



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

Jungle Lore: Fulfill Protein Appetite, Fulfill All. **News Flash:** Paleo Diet Benefits Heart Health. **Ancestral Genetics:** Genes for Lactose Tolerance Increase Liability to Osteoporosis. **Food Ideas:** Guacamole Devilled Eggs. **Ancestral Biology:** Origins of Female Orgasm. **Ancestral Health:** Our Living Gut = Part IV. **Q&A:** The Waterside Ape. **Brain Health:** Obese Brains 'Ten Years Older'. **Health Policy:** USA – Prescription Drug Rip-off. Excess Weight Linked to Eight more Cancer Types. **Evolutionary Fitness:** Women's Body Image. **Jungle Lore:** Defining Dietary Fiber – Part II. **Spreading the Word:** Video Clip

Jungle Lore

Fulfill Protein Appetite, Fulfill All

To our cost we know that our bodies have strong appetites for fats, sugars, starches, and salt. But it never tells us to stop!

That's because the body didn't need to build in reflexes to tell us when it has had enough – the situation never arose in forager times.

Worse, the body doesn't even know when we have eaten too many CALORIES either! How can this be? Doesn't the body have ANY checks on the overconsumption of ANYTHING?

Now a paper from the University of Sydney, Australia, casts a whole new light on the question [1].

It starts from the idea that the PATTERN OF EATING is important – and that evolution needed to reduce the complexities of foraging to a simple rule of thumb.

Now, in forager times, the PATTERN of eating was PREDICTABLE.

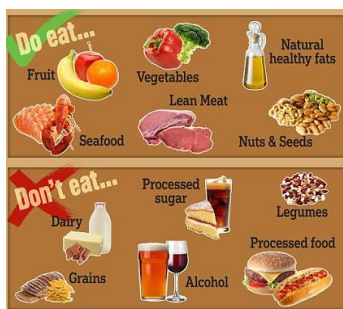
So here is the wondrous insight: The body just needed to check one factor – PROTEIN INTAKE. If that is sufficient then the body (in a state of nature) could be sure that the intakes of calories, fat, carbs, sugars, and salt etc.. were right too.

Sure enough, humans do have a strong SATIETY reflex for PROTEIN INTAKE. Once you have eaten enough, you feel full.

So that explains why we can eat a meal of waffles, maple syrup, toast, butter, jam and French fries and still have room for more – our bodies are crying: "Where's the Beef!" > p4

News Flashes

Paleo Diet Benefits Heart Health



Credit www.alami.com

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

Little by little, researchers are starting to look at the Paleo Diet. A recent small study on healthy subjects found that, after 8 weeks on the diet, their levels of an immune signaling molecule Interleukin-10 (IL-10) rose by 35% [2]

This is good since IL-10 REDUCES inflammation. So, if levels are low, then inflammation increases which increases the risk of heart attack.

As a bonus, the Paleo-dieters lost weight by consuming 22% fewer calories and 44% fewer starch grams.

This Paleo-favorable news was reported, amongst others, in the tabloid Daily Mail. Although hyped in tabloid fashion they did publish the above guidelines which read:

DO EAT: Vegetables, seafood, lean meat, natural healthy oils, fruit, nuts and seeds.

DON'T EAT: Dairy, grains, alcohol, processed sugar, legumes, processed food.

Not a bad summary!

See: **Paleo Diet Fights Metabolic Syndrome** [March 2016](http://www.thebondeffect.com) [3].

Ancestral Genetics

Genes for Lactose Tolerance Increase Liability to Osteoporosis



West African, lactose intolerant woman bearing heavy load. She won't get osteoporosis (See: Importance of Load-carrying. [Aug 2014](http://www.thebondeffect.com)) [4]

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

West Africans live in a region where dairy is impossible. Like archetypal hunter-gatherers, they are *genetically* lactose intolerant. Researchers find that their rate of osteoporosis and hip fractures is 80 times LOWER than Europeans or east Africans who carry lactase tolerance genes [5].

Seemingly it is enough to just have the genes 'for' milk drinking to raise massively your risk of osteoporosis. The findings resolve a longstanding paradox: While African-Americans are generally low consumers of dairy, they are also far less vulnerable to osteoporosis. However, conventionally, the researchers found that milk intake and high animal protein intake also increase osteoporosis risk.

