 8](#), p 220 [9].

There must have been millennia of strife as the coastal dwellers retreated from their own land and encroached on neighboring tribes who would have resisted those invasion pressures forcefully.

When the Sahara was Savanna



Sahara Desert today [10]

At the time that the 'Flood' myths originated (previous article), the Sahara Desert was much wetter and had a Savanna landscape. It supported large animals like elephants, hippos and rhinos [11].



Sahara Rock art from 12,000 years ago Forager bands of course roamed this landscape and the study finds that they also ate several kinds of fish including catfish and tilapia.

Breaking News

Organic Foods - less Cancer

A French population study on some 69,000 people finds that there is a correlation between intake of organic foods and lower risk of cancer [12].

The commonest cancers were breast, followed by prostate, skin, colo-rectal, non-Hodgkin's lymphoma, and 15 other types of cancer. The subjects with the highest consumption of organic foods had a 25% **LOWER** risk of cancer.

The researchers observe that organic foods contain far less pesticide; that the 'cocktail' effect of many pesticides being present together is unknown; and that there is, anyway, a connection between pesticide intake and cancer [13,14].

My View? Since this is a 'population' study, it finds correlations but not causation. For example, it is possible that those who eat organic also lead healthier lives anyway.

Even so, it makes sense that organic is an intrinsically safer option. Not only for pesticides and so forth, but

also for animal husbandry and sensitive farming practices.

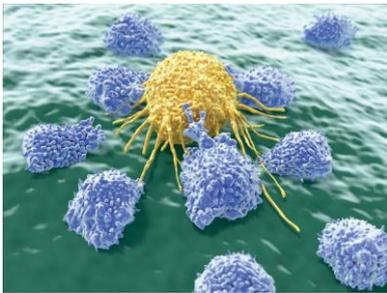
My watchword: eat organic when you can, regular when you must.

See: **Glyphosphate (Roundup) Mischiefs**, [Dec 2017](#) [15]

Peeling Fruit? [June 2003](#) [16]

Too many Ways to Get Fat, [Feb 2007](#) [17]

Exercise Helps Cancer Patients



Killer-cells attacking a cancer cell

That physical activity encourages remission in cancer patients has been known for some time. However, the reasons for it were not known.

A study [18] discovered that muscle contractions generate immune signalling molecules called 'myokines' which call up killer cells to deal with intruders such as cancer cells.

Myokines are a set of molecules belonging to the family of 'cytokines' which we met in 'cytokine storm' in **Vital role of the Sunshine Vitamin, Vitamin D**, [April 2020](#) [19]

With breast cancer, some studies indicate that 150 minutes per week of 'moderate' exercise **DOUBLES** the chance of survival compared with breast cancer patients who don't exercise during treatment [20].

'Moderate' exercise means walking briskly or something equivalent.

Myokines are **ONLY** released during physical activity and their healthful effects are not restricted to battling cancer cells – they are a major factor in all the other known benefits of physical activity.

My View? Just so! Although I would reverse the argument. Our evolutionary history came to **DEPEND** on physical activity being there – and if it is not – things go wrong. See: **10,000 steps a day?** [July 2014](#) [21]

Kids' 15 minute 'Daily Mile'

"By taking small steps and jogging, walking or running for 15 minutes, people can make huge differences to their health and well-being." So says Elaine Wyllie of the 'Daily Mile Foundation'.

Elaine was head-teacher of a primary school in Stirling, Scotland. After a program of 'Daily Mile' they found: increased Moderate and Vigorous Activity (MVPA), reduced sedentary time, improved metabolic health, body composition and physical fitness [22].

My View? It is really encouraging that, for a kid to invest only 15 minutes of moderate jogging a day has such worthwhile health benefits.

But for my generation, it is an eye-opener that it is necessary to promote such a measure.

Virus: Immune Response

With the current Covid-19 pandemic, authorities are pinning their hopes on developing a vaccine.

However, this is to overlook the fact that the body does have its own built-in defenses against any virus attack. These are provided by the immune system in the form of specialized T-cells: "cytotoxic lymphocytes" (CTLs) and "natural killer" cells (NKC).

Early studies coming out of China find that those who react badly to Covid-19 have low blood levels of CTLs and NKCs [23,24].

The suspicion is that such patients start off with an immune system gravely deficient in virus-fighting cells due to conditions like obesity and diabetes.

There is another possible factor: in their battle with viruses, CTLs and NKCs get used up and the body has to rapidly generate new ones to take their place. One study raises the possibility that covid-19 undermines the body's ability to replenish the supply of CTLs and NKCs [25].

