



The science & art of living the way nature intended

# The Bond Briefing

www.thebondeffect.com | Subscribe: \$18 for 12 monthly issues



RATIONAL EVIDENCE-BASED COMMENT FOR THE GENERAL PUBLIC & HEALTH PROFESSIONALS. WE SAY EXACTLY WHAT WE THINK

**Question of Month:** Body-Building & High Protein Drinks. **Briefing:** Basic Body Shapes. **Evolutionary Biology:** Breast Milk's Innate Bacteria. **News:** Latest Video Uploaded; Ugg Training Sessions. **Recipes:** Samia's Sassy Salmon Patties. **Q&A:** Eggs – Raw or Cooked? What about Whey Protein? Coconut Shortening; Judging Protein Intake. **Book Review:** The World until Yesterday II. **Myth-busting:** Fear not Melanoma II. **Advance Notice:** Lecture, Larnaca; Lecture London.

## Question of the Month

### Body-Building & High Protein Drinks



Stallone as Rocky Balboa

**Q.** My son drinks whey protein shakes, trying to bulk up his muscles. These products are heavily marketed for building muscles. What is your opinion? Do high protein diets work? If so, is there a conforming way?

**A.** The short answer is: your son shouldn't waste his money!

More seriously, I did answer a similar question in 'Youngster Protein Intake', [May 2008](#) – so I'll tackle my answer from another angle.

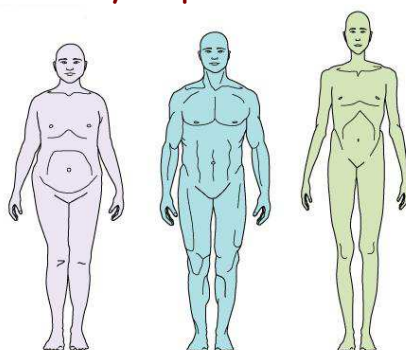
When it comes to muscle building, these are the simple facts:

- i) It doesn't work trying to 'push' protein into muscles. That's like pushing on a length of string.
- ii) Muscles build more muscle when they feel the need. Then they 'pull' protein in to make muscle. Mainly this occurs when muscle needs to be repaired after heavy load-bearing activity.

**Continued: page 4**

## Briefing

### Basic Body Shapes



Endomorph Mesomorph Ectomorph

Credit: Encyclopedia Britannica Inc

The U.S. psychologist William Sheldon developed a system of classifying body-types he called 'somatotypes'. Sheldon identified three extremes:

**Endomorph:** round, fat type

**Mesomorph:** muscular type

**Ectomorph:** slim linear type.

Most people, of course, lie at some point between these extremes, but often they are classified by which somatotype predominates.

These classifications are useful when we are concerned about losing weight or putting on muscle.

Endomorphs do, naturally, have a lot of body fat and struggle to reduce it.

Ectomorphs have little fat or muscle and have difficulty increasing either of them.

Mesomorphs put on muscle easily. See: 'Body-Building & High Protein Drinks', page 4.

## Evolutionary Biology

### Breast Milk's Innate Bacteria

Unlike formula milk, breast milk is not sterile, it contains a variety of bacteria.

Now Spanish researchers are surprised to find that the variety is much larger than previously thought [1].

In the colostrum, the first breast secretions, there were over 700 species of bacteria.

The researchers are now working to determine if their role is metabolic (to help baby digest the milk) or to tune up and educate the immune system.

They suggest that this might explain why babies on infant formula are more subject to allergies, asthma and autoimmune diseases.

**My View?** It shows that, for all our ingenuity, we cannot second-guess Nature.

## News

### Latest Video Clips Uploaded Evolutionary Medical Anthropology:

#### Video clip 11.

The Sodium-Potassium Balance.  
<http://youtu.be/Upkmr8dHsUA>

#### Video Clip 12

How it all went wrong - a) Grains  
<http://youtu.be/QntpyzUxPBC>

#### Ugg News

(See 'Ugg Ready Mix takes off',  
[last month](#))

Geoff will be giving workshops and training sessions for the Ugg team in UK during May.

## Recipes

### Samia's Sassy Salmon Patties



Longtime follower, Samia Arroyo says: "I wanted to make a fully conforming salmon patty. After much experimenting I found that I could replace the flour with ground flax seed. I think you will find these little salmon cakes to be just as tasty as any you have ever had."

1 can (approx 14 oz, 400 grams) wild salmon, drained.