My View? You are not doomed by your genes. See 'Bad' Genes Don't Doom Us, [April 2010](http://www.thebondeffect.com) [6]. So, even if Caucasians are more vulnerable to osteoporosis, IT IS NOT INEVITABLE. Just live like we say! – And don't forget that LOAD BEARING activity is important too.

Food Ideas

This fully Paleo conforming dish makes a great party canapé.

Guacamole Devilled Eggs

Yield: 12 egg halves



Enlarge: <http://bit.ly/2dO2Rtz>

6 large omega-3 eggs, hard-boiled, cooled and peeled

2 ripe avocados

$\frac{1}{4}$ cup cilantro, finely chopped (keep some for decoration)

1 tablespoon chives, finely chopped (keep some for decoration)

1 tablespoon lemon juice

$\frac{1}{4}$ teaspoon salt, or to taste

1 teaspoon red pepper flakes
paprika powder, for garnish

1. Cut eggs in half and remove yolks.
2. In a bowl, mash yolks and avocados.
3. Stir in cilantro, chives, lemon juice, salt, red pepper flakes.
4. Fill the egg whites with the yolk and avocado mixture.
5. Refrigerate until serving.
6. Prior to serving sprinkle with paprika powder.

Ancestral Biology

Origins of Female Orgasm

The role of female orgasm has no obvious role in human reproduction. Yet it is common in other mammals including our cousins, the primates.

In all mammals, including humans, female orgasm triggers a surge of the female hormones prolactin and oxytocin. In non-human mammals, this avalanche of hormones serves a precise purpose: it triggers ovulation.

However, in humans, ovulation occurs automatically whether or not there is orgasm.

So why is it there? Seemingly evolution just moved on, and female orgasm became optional [7].

Moreover, a study of female genitalia revealed that at the same time with evolution of automatic ovulation, the clitoris relocated from its ancestral position INSIDE the 'copulatory canal' to the outside. Thus the clitoris receives less stimulation during intercourse to trigger the 'neuro-endocrine' reflex known as orgasm.

Is there a reason for these changes? As so often in evolution, changes happen and the original function becomes redundant but it gets co-opted into a secondary function later.

Ancestral Health

Our living Gut - part IV

[Last month](#) [8] we began looking at 'dysbiosis' (bad gut-bug profile) and inflammation and autoimmune disease. The story now continues:

Dr Dan Littman at the NYU School of Medicine finds that even in the small intestine bacteria have a similar effect on immune cells [9]. They regulate the balance between Treg cells and T-helper 17 (Th17) immune cells. Th17 cells encourage inflammation. An overload of fiery Th17 cells results in unbalanced intestinal immunity, intolerance, and susceptibility to inflammatory bowel diseases.

Dr. Belkaid's and Littman's studies indicate how, by upsetting bacterial regulation of the immune system, we allow inflammatory diseases like Crohn's disease and irritable bowel to take over.

Scientists have linked this phenomenon to many other auto-immune disorders too such as psoriasis, multiple sclerosis, inflammatory bowel disease, and Type I diabetes. Dr Li Wen, University of Chicago, finds that gut bacteria can actually prevent the onset of Type I diabetes [10].

Ironically, Type I diabetes is considerably more prevalent in the West due, in part, to over-enthusiastic hygiene, particularly in infancy. As a result, children's immune systems are not sufficiently 'challenged' and so do not mature properly. One consequence is that

out-of-control killer cells might attack and destroy the pancreas's insulin cells. Another consequence of extreme hygiene is that children are more likely to suffer asthma and allergies.

[Next Month](#): Multiple Sclerosis

Questions

The Waterside Ape



Native Fishermen in Lake Victoria

Q. I heard the naturalist, David Attenborough, talking about the theory that *Homo sapiens* spent part of its evolutionary history living in water. How does that square with the Savanna Model?

A. As you say it is a theory – and a pet one of David Attenborough's. It is an attempt to explain why, compared to other apes, we are hairless, have layers of subcutaneous fat (blubber) and the ability to hold our breath under water.

