



**The Bond Effect The Bond Effect The Bond Effect**

The Science and Art of Living the Way Nature Intended

**The Bond Briefing**

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Rational, evidence-based comment for an intelligent general public and for all health professionals. Independent of commercial pressure, we say exactly what we think.  
**PRIVATE ANNUAL SUBSCRIPTION: \$18.00 FOR 12 MONTHLY ELECTRONIC ISSUES.**

**Briefing:** All About Inulin. **Bond Protocol in Unusual Situations:** Feeding a Long Distance Foot Pilgrim. **Human Nature:** High Plant Intake – Healthy Glow. **Q & A:** Yacon Flour OK; Methyl Iodide Pesticide. **Hints & Tops:** Cadbury's Cocoa is Dutched. **Intellectual Rigor:** Selective with the Evidence?; Mercola on Microwave Ovens. **New Findings:** Vegan CVD Risk; Depressed? Low Omega-3. **Masterclass – Deconstructing Humbug:** 5-a-day- is a 'Myth' Part III. **Food Policy:** USDA Dietary Guidelines 2010, Part II.

**Briefing**

**All about Inulin**

According to the species, plants store their energy either as STARCH or as INULIN (not to be confused with 'insulin!')

Inulin is a 'soluble' FIBER which arrives undigested in the colon where good bacteria digest it.

Starch does much mischief to us. Inulin, as we shall see, is healthful. We might conclude that humans evolved to consume inulin-bearing plants not starchy plants (and grains).

Indeed, the hunter-forager diet has been estimated to include (together with other types of fiber) from 80 to 135 grams per day [1,2,3].

This compares to the American average intake of only 13 grams per day! Does it matter?

Well, look at what happens when inulin starvation is put right:

- Increased bulk in the colon and so improved bowel habits [4].
- Health-promoting bacteria multiply fast on the inulin bonanza and so drive out the harmful bacteria.
- Good bacteria rapidly ferment inulin to produce 'good' chemicals (like butyrate and propionic acid) that our bodies rely on [*Deadly Harvest*, Chapter 9, p. 232]. These good chemicals boost cancer-killer immune cells and they kill off 'bad' bacteria.

**Cont p.4.**

**Bond Protocol: In Unusual Situations**

**Feeding a Long Distance Foot Pilgrim**



Last month we answered one of our readers about how to eat while on a 1,100 mile pilgrimage on foot from Paris to the shrine of St Compostella in Spain.

This is our pilgrim, Elisabeth Gonthier, setting out through northern France. We will pass on any bulletins she sends us!

**Imminent Event**

For latest details, see [Events](#) on [www.naturaleater.com](http://www.naturaleater.com) and our [FaceBook Group](#).

**April 30 2011**  
**Paphos, Cyprus**  
**ILLUSTRATED TALK** for P3A  
 Open to Public  
**Title:** Our Ancient Past Programmed Us for a Long Life Lived in Good Shape to the End. How it went wrong, why we get disease, and what we can do about it.  
**At:** Coral Star Restaurant, Peyia  
**Times:** Refreshments 9:45  
 Talk 10:30 a.m. - 12:00 noon  
**RSVP:** Denise Holt 26 94 08 39

**Human Nature**

**High Plant Intake: Healthy Glow**



*Which face looks healthiest?*  
 What do we mean by a 'healthy' glowing skin? Does the glow really indicate good health? If so, how come our brains are wired to recognize it?

These are the questions that Dr Ian Steven, Dept. of Experimental Psychology, University of Bristol, UK, has investigated [5] [Full Text Article \(#34\)](#).

Study participants overwhelmingly identified the same individuals as having a 'healthy' complexion. And throughout the animal kingdom, including humans, "health is intimately linked with attractiveness".

These 'healthy' skin color individuals had one thing in common: they had complexions corresponding to a high intake of plant food, particularly micro-nutrients called 'carotenoids'.

Carotenoids are found in a huge range of fruits, salads and vegetables, notably carrots, tomatoes, grapefruit, dark leafy greens and in yellow and red fruits and vegetables. [See: *5-a-day- 'myth'*, page 3]

Why might carotenoids be important to health? They are vital for a healthy IMMUNE SYSTEM, they are powerful ANTIOXIDANTS, and they help protect SPERM QUALITY. **Continued. p.4**

### Food Ideas

**Conforming Bread Coming**  
[Last month](#) we promised a recipe. Nicole has been overtaken by events this month, but I'm hopeful for the next issue!