1 medium onion - chopped

½ sweet red pepper - chopped

½ green pepper - chopped

1 celery stalk - chopped

5 garlic cloves - crushed

7 or 8 sprigs parsley - chopped

1 egg - beaten

1 tbsp. Dijon mustard

2 tbsp. ground flax seed

ground black pepper, to taste

olive oil spray

fresh lemon juice (optional)

1. Place the salmon in a large bowl and set aside.

2. Combine the chopped onion, sweet red pepper, green pepper, celery stalk, garlic cloves and parsley into a separate bowl.

3. Beat the egg in a small bowl and add the Dijon mustard.

4. Add the egg mixture to the chopped vegetables and stir.

5. Add the flax seed to the chopped vegetables and egg mixture and combine well.

6. Sprinkle on the ground black pepper, to taste.

7. Smash the entire mixture with the back of a tablespoon so that it is blended very well.

8. Spray a baking sheet with the olive oil spray.

9. Form the salmon mixture, by hand, into little patties and carefully place on the baking sheet. The mixture should yield between 9 or 10 patties.

10. Spray a little olive oil spray on each patty.

11. Place in preheated oven (340°F, 170°C.) and bake about 30 minutes. Turn over each patty carefully and cook another 25 minutes. Sprinkle a few drop of fresh lemon juice on each patty before serving.

#### Comment:

We modified Samia's recipe slightly to keep oven temperature below 180°C, 355°F see: 'Oily Flours: Baking & Oxidation', [Oct 2011](#).

## Questions

### Eggs - Raw or Cooked?



**Q.** Body builders used to drink raw eggs. Is scrambled egg just as good?

**A.** Rocky Balboa famously quaffed raw eggs before setting off on his dawn run. Foragers eat their eggs raw too. But cooked eggs are just as good. See: 'Raw Eggs', [April 2007](#).

However they are only a moderate source of protein. See 'Judging Protein Intake' page 3.

#### What about Whey Protein?

See: 'Body-Building & High Protein Drinks', Page 1.

**Q.** Is whey protein a good way to boost protein intake?

**A.** Whey protein comes in three main forms:

- **Concentrate** (30%-85% protein) - which also contains milk fats and other bioactive compounds.

- **Isolate** (90% protein) - which has had most of the fat and bioactive compounds removed.

- **Hydrolysate** (90% protein) - which has been modified to ease digestion and reduce allergenicity.

Whey protein is typically a mixture of beta-lactoglobulin (65%), alpha-lactalbumin (25%), serum albumin (8%), and immunoglobulins (antibodies) plus other compounds like lactose.

Beta-lactoglobulin is not present in human milk, is allergenic and is implicated in Type I diabetes. See: 'Type I Diabetes, Dairy, Grains and Antibiotics' [Aug 2012](#).

Alpha-lactalbumin is allergenic too. Lactose we know about already.

So why even THINK about messing with this stuff? As you see from 'Judging Protein', p 3, we can only use modest amounts of protein and it is easily obtained by eating REAL food!

#### Coconut Shortening

**Q.** Elana Amsterdam [2], who writes and promotes Paleo recipes, says she has discovered a safe shortening [fat to make pastries etc.]

She makes it from a mixture of coconut fat and Canola (rape-seed) oil. What do you think?

**A.** Well, it's better than traditional shortening, which is animal fat such as butter and lard or, horror, hydrogenated vegetable oil.

It's safer because the gut cannot absorb a good percentage of coconut's saturated fat (see 'Coconut Oil Mania', [Oct 2011](#).)

Some Paleo cooks are constantly searching for substitutes to make conforming versions of traditional, familiar foods like cakes and pastries.

In particular it is hard to find a substitute for shortening. That's because only saturated oils are solid at room temperature. Coconut fat melts at around 76°F (24°C). So it is sitting on the fence. That sums up my view - equivocal!

**Judging Protein Intake**

See: 'Body-Building & High Protein Drinks', Page 1.

**Q.** How do we know if we are in the Goldilocks zone for protein intake (neither too much nor too little?)

**A.** We are used to the idea of protein-rich foods like nuts, meat, fish and poultry – but how much do you need to fulfil the target of 1.0-1.2 grams/kg of body weight?

Let's not forget eggs, which have a moderate protein content, and even vegetables and salads have protein too. After all, gorillas manage perfectly well just on plant food – to say nothing about horses, elephants and, yes, cows.

As a rule of thumb, nuts, meat, seafood and poultry contain about 21% protein, eggs 13%, and plant food 2%.

Let's take as an example, our 70 kg (154 lb) individual who needs some 70-75 grams of protein per day.

