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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

Beware Barmy Headlines: Do YOU have the Fat Gene? **Human Behavior:** Personality is in the Genes. **Human Migration:** Out of Africa – Twice. **Unintended Consequences:** Why Statins are ‘Muscle Toxic’. **Q&A:** Frozen Berries & Hepatitis-A; Macular Degeneration; Quinoa or Chia for Diabetics? **Hints:** Tips from the Mindlessly Slim. **News Flashes:** Paleo Diet Fights Metabolic Syndrome; Genetically Wired for Obesity? Vitamin B12, Brain Health Link. **Viewpoint:** Is Obesity Optional? **Correction:** ‘Filches good name’ quote. **Spreading the word:** Oxford Uni Talk on Ageing Well; Radio Interview with Dr Rita Stec.

Beware Barmy Headlines!

Do YOU have the 'fat gene'?
90% of obese people could have mutation that means they're programmed to eat more and move less

Daily Mail: <http://daily.mai/1U56Gdz>



"There is nothing I can do, I am fat because of my genes"

I would like a dollar for every time I hear that excuse! But headlines like this in the tabloid Daily Mail gives the weight-challenged a cop-out.

Is there any foundation to these headlines? Of course not! This is another egregious example of sensation-seeking journalistic distortion.

This article refers to a study by Dr John Martignetti and his team at Mount Sinai School of Medicine, New York [1]. In fact they were researching a very rare condition known as 'MO1 syndrome'.

It is so rare that they had to go to a remote Arab village in northern Israel to find a family suffering from it.

These people do indeed carry a mutation of the gene called CEP19. When this gene loses function it results in morbid obesity, ... **Cont: Page 3**

Human Behavior

In early April I attended the *Conference on Evolution and Human Behavior* [2]. It is the opportunity for researchers to float their results prior to publication in a technical journal.

Personality is in the Genes

There were many interesting and thought-provoking presentations. One of them was given by [#BondBriefing](#) [3] reader Michel Raymond PhD, of the Institute for Evolutionary Sciences, University of Montpellier, France.

Michel is interested in how genes manipulate human behavior. In his latest study, he investigated two populations living on the slopes of an active volcano, Mount Merapi on Java, Indonesia.

Every few years this volcano erupts with clouds of poisonous gas and ash. There is usually, but not always, a few hours warning.

Farmers live on these dangerous slopes and return after an eruption since the land is fertile.

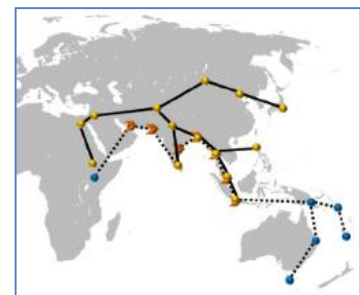
Other, apparently identical populations, who live outside the danger zone, are not inclined to farm the danger-zone.

Michel wondered if, firstly, the farmers on the slopes had unusually risk-tolerant personalities and, secondly, if this was in their genes.

Firstly, he found the OPPOSITE: the slope farmers were actually MORE risk averse than the farmers in the safe-zone. He speculates that the risk-averse are more sensitive to signs of something dangerous in the offing – such as a volcano blowing up. **Cont: p 4**

Human Migration

Out of Africa - Twice



Australia has long presented a puzzle since it seems to have been inhabited for at least 65,000 years, well before the rest of Asia and Europe became occupied.

Now researchers provide evidence that the world was populated in two waves [4]. The first one (dotted line) got people to Australia maybe up to 75,000 years ago. The second wave, some 60,000 years ago, was the one which provided the modern populations of Europe and Asia.

My View? This interestingly ties up some loose ends, but it doesn't change anything fundamental about the Paleo lifestyle. The Australian Aborigines are still 'anatomically modern humans' – and, until recent times, a wonderfully preserved example of the hunter-gatherer lifestyle.