### Questions

#### Yacon Flour OK



**Q.** After all the exotic flour replacements [last month](#), what about yacon flour?

**A.** Good. The yacon root is allied to the Jerusalem artichoke and has similar properties. Both roots store their energy as INULIN (not as starch).

This is a good thing. Inulin is a kind of plant fiber also called *fructans* [6]. Studies show that yacon inulin is good [7]. See: 'All About Inulin', p. 1.

#### Methyl Iodide Pesticide

**Q.** A toxic pesticide called methyl iodide is now used in growing strawberries. Should we be worried?

**A.** If it's any consolation, methyl iodide is now used instead of a worse chemical, *methyl bromide* which has been recently banned.

Farmers use methyl iodide to fumigate the soil before planting, so the strawberries themselves are not affected.

However it is a nasty chemical and there are stringent precautions about how it is applied and by whom. There has to be a buffer zone with public places.

**My View?** To be totally pragmatic, there is no danger in consuming strawberries grown on the fumigated ground.

Rather, the risks are attached to those who apply it to the soil before the strawberries grow.

Methyl iodide dissipates quickly, mostly by evaporation. The remainder in the soil disintegrates into harmless methanol plus iodide.

No intact methyl iodide arrives in groundwater, but the iodide (which has low toxicity) can be detected at innocuous levels.

But I agree with you, we should support growing methods (e.g. organic) which don't blitz nature like that and which might cause secondary problems such as groundwater contamination.

### Hints & Tips

#### Cadbury's Cocoa is 'Dutched'



Dutching is a process called 'alkalization' by which cocoa beans are treated with powerful alkali.

[Last month](#) I explored how alkalinized cocoa has lost many of its healthful micronutrients. The difficulty is to know which type of cocoa you have got. Mostly, the cocoa companies don't tell you unless you ask!

Cadbury has now confirmed to me that their cocoa (above) is indeed 'alkalinized'. They go on: "Unalkalinized cocoa is pale. Cocoa is normally alkalinized to develop chocolate flavor and deep color as well as remove any harsh acidic taste".

I had been surprised by Hershey's 'Natural' cocoa ([last month](#)) having a pale color – so that is the key. Go for the palest cocoa powder that you can find. It makes a huge improvement in the phytonutrient value [8].

#### Steamed Broccoli Best

Broccoli contains several powerful phytonutrients which, inter alia, are important nourishment for the immune system's cancer-quenching role and in controlling inflammation.

The well-known ones are GLUCOSINOLATE and SULPHUROPHANE.

Glucosinolates resist most forms of cooking, including microwaving [[June 2006](#)].

However, sulforaphane is fragile under most forms of cooking, including microwave.

Steaming broccoli for two to four minutes is the cooking method which works best to preserve ALL these vital micronutrients in broccoli [9].

Other sulforaphane-containing foods (most of which can eaten raw anyway) are: cauliflower, cabbage, brussels sprouts, kohlrabi, turnip, radishes, and arugula.

**See also:** *Mercola on Microwave Ovens*, next item.

### Intellectual Rigor

#### Selective with the Evidence?

Some readers wonder if I am being selective with the evidence ([last month](#)).

This is a danger that I take great trouble to guard against. Many thinkers greater than me have recognized this danger:

Sir Francis Bacon, the 16<sup>th</sup> century founder of the scientific method, said that it is the constant error of the human understanding to be more "excited by affirmatives than negatives." By which he means we favor evidence that confirms our preconceptions.

Charles Darwin said that whenever he came across an observation opposed to his main thesis, he made a note of it at once; for he had found that contrary evidence was far more likely to "escape from his memory" than supporting evidence.

So let's look at a specific instance:

#### Mercola on Microwave Ovens

[Last month](#) I reported the evidence that microwave cooking is, on the whole, no better or worse than other methods except steaming which is the least aggressive.

One reader suggests that I have been selective with the evidence and that Dr Mercola at <http://bit.ly/hyYRmh> provides contrary evidence.

I used to have a lot of time for Dr Mercola but got disenchanted when he went commercial and spread himself too thin.

I've looked at his material on microwave ovens and, quite honestly, I would be embarrassed to offer such a shoddy set of references.

One of them (ref 11), purports to be a Lancet article of December 9 1989 by L. Lee. But it's a fake - it simply doesn't exist in the Lancet's own archives. Instead Mercola's hotlink takes you to an unattributed, swivel-eyed diatribe full of double exclamation marks [10].

Many of the references are not scientific at all: they are newspaper articles (ref 2), campaign groups (refs 12, 13, 14, 17) and blogs (refs 15, 21).