To keep a balanced acid/alkali ratio we aim at a plant/protein ratio of 75%/25% (see 'Acid/Base Balance', [Nov 2012](#)), so this might be the intake for a typical day:

70kg (154lb) person	Weight grams	Protein grams
<b>Protein-rich (acidifying)</b>		
Seafood	100	21
Poultry	75	15
Nuts	25	5
Eggs (2 No)	100	13
<b>Total</b>	<b>300</b>	<b>54</b>
<b>Plant Food (alkalizing)</b>		
	900	18
<b>Totals (all)</b>	<b>1,200</b>	<b>72</b>

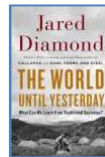
As you can see, the serving sizes for protein-rich foods are quite modest. On the other hand the 900 grams (2lb) of plant food a day is copious.

This is just an example to illustrate the main principles. In practice, it is not necessary – or even possible – to micromanage the exact protein intake.

If you want to know how you are doing, test your urine's acid/base status with pH strips from the pharmacy.

**Book Review II**

**The World until Yesterday**  
Jared Diamond



Continued from [last month](#).

... Warfare, Diamond says apologetically, really does seem to be part of human nature. But he doesn't want to be accused of thought-crime, so he spends a couple of pages saying how much he sympathizes with scholars who are distressed by even thinking that warfare is not "due to evil Europeans arriving on the scene and messing things up." On the contrary, the arrival of European administrators swiftly put an end to the endless cycle of killings.

Diamond's review of violence in tribal societies nevertheless brings out many interesting points: tribal fights break off when the weather turns bad or the food runs out, only to resume when conditions return to normal; no prisoners are taken – they are all killed. On the other hand (unlike scorched earth policies), gardens, women, and other resources are preserved as part of the spoils.

When anthropologist Napoleon Chagnon told a Yanomamo warrior of World War II, he said, "You probably raided the Germans because of woman-theft, didn't you."

In a reference work on the subject of warfare, Richard Wrangham's 'Demonic Males' [3], Wrangham wryly observes that, ultimately, all warfare is

about access to fertile women – that is, getting genes into the next generation.

In confirmation, Diamond cites Chagnon: 'Yanomamo killers have, on average, 2.5 times more wives and over 3 times more children'.

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

**Myth-busting**

**Fear Not Melanoma II**

Continued from [last month](#).

... In his forthright article in the British Medical Journal, Sam Schuster points out that 75% of melanomas "occur on relatively unexposed sites" [4].

In Martinique – in the tropics – white people had very low rates of melanoma – and 72% of melanomas in Blacks were on the soles of the feet [5].

In Paraguay 'most' melanomas were on the soles of the feet [6].

Indeed, there is a greater correlation between the number of moles than there is with sun exposure.

In this regard, many studies suspect that in recent years there is an over-zealous attitude to diagnosing melanoma in moles which are perfectly benign.

That is, that most of the reported increase in recent years is not real [7].

Finally, as humans evolved stark naked under a tropical sun, you can expect our skins to have evolved excellent mechanisms to repair DNA damage. It has. See, 'Skin's Self Repair Mechanism': [Oct 2010](#).

**My View:**

a) Melanomas are extremely rare – only 5% of all skin cancers. Other skin cancers like basal cell carcinoma and squamous cell carcinoma are more common and account for most of the rest. But rightly, we treat melanoma with respect since, if not caught early, it is usually fatal.

b) Cancers happen all the time. The reason we don't constantly break out in tumors is because



we have defenses – the immune system.

Just live the way we say, have a fully functioning immune system, and you can expect to live cancer-free, just like our forager ancestors.

See also: '*If Not Sunlight, Why Melanoma?*', [Sept 2008](#).

#### Continued from Page 1

#### Body-Building & Protein Drinks

iii) If you eat more protein than the body can use, the kidneys urinate the excess. So probably your son is, almost literally, pouring money down the drain!

But that's not the end of the downside. A relentlessly protein-excessive diet is acidifying – with all that entails in undermining various body organs, draining calcium out of the bones, and raising risk of kidney stones. See: '*Acid-Base Balance*', *Deadly Harvest*, [Chapter 4](#), page 108.

Worse, in some circumstances the body converts excess protein into fat – surely the opposite of what is intended!

iv) The rule of thumb for optimum protein intake per day is 1.0 to 1.2 grams per kilogram of body weight (0.45 to 0.65 grams/lb). For a 70kg (154 lb)

individual, that's an intake of 70 to 84 grams per day. See: '*Judging Protein Intake*', page 3.

v) Other factors play a role.

- One well known to body-builders is *hormones*, notably anabolic steroids like testosterone. Some people are born naturally with higher levels of testosterone.

But testosterone levels vary with all sorts of other hormonal activities, notably Human Growth Hormone. It drops with high fat levels, see '*Obese Boys, Low Testosterone*' [Nov 2012](#), with marriage [8] and with fatherhood [9]; it rises in the presence of an attractive ovulating woman [10].