Unintended Consequences

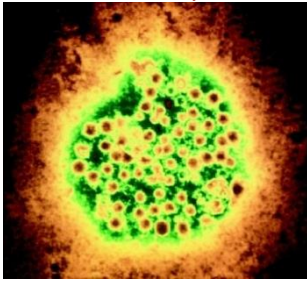
Why Statins are 'Muscle Toxic'

Muscle dysfunction is a common side effect of statin medication. Now researchers identify one reason: statins mess with the gene 'GJC3' which controls how cells talk to each other.

Cont: p 4

Questions

Frozen Berries & Hepatitis-A



Hepatitis-A Virus

Q. What do you make of the recent scare over frozen berries infected with Hepatitis-A? Are fresh ones any better?

A. Not necessarily. Food contamination can occur anywhere in the process from farm to fork. It comes from poor hygiene – mostly infected food handlers. Indeed, fresh berries are usually picked by hand, so are more vulnerable.

Frozen berries are usually picked by machine and might even get some washing. But washing doesn't always help – the bacteria can be in the tissues of the plant. See [Plants: Internalized Germs, May 2011](#) [5].

Hepatitis-A is an unpleasant illness but it is rare and mostly people get over it without any permanent ill-effects. Ironically, people in industrialized countries with high standards of general hygiene have less immunity to Hepatitis A and so, when it does occur, they suffer more [6].

We are so reliant on the integrity of the food chain that there is little we can do to protect ourselves. We have to trust that the massive costs, and bad publicity, from a product recall keeps the food suppliers on their toes.

My View? Berries are a wondrous food and the balance of advantage is to keep eating them, whether fresh or frozen.

Macular Degeneration

Q. Old people in my family suffer from macular degeneration. Is there anything I can do to stop it happening to me?

A. We think so! Macular degeneration, an irreversible deterioration of the retina is, seemingly, unknown amongst

foragers [7]. So what do they do differently to us?

We have known for some time that DEFICIENCIES of certain carotene antioxidants like *lutein* and *zeaxanthin* are a risk factor. See [Natural Eating II](#), page 172, [Chapter 8](#) [8].

Lutein is present in dark green vegetables like spinach, collard greens, kale and broccoli. Other colored plant foods like kiwi, orange peppers, red grapes, and zucchini are rich in zeaxanthin; eggs – and even wine – are also good sources [9].

A 1994 study found that those who had the highest intake of such carotenes had 45% lower risk of developing MD [10]. A 2015 study reinforces these results [11].

Those who had the highest levels of physical activity lowered their risk by 54%; and if they ate healthily (i.e. a diet rich in micro-nutrients) AND didn't smoke, they reduced THREEFOLD their risk of MD [12]

Other helpful behaviors are: a Mediterranean Diet [13], good status of the sunshine hormone, vitamin D status [14] and good omega-3 status [15].

So there you have it! Eat up your colored vegetables, eat oily fish every day, get physically active, get out in the sunshine – i.e. just live the way we say!

Quinoa or Chia for Diabetics?

Q. Being Type 2 diabetic without complications I wonder if either Chia or Quinoa or both together can be of benefit?

A. Go for the chia every time. It is relatively low glycemic and stuffed with omega-3 oils and dietary fiber.

In contrast quinoa is a starchy "pseudo grain" with relatively high GI and a harmful complement of antinutrients. AVOID

Hints & Tips

Tips from the Mindlessly Slim

Some people seem to stay slim quite effortlessly. What are their secrets? Brian Wansink, author of *Slim by Design* has studied such people [16]. He finds that they:

- eat high quality foods

- cook their meals at home
- listen to their body cues
- don't feel guilty if they occasionally over-eat.

News Flashes

Paleo Diet Fights Metabolic Syndrome

In a study done on fat, post-menopausal women, those on a Paleolithic-type diet developed a fatty acid profile favourable to NOT developing diabetes and CVD compared to those on a low-fat diet [17]. They also lost weight.