In my view (and that of most commentators) this fits in very well with the Savanna Model. *Homo sapiens* evolved around the major lakes of the Rift Valley and we hold that lacustrine (lakeside) foodstuffs like mussels, clams and crabs were an important part of the diet. Moreover, some fish, like catfish (which grow to several feet long), are easily caught by hand in shallow marsh-like areas.

As I have mentioned elsewhere, these are important sources of omega-3 fish oils and help to explain how, in our evolutionary past, we had the raw materials to build big brains.

Humans also ate water-lily nuts which sink to the bottom and can only be retrieved from there.

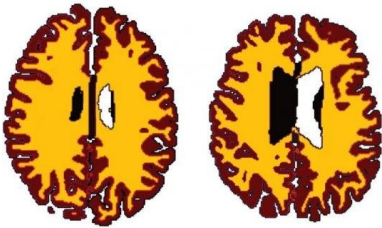
So it seems quite reasonable to assume that humans could spend several hours a day immersed in water and occasionally dive down to extract foods from the bottom.

However in the words of Professor Michael Crawford, (he of [How to Make Good Body Fats](#), [March 2010](#) [11])

Homo sapiens never 'committed itself to a life in water' like other mammals such as whales, seals and dolphins.

Brain Health

Obese Brains 'Ten Years Older'



Normal Brain and Obese Brain

Comparison of grey matter (brown) and white matter (yellow)

From middle-age, the brains of obese individuals display white matter shrinkage similar to that in lean individuals ten years their senior, according to a team at the University of Cambridge, UK [12]

White matter is the tissue that connects areas of the brain and allows for information to be communicated between regions.

Say the researchers: "This study suggests that at a population level, obesity may increase the risk of 'neurodegeneration'."

Neurodegeneration is a catch-all word for 'brain decay' which leads to such conditions as Parkinson's, Alzheimer's and Huntington's disease.

Brain Blood Flow and Exercise

A study was done on 'Master athletes' aged 50 to 80 who had participated in endurance events for at least 15 years [13]. On average, they were running 36 miles (59 km) a week. This group was supremely fit with a maximal rate of oxygen consumption (VO₂ max) above 90% for their age.

The researchers measured the velocity of blood flow in the athletes' brains while they were at peak fitness and again after 10 days of no exercise.

They found that brain blood flow decreased significantly in eight regions including the hippocampus and neural networks associated with Alzheimer's disease.

Say the researchers: "The take home message is simple -- if you do stop exercising for 10 days, just as

you will quickly lose your cardiovascular fitness, you will also experience a decrease in blood brain flow."

Meanwhile, there is hope for the over 75s. Zaldy Tan MD and team at University of California, L.A. finds that those who indulged in regular physical activity were 50% less likely to develop Alzheimer's than those who had little or no physical activity [14].

My View? It's a no-brainer! Stay lean and work your body like nature intended.

Health Policy

USA: Prescription Drug Rip-off

A number of outrageous drug price rises have hit the headlines recently. The rapid 600% increase in the price of the EpiPen, a device giving an injection for deadly allergic reactions, has shocked consumers and lawmakers [15].



Similarly Pulmicort asthma inhalers, available in UK for \$20, cost \$175 in USA. Again, Rhinocort Aqua nasal spray, is only on prescription in USA at \$250 but is over-the-counter at \$7 in Europe [16].

These are just a few of the outrageous instances of BigPharma raising prices for lifesaving medicines with no justification.

Now, even the doctors' trade journal, JAMA has got involved [17]. They reviewed medical and health policy literature since 2005 and note the huge price increases and the disparity with other rich countries.

They conclude that: "High drug prices are the result of ... granting government-protected monopolies to drug manufacturers." In addition, there are shenanigans surrounding the non-expiry of patents and generic drug prices held artificially high.

So there we have it: BigPharma can charge what it likes -- and the customer has to pay!

We had a similar experience in California this year. We went to Walgreens pharmacy for a cold sore ointment, Zovirax, which is sold over-the-counter in their UK subsidiary, Boots, for \$8.

Walgreens would be happy to sell it to us -- after obtaining a prescription -- for \$850!

My View? It definitely pays not to get sick -- especially in USA! So, yes, we hew to the Bond Precepts.

Excess Weight Linked to Eight more Cancer Types

Excess weight is already linked to cancers of the colon, esophagus, kidney, breast and uterus. Now a study has identified eight additional types of cancer linked to excess weight and obesity: stomach, liver, gall bladder, pancreas, ovary, meningioma (a type of brain tumor), thyroid cancer and the blood cancer multiple myeloma [18].