Many of them are recycling the same stories amongst themselves without any of them citing a primary source.

As it happens, ref 21 ([www.StraightDope.com](http://www.StraightDope.com)) is quite a good summary of the current state of knowledge - and which largely CONTRADICTS Mercola's position!

Yet other references are irrelevant, concerning themselves with radiation from cell phones, TV towers and the like (refs 18, 19). Ref 19 is not only irrelevant, it is commercially biased: it is a company that sells devices supposedly shielding ears from cell phone radiation!

Other references are impossible to check out, either because the links are broken (refs 4, 19) or the journal (ref 6) is so obscure (and so of doubtful credibility) that it doesn't have an online presence.

**Next Month:** What is left? - The serious scientific articles.

**New Findings**

**Vegan CVD Risk**

Vegans are vulnerable to deficiency of vitamin B12 and to omega-3 oils [11].

As a result they have higher homocysteine levels and lower HDL (good cholesterol) levels. They are more at risk of thrombosis and atherosclerosis.

**My View?** Veganism is not a natural feeding pattern for the human species. However, it is possible to live healthily that way provided that starches and legumes are eliminated, the focus is on masses of plant food and there is supplementation of omega-3 and vitamin B12.

**Depressed? Low Omega-3**

Research finds that mice on a diet depleted in omega-3 suffer changes to the brain which lead to depression [12].

'Cannabinoid receptors' in the brain (which also play a role in cannabis' euphoria) suffer a complete loss of function leading to depressed mood.

**Masterclass:  
Deconstructing Humbug**

**5-a-day is a 'Myth' - Part III**

Continuing [last month](#)'s critical analysis of Zoe Harcombe's Daily Mail [article](#) [13]:

**Zoe:** "... there are 13 vitamins and fruit is good for only one of them, vitamin C."

**Me:** Even if it were true, so what? But actually fruit typically contains a variety of other vitamins: A, B3, E, K1, and choline (a B vitamin) to name a few.

Here Harcombe is contriving to deceive with a superficially plausible yet flawed argument.

Yes, fruits tend to be rich in vitamin C but that doesn't mean that that is ALL they are good for! And that is where her ignorance shows.

Nowhere in her article does she address phytochemicals - those vital plant nutrients without which we die. And fruits are a prime source!

Fruits provide all those wondrous FLAVONOIDS (e.g. quercetin, anthocyanin, rutin, kaempferol), STILBENOLS (e.g. resveratrol), CAROTENOIDS (e.g. lycopene, zeaxanthin, lutein), and LIGNANS.

Nowhere in her article does she address plant fiber of any kind, let alone a highly active one such as INULIN (see page 1).

I get the impression that Zoe has just got hold of some nutrient database and gone through it like she were painting by numbers.

She doesn't know that such databases (such as USDA-SR23) only skim the surface of all possible nutrients. In particular they don't measure flavonoids, carotenoids etc, and they don't measure inulin.

Apart from all that, one has to wonder about Zoe Harborne's complexion! [*"High Plant Intake: Healthy Glow"* page 1]

**Next month Zoe:** "There is far more vitamin A in liver than in an apple..."

**Food Policy**

Continued from [last month](#)

**USDA Dietary Guidelines 2010  
(Latest 5-year update)**



This month I want to focus on the sensible and sometimes surprising things the Dietary Guidelines say:

- *Peas are classified as starch.*  
This is something I agree with, and diabetics know well. But it will be a surprise to the average American.
- *Fruit should be consumed as the whole fruit - not as juices.* (Good - see *Deadly Harvest, Ch 3*, p.83)
- *Cut down on fruit juice: "it lacks dietary fiber and... contributes extra calories."*
- *Increase seafood consumption 'in place of some meat and*



poultry'. No problem with mercury pollution (except for pregnant women).

Good. I have argued this on many occasions [[Oct 2010](#); [August 2009](#)].

- Pregnant women should "consume 8 to 12 ounces of seafood per week from a variety of seafood types". The only ones banned are: tuna, tilefish, shark, swordfish, and king mackerel. I agree - see *Pregnant Women Should Eat Fish After All* - [October 2007](#).

- Sugar in all its forms is condemned. A huge success for the USDA in its 50 year battle with the powerful sugar lobby.

- Focus on 'nutrient-dense' plant food. Great! This is code for eating fruit, vegetables and salads in place of starches.

I was puzzled by the USDA's claim that 'Chicken and chicken mixed dishes' are extremely high calorie. Then I realized that this is code for KFC's Kentucky Fried Chicken! Yes, chicken deep-fried in batter is as bad as it gets.