How conforming was this 'Paleo-type' diet? It sounds pretty good: it was based on lean meat, fish, eggs, nuts, and berries. Fat sources were based on rapeseed (Canola) oil, olive oil, and avocado.

Dairy products, cereals, added salt, and refined fats and sugar were excluded.

The diet provided 30% protein, 30% carbohydrates, and 40% fats. The intake of saturated fatty acids was REDUCED by 19%, the intake of monounsaturated fatty acids INCREASED by 47% and of polyunsaturated fats INCREASED by 71%.

There was also a favorable REDUCTION in the enzyme Delta-5 desaturase (D5D). D5D controls production of arachidonic acid (AA) which is a factor in inflammation; less D5D means less AA which means less inflammation.

There was a favorable INCREASE in Delta-9 desaturase (D9D) which converts the saturated fat, stearic acid, into oleic acid (olive oil).

The net result is that the women on the Paleo Diet had much more favorable vital signs, notably with regard to prevention of diabetes and cardiovascular disease.

My View? We welcome this rare sighting of a Paleo diet study. As expected, it confirms that this is the only way to go.

Genetically Wired for Obesity?

In previous Briefings I have talked about epigenetic effects where genes are switched on or off by a maladaptive lifestyle, usually with detrimental effect.

A classic case which brought the phenomenon to light was the WWII

Dutch famine where starved pregnant women gave birth to children prone to obesity and diabetes. See: **Paleo Denial: The Argument II**, [Dec 2013](#) [18] and **You are what your Mother Ate**, [May 2005](#) [19].

Now researchers have gone one stage further. First of all they noticed that in genetically identical mice, some of them were lean and some fat [20]. They traced this to whether a gene network, centered on the gene 'Trim28', was switched on or off.

They then looked at identical human twins. They found that in some cases, in spite of having the same genes, one twin might be fat and the other lean. They traced this also to the gene Trim 28.

It is not clear what is switching the gene but, says researcher Andrew Pospisilik: "Our next major goal is to switch the gene on or off by supplementing diet, minimizing stress, or giving epigenetically relevant pro-drugs. The hope is that we can permanently flip the system back to lean in one shot."

My View? Let us not kid ourselves. The explosion of obesity in the world today is happening because of an overabundance of food. This has thrown into relief those who have a genetic predisposition to fatness. But in spite of their genetic predisposition, people still stayed slim in past ages – there simply was not the food abundance we have today.

So while, with few exceptions, everyone struggles to stay lean, for some the struggle is harder.

See: **Do YOU have the 'fat gene'?**, p 1, and **Is Obesity Optional?**, this page

Vitamin B12, Brain Health Link Lower brain levels with age, autism and schizophrenia.

Researchers examined levels of vitamin B12 in the brains of the complete range of ages from fetuses to 80-year-olds [21].

They find that levels decrease with age, with autism and with schizophrenia. This is in spite of having 'normal' levels of B12 in the blood stream.

The researchers wonder if what is considered 'normal' is too low. The

'normal' range is unusually wide: from 180 ng/l to 914 ng/l. Probably B12 intake should be boosted towards the upper limit.



Dr Mimi Guarneri, for whom I gave lectures at Scripps Institute of Integrative Medicine, La Jolla, California, observes:

"It is no longer satisfying to use the general population as healthy controls when most of the population is actually unhealthy."

Just so! – and that is the first major point.

Vitamin B12 has to jump through a number of hoops before it can do its job. In the brain it has one last major hurdle - the blood-brain barrier. For this it needs the transport enzyme 'glutathione'.

There is strong evidence that glutathione deficiency is a major factor in brain disorders. Where does glutathione come from? Mostly the body makes it from the sunshine hormone, vitamin D3 [22]. Glutathione is non-bioavailable so it is futile trying to supplement.

That is the second important point.

My View? There is much we don't know about what makes B12 get into the brain and function properly.