Consumption of certain micro-nutrients, such as those in red wine and tea prevent testosterone loss through the kidneys [11]. Other studies find that high sunshine vitamin D status is important [12].

- Another factor you can't do much about – what mother did when she was pregnant. For example, mothers who have a diet high in (bad) omega-6 and low in (good) omega-3 have children with higher body fat and lower muscle mass [13].

What does this all add up to? These are the important factors

(and it's not rocket science!): on the one hand, heavy load-bearing exercise.

On the other: plentiful micro-nutrients from conforming plant food, plus optimum protein intake (avoiding acid overload). See '*Judging Protein Intake*' p 3

So to answer your questions:

a) Whey protein is a dairy product and so problematic. Of course I don't approve of it. See '*What about Whey Protein*' p. 2.

b) High Protein diets don't work

c) Is there a conforming diet? Of course, live the way we say! And in case you are wondering, although I'm not an extreme mesomorph (see '*Basic Body Shapes*' page 1), I find it easy to build muscle.

#### Advance Notice

#### LECTURE:

**May 25, Larnaca, Cyprus**

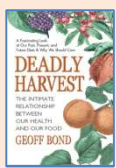
Geoff will be speaking at the symposium '[Pathways to Indefinite Lifespans](#)'.

#### LECTURE:

**July 30, London**

Geoff will be giving the monthly lecture at the British Longevity Society

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



**Deadly Harvest:** Geoff's latest work encapsulates current thinking on lifestyle anthropology. *Deadly Harvest* is an easy read yet is solidly referenced and is a work that doctors can trust.

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



**Healthy Harvest Cookbook:** Nicole has created and tested a comprehensive collection of over 90 delicious, fully tried and tested recipes all carefully conceived to conform to The Bond Effect precepts.

[www.healthy-harvest-recipes.com](http://www.healthy-harvest-recipes.com)

#### SUBSCRIBE TO THIS BRIEFING!

\$18 Electronic (with active hotlinks). \$59 Hard copy.

**email:** [admin@NaturalEater.com](mailto:admin@NaturalEater.com)

**Tel:** +357 99 45 24 68 **Skype:** gvlbond

**Twitter:** [www.twitter.com/savvyeater](http://www.twitter.com/savvyeater)

**FaceBook (Geoff):** [www.facebook.com/naturaleater](http://www.facebook.com/naturaleater)

**FaceBook (Group):** <http://tinyurl.com/Bond-FB-Group>

**LinkedIn:** <http://cy.linkedin.com/in/naturaleater>

1 A. Mira. The human milk microbiome changes over lactation and is shaped by maternal weight and mode of delivery. *American Journal of Clinical Nutrition*, 2012; 96 (3): 544

2 <http://www.elanaspantry.com/>

3 Wrangham, Richard; *Demonic Males*; 1997; Bloomsbury.

4 Is sun exposure a major cause of melanoma? No; *BMJ* 2008;337:a764

5 Le Mab G, et al. Epidemiology of cutaneous melanoma in the French West Indies (Martinique). *Am J Epidemiol* 1998;147:66-8.

6 *Cancer Causes Control*. 1997 Nov;8(6):850-6. Plantar melanoma: a case-control study in Paraguay. Rolón P et al.

7 Shuster S. Sun and the skin; a violation of truth. In: Feldman S, Marks V eds. *Panic nation*. London: John Blake, 2006:259-82.

8 Marriage and fatherhood are associated with lower testosterone in males; Peter B Gray et al; *Evolution & Human Behavior* - May 2002 (Vol. 23, Issue 3, 193-201.

9 Longitudinal evidence that fatherhood decreases testosterone in human males; Lee T. Gettler; September 12, 2011, *PNAS* September 27, 2011 vol. 108 no. 39 16194-16199

10 *Psychol Sci*. 2010 Feb;21(2):276-83. doi: 10.1177/0956797609357733. Epub 2009 Dec 22. Scent of a woman: men's testosterone

responses to olfactory ovulation cues. Miller SL et al.

11 P Naughton. Red wine and component flavonoids inhibit UGT2B17 in vitro. *Nutrition Journal*. 2012; 11 (1): 67 DOI: 10.1186/1475-2891-11-67

12 B. Dawson-Hughes et al. Impact of nutrition on muscle mass, strength, and performance in older adults. *Osteoporosis International*, 2012; DOI: 10.1007/s00198-012-2236-y

13 C. Cooper. Maternal Plasma Polyunsaturated Fatty Acid Status in Late Pregnancy Is Associated with Offspring Body Composition in Childhood. *Journal of Clinical Endocrinology & Metabolism*, 2012; 98 (1): 299 DOI: 10.1210/jc.2012-2482