The Guidelines talk approvingly of the Mediterranean diet but criticize its lack of dairy!

There is still much to criticize in the Dietary Guidelines. But even so, they are still far in advance of the average American diet.

The USDA recognizes this and despairingly observes that: "Average American eating patterns currently bear little resemblance to these Dietary Guidelines."

From Page 1  
Briefing

#### All about Inulin



Health of the colon wall is improved by multiplying the millions of microscopic pockets called 'crypts' (above). They form the velvety lining which secretes enzymes and support the villi which do the work of digestion. See *Deadly Harvest*, [Ch 5](#), p. 117. **Note:** Don't confuse crypts with *diverticulosis* (unhealthy grape-size ballooning in the colon wall).

In addition INULIN improves:

- substances (polyamines) that regulate cell function and the blood/brain barrier.
- mucous secretion
- hormone gland function
- immune functions.

- calcium absorption
  - magnesium absorption
- Inulin reduces:
- triglycerides
  - VLDL ('bad' cholesterol)
  - polyps and colon cancer

Where do you find inulin? In roots that are not starchy, like radish, kohlrabi, turnip, onion, leek, Jerusalem artichoke and indeed yacon (see "Yacon Flour OK" page 2). It is also in many fruits, vegetables and salads, notably celery.

From Page 1  
Human Nature

**High Plant Intake: Healthy Glow**  
Right here we have the rebuttal to Zoe Harborne's *5-a-day-myth!* [See page 3]

Dr Stephen did the experiments on both Caucasians and on black Africans. The results were identical thus demonstrating that the effect is cross-cultural.

So there we have it. A healthy complexion is advertising a healthy mate, resistant to disease. As Dr Stephen opines, eons of sexual selection has caused us to have brains wired to detect this signal.

*p.s. The middle face shows the woman's natural color. The left face is sun tanned. The right face shows the effect of high plant food intake.*

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1 Kliks, M. "Paleodietetics: A Review of the Role of Dietary Fiber in Preagricultural Human Diets." In Spiller, G.A., and R.J. Amen (eds.). *Topics in Dietary Fiber Research*. New York: Plenum Press, 1978.

2 Br J Nutr. 2010 Jun;103(11):1558-61. Epub 2010 Apr 26. High dietary intake of prebiotic inulin-type fructans in the prehistoric Chihuahuan Desert. Leach JD, Sobolik KD.

3 Nutr Res Rev. 1998 Jun;11(1):5-23. Australian aboriginal plant foods: a consideration of their nutritional composition and health implications. Brand-Miller JC

4 Digestion. 2008;78(1):30-3. Epub 2008 Sep 10. Effect of yacon (*Smallanthus sonchifolius*) on colonic transit time in healthy volunteers. Geyer M et al

5 Carotenoid and melanin pigment coloration affect perceived human health; Ian D. Stephen et al; *Evolution & Human Behavior* - May 2011 (Vol. 32, Issue 3, Pages 216-227, DOI: 10.1016/j.evolhumbehav.2010.09.003)

6 Br J Nutr. 2005 Apr; 93 Suppl 1:S13-25. Introducing inulin-type fructans. Roberfroid MB.

7 Br J Nutr. 2007 Apr;97(4):776-85. Effects of fructans-containing yacon (*Smallanthus sonchifolius* Poepp and Endl.) flour on caecum mucosal morphometry, calcium and magnesium balance, and bone calcium retention in growing rats. Lobo AR et al.

8 Cacao seeds are a "Super Fruit": A comparative analysis of various fruit powders and products; Stephen J Crozier

et al; *Chemistry Central Journal* 2011, 5:5doi:10.1186/1752-153X-5-5

9 Jenna Cramer, Elizabeth Jeffery. Sulforaphane Absorption and Excretion Following Ingestion of a Semi-Purified Broccoli Powder Rich in Glucoraphanin and Broccoli Sprouts in Healthy Men. *Nutrition and Cancer*, 2011; : 1 DOI: 10.1080/01635581.2011.523495

10 <http://bit.ly/fh3jqQ>

11 J Agric Food Chem. 2011 Feb 9;59(3):777-84. Epub 2011 Jan 4. Chemistry behind Vegetarianism. Li D.

12 Mathieu Lafourcade et al. Nutritional omega-3 deficiency abolishes endocannabinoid-mediated neuronal functions. *Nature Neuroscience*, 2011; DOI: 10.1038/nn.2736.

13 <http://bit.ly/hhf195>