However, we do know that anyone on the Bond Precepts will be getting a plentiful intake of B12, especially from eggs, poultry, and seafood.

Secondly: that it is vital, as we are always saying, to get enough of the sunshine hormone, vitamin D.

Viewpoint

Is Obesity Optional?

I have some sympathy with the view that fat people are not entirely to blame. Humans are wired with very weak innate controls against overconsumption whilst having strong instincts to consume food while the going is good.

And, of course, everything about our modern industrial society is geared to overriding the weak controls and to inciting CONSUMPTION!

Secondly, some might have a predisposition to put on fat due to epigenetic changes done to them by their parents or even grandparents.

A ground-breaking study this year even finds that obese fathers make genetically modified sperm such that resulting offspring have sabotaged appetite control [23].

See: **Genetically Wired for Obesity?** page 2; **Ancestors' Lapses Visited on us**, [Dec 2010](#) [24].

Finally the all-pervasive chemicals in so many products like shampoos, hand-washes, cosmetics, insecticides, etc. Many of them are known 'endocrine disrupters', which means they mess with your hormones.

They too can disrupt normal working of appetite hormones making it harder to control obesity.

Having said all that, no one is doomed to be obese. The conditions in the modern world just make it much harder to avoid.

After all, one morbid observation is that you don't find fat people in a concentration camp.

So the message remains: Most obese people just eat too much of the wrong stuff and don't move around enough.

Correction

[Last month](#) [25]. at the end of the item on **Beware Barmy Headlines** I incorrectly attributed to Hamlet the quote:

"...he that filches from me my good name..."

It should of course be Iago (Othello). Thanks to reader Vanessa Vasey for picking this up!

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Beware Barmy Headlines

... glucose intolerance, poor blood fat control, and insulin resistance.

The morbidly obese carriers of this rare mutation had BMIs of 45 or more – which is equivalent to a 5'-8" (173 cm) person having a weight of 300 lb (21 stone 6 lb; 136 kg).

They do indeed have very poor hormonal control of appetite and energy expenditure. But we still do not know exactly what is going on. Are 90% of obese people suffering from this mutation? Of course not! It is very rare and is a pure invention of the journalist.

See: [Is Obesity Optional?](#), p 3, and [Genetically Wired for Obesity?](#), page 2.

Continued from Page 1

Personality is in the Genes

Secondly, Michel did show genetic variations in a gene that affects personality: 'DRD4'.

Those farmers in the risky area had LESS of the variant '4R' and MORE of the variant '2R' compared to the farmers in the nearby non-risky area.

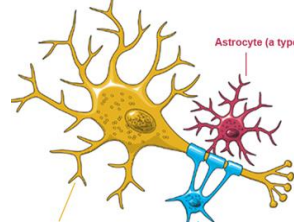
My View? We kind of know that we cannot change our spouse's

personality, now we know that even a volcano cannot!

On the other hand, a volcano is capable of grouping together people with similar personalities. We will return when the final study is published.

Continued from Page 1

Why Statins are Muscle Toxic



[Enlarge](#) [26]

Glial cells surrounding a neuron.

In particular it affects the release of 'ATP', a nerve signaling molecule [27] which talks to glial cells which support nerve function. See [Statin – Two faced Harlot](#), [March 2015](#) [28].

Spreading the Word

Oxford Uni Talk on Ageing Well

Mary Perryman, Speedwell organizer reports this feedback from the audience:

- "Geoff was at his best last night. He speaks with passion, conviction and a thoroughly good knowledge of his subject matter. A first class orator."

More at: <http://bit.ly/1qHGF8X>

Radio Interview #2 with Dr Rita Stec on the Tom Read Show

While in USA this winter, Dr Rita Stec and I recorded three interviews for Tom Read on station KTRW. It is a Q&A session which starts off with Dr Rita giving her views first. This is **Part II**. (30 min)

<http://bit.ly/1p4Fz5I>



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