My View? Whatever is going on (and it is certainly complicated), it makes sense to keep your immune system in tip-top condition. See: **Surviving Covid-19**, [Feb 2020](#) [26].

Protein Deficiency Drives Carb Over-consumption?

Dr David Rubenheimer of Sydney University, Australia, puts forward evidence to suggest that humans have appetites that react to the intake of the three major nutrients: protein, fat, and carbohydrates [27]

If any one of them is deficient, then appetite is not satisfied and we keep eating **ALL OF THEM** until the one deficiency is satisfied.

Raubenheimer says this is what is happening to the American diet. The ratio of ultra-processed carbohydrates to that of protein is too high. As a result, people's appetites keep them eating the diet of mostly bad carbs in a desperate attempt to get enough protein.

"Ultra-processed carbs are industrial creations designed to be irresistible." Notably they are often flavoured with umami [28] which deceives the taste buds into thinking that there is protein content when there isn't any.

Such foods include pizzas, crisps, breakfast cereals, sweets, bread, cakes, cookies, and ice-cream. More than half of the typical USA and UK diets are made up of such foods.

"So when protein is diluted by fats and carbs, our appetite for it overwhelms the mechanisms that normally tell us to stop eating fats and carbs."

This work extends the Raubenheimer studies we reported on in **Fulfill Protein Appetite, Fulfill All**, [Sept 2016](#) [29].

My View? It is hardly necessary for me to say that we should not be eating **ANY** ultra-processed foods! As for 'carbs', Raubenheimer uses the term to mean starches and sugars ('fermentable' carbohydrates). Other forms of plant food – vegetable, fruits and salads – are 'good' carbs which we should be eating plenty of.

Just remember that the ratio of good carbs to proteins should be about 75% to 25% by weight.

See: **Judging Protein Intake**, [Feb 2013](#) [30].

Viewpoint

Weights & Measures (2)

From [Last month](#): Part 1 where we compared systems of weights and measures which have grown "organically" from the ground up and "artificial" ones designed by high-brows and imposed top down.

Napoleon said of the Metric System: "Nothing is more at odds with the way the mind, the memory and the imagination work." [31]

(Napoleon was too busy with foreign wars to notice that the French Revolutionary committee was busily imposing the metric system on his watch!)

Temperature comes up all the time in recipes. The two surviving systems, Fahrenheit and Centigrade (Celsius) are both invented systems and both are based on the freezing point and boiling point of water. The Swede, Anders Celsius, divided this range into 100 degrees whereas the German, Daniel Fahrenheit, divided this range into 180 degrees as a nod to the number of degrees in a half circle.

Napoleon goes on to say: "it is true that the decimal numeration facilitates the labours of astronomers and

calculators; but these advantages are far from compensating the disadvantage of rendering **THOUGHT** more difficult."

Napoleon had much more to say on the iniquities of imposing, from on-high, a 'grand design' on merchants and citizens "infringing their usages, habits and customs with all the violence of a Greek or Tartar conqueror." Download the whole segment here: <https://bit.ly/319wAH7>. We just have to be grateful that the French Revolutionaries couldn't make stick their decimal clock (with its 10-hour day, 100-minute hour, and 100-second minute); much less its decimal calendar with its 10-day week!

What would a forager think about top-down, grand designs? It never happened! They were free of such grand plans, whether it be those of Pol Pot, Chairman Mao, the Soviet Union or the sainted European Union.

Be that as it may, and nothing daunted, in our [#BondBriefing](#) we give equivalents of the various systems, 'organic' and 'artificial', especially when it comes to recipes.

Continued from Page 1

Teaching Forager Children

Similarly, as soon as they were old enough (around 10 years of age) the boys would join with the men on their hunting, trapping and scavenging expeditions.



My view? It is hard to draw a parallel between the basic and simple lives of foragers and the challenges in modern complex societies of turning children into fully functioning adults. Today we cannot escape from the need for intensive schooling – if only for the three 'Rs' (Reading, Writing, Arithmetic).

We can, nevertheless, draw lessons from our ancient programming. For example, instead of stratifying schoolchildren into age-groups, schools can structure some age-blind social mixing where the older pass on their know-how to the younger ones.

Spreading the Word

All speaking events are cancelled until further notice

Paleo in a Nutshell: Geoff's latest work encapsulates, concisely and easily, current thinking on living the way nature intended. www.paleo-nutshell.com



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