This applied to all regions of the world and the more the obesity the higher the risk. The researchers explain that excess weight leads to over-production of estrogen, insulin, testosterone, and promotes inflammation.

My View? Well, yes! All these factors depress the immune system and we can be sure that they are major factors in most cancers.

Evolutionary Fitness

Women's Body Image



Danielle Waterman and Claire Allan were members of the British Women's Rugby Sevens team at Rio.

Here they posed for *Women's Health* magazine

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

These are splendid looking athletes, but did forager women ever look like this? Probably not.

These girls, already chosen for their height -- at least 5'-8" (173 cm) -- reshaped and bulked themselves with rigorous body-building.

Says Waterman: "I struggle to maintain muscle mass. Every three

hours I eat protein, as well as fruit and veg.”

My View? Whilst we can admire these ladies, their bodies are actually pushed to an extreme – women in general need not strive to look like them.

On the other hand, a diet of protein plus lots of veg & fruit is a good plan for everyone – just follow the rule and make the ratio 25% to 75% averaged out over the day. See: [Fulfill Protein Appetite, Fulfill All](#), this page.

Jungle Lore

Defining Dietary Fiber - Part II

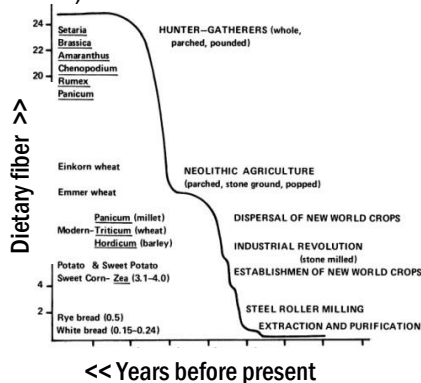
[Last month](#) [19] we explored how the notion of ‘Dietary Fiber’ is slippery and that there is no precise definition for it.

Either way, we know that Pleistocene humans had huge intakes of INDIGESTIBLE matter of which, remarkably, the evidence is preserved in fossilized feces, where Michael Kliks of University of California, Berkley, identified an intake of 130 grams/day [20].

The average American consumes only one tenth of that and we can be sure that this dearth of indigestible fiber is a factor in many modern

diseases, notably those of the digestive tract.

It is now apparent that during the last 20,000 years, the human diet has undergone a series of far reaching “revolutions,” the overall trend of which has been away from a coarse, plant-based regime of foraged leafy greens, seeds, stalks, roots, flowers, and other tissues, to a more limited, often monotypic, diet based primarily on a few cereal grains, tubers, and legumes (chart below).



[Enlarge: http://bit.ly/2cKdnSi](http://bit.ly/2cKdnSi)

The importance of the hunter-gatherer diet in shaping the structure and function of the human gastro-intestinal tract can hardly be overestimated.

Next month: Soluble, insoluble fibers and the concept of ‘MAC’ – microbiota accessible carbohydrate.

Continued from Page 1

Fulfill Protein Appetite, Fulfill All OK – you can use protein to govern satiety – but don’t overdo it! Too much protein is harmful too. See: [High Protein Diets: Kidney Disease, Feb 2014](#) [21]

Remember the rule – averaged out over the day about 25% protein by weight and 75% plant food.

The amount of protein should be about 1 gram per kg of bodyweight so for a 150lb (68kg) person that’s 68 grams of protein. To do that one needs to eat roughly 280 grams (10 oz) of protein-rich foods per day. See: [Judging Protein Intake, Feb 2013](#) [22] and, [Protein in Focus, Jan 2016](#) [23]

Spreading the Word

Video Clip. Remastered by *Georgiades Productions*.

Geoff’s 1 minute introduction to Paleo Lifestyle for [Ugg Foods](#) <https://youtu.be/30Invm2Kvls>

Private Talks. Including Rotary and Lion’s Club.



Deadly Harvest: Geoff’s latest work encapsulates current thinking on lifestyle anthropology. www.deadlyharvest.com



Paleo Harvest Cookbook: Over 170 delicious, Bond Precept conforming recipes www.paleo-harvest.com

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