

Newsletter of Science Society

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**Butter and cheese better than trans-fat margarines, says  
heart specialist**

Aseem Malhotra says saturated fat is not a problem, low-fat products are often full of sugar and statins are over-prescribed

Butter, cheese and even red meat are not as bad for the heart as has been maintained, a cardiologist has said in a leading medical journal, adding that it is time to "bust the myth" of saturated fat.

Aseem Malhotra, interventional cardiology specialist registrar at Croydon University hospital, London, also argues that statins have been over-prescribed because of the government's obsession with lowering cholesterol in an attempt to reduce heart disease – and that the side-effects outweigh the benefits for millions of people who take them every day.

Trans-fats found in many fast foods, bakery goods and margarine are indeed a problem, Malhotra writes in the British Medical Journal. But saturated fats in milk, cheese and meat are another matter.

The insistence that saturated fat must be removed from our **DIET** has paradoxically, he says, increased the risk of cardiovascular disease. "Recent prospective cohort studies have not supported significant association between saturated fat intake and cardiovascular risk," he argues. "Instead, saturated fat has been found to be protective."

He adds that it may depend on what sort of foods the saturated fat comes from. Dairy products contain vitamin D, a lack of which has been linked to increased heart disease, and calcium and phosphorus, which may have blood pressure lowering effects. Eating processed meat has been linked to higher rates of heart disease and diabetes, but not red meat.

Malhotra says people have wrongly embraced low-fat products thinking they are better for their health or will help them **LOSE WEIGHT**, when many are full of sugar. "Last week I saw one patient in her 40s who had had a heart attack," he told the Guardian. "She said she had gained about 20kg in the last six months. She had been drinking five low-fat drinks a day."

He calculated that each 450ml flavoured milk drink contained about 15 teaspoons of sugar, which meant she had consumed 75 teaspoons of sugar each day.

He tells his patients that butter and cheese – though not processed cheese – are better for them than low-fat spreads and that the odd steak will not hurt. Rather than take statins, he said, people with cardiovascular risks should eat a **MEDITERRANEAN DIET**, rich in olive oil, fruit, vegetables, fish and nuts. He pointed to a recent study that showed that adopting a Mediterranean diet after a heart attack is three times more effective in preventing further illness than statins.

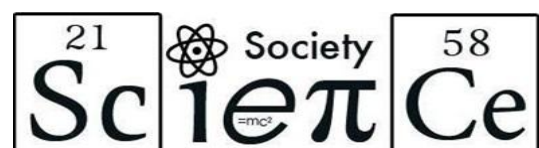
"In the UK eight million people take statins regularly, up from five million 10 years ago," he writes. "With 60 million statin prescriptions a year, it is difficult to demonstrate any additional effect of statins on reduced cardiovascular mortality over the effects of the decline in smoking and primary angioplasty [a technique used by doctors to widen the arteries]."

In the original trials carried out by drug firms, only one in 10,000 patients given statins suffered a minor side-effect. But among 150,000 patients in a "real world" study – people who had been routinely given statins by their GP – 20% had side-effects that were so unacceptable to them that they stopped taking the pills, including muscle pains, stomach upsets, sleep and memory disturbance, and erectile dysfunction.

Neither Public Health England nor the British Heart Foundation agreed with Malhotra's argument. Peter Weissberg, medical director at the British Heart Foundation, said: "Studies on the link between **DIET** and disease frequently produce conflicting results because, unlike drug trials, it's difficult to undertake a properly controlled, randomised study. However, people with highest cholesterol levels are at highest risk of a heart attack and it's clear that lowering cholesterol, by whatever means, lowers risk."

"Cholesterol levels can be influenced by many factors including **DIET**, exercise and drugs, in particular statins. There is clear evidence that patients who have had a heart attack, or who are at high risk of having one, can benefit from taking a statin. But this needs to be combined with other essential measures, such as eating a **BALANCED DIET**, not smoking and taking regular exercise."

Alison Tedstone, director of diet and obesity at Public Health England, said: "PHE recommends that no more than 11% of person's average energy intake should come from saturated fats, as there is evidence to show increased levels of saturated fats can raise blood cholesterol levels, in turn raising the risk of cardiovascular disease.



# A Creative Collision

## **A new study supports the theory that Earth helped create the Moon**

JUNE 09, 2014 **By Cameron Keady**

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New evidence indicates that the moon is the result of an ancient collision between Earth and another planet.

Looking up at the sky on a clear night, the moon may seem like it is a universe away. At a distance of more than 238,000 miles from our little blue planet, it practically is. But there was once a time the Earth and the moon were not so far apart.

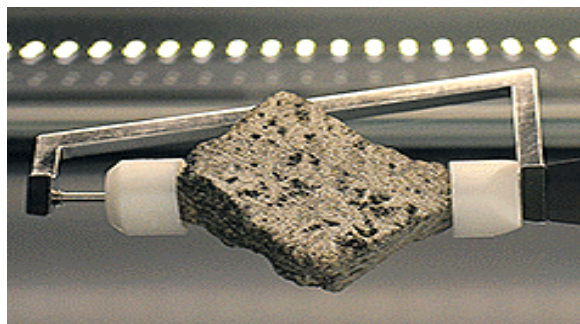
A new analysis of moon rocks, published in the journal *Science*, is revealing some interesting clues about the ancient history of the Earth. These clues support the theory that the Earth and moon may, in fact, be family.

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### The Impact Theory

Researchers have long speculated that a planet called Theia collided with Earth about 4.5 billion years ago. Theia was destroyed in the crash, but Earth survived with just a few broken parts. Theorists believe that the remains from the collision joined together and eventually formed the moon. However, no hard evidence to confirm this theory has been found until now.

Previous studies of these specimens, collected by NASA's Apollo missions, have shown little to support the collision theory. But according to this recent study, an examination of different types of oxygen, called isotopes, found in the moon rocks, reveals traces of both the moon and Theia. They also contain elements of a rare form of meteorite not found on Earth, suggesting they must have come from another celestial body. "We have now discovered small differences between the Earth and the Moon," Dr. Daniel Herwartz, lead author of the study, told BBC news. "This confirms the giant impact hypothesis."



When it first formed, the moon was just 14,000 miles away from us. Although the two celestial bodies are locked in orbit, the moon is slowly inching away from Earth at a rate of about 3.8 cm a year. Though it may be moving farther from us in distance, this new evidence makes the origin of the moon feel very close to home.

### Seminar

13/3/2015 (Fri)

Science Arena-演出科學 (Final)

Venue: School Hall

Time: School assembly

2014-2015 科學學會比賽

**Science Arena**

比賽主題: 科學

參賽形式:

1. 話劇 (類似學是學非等科學節目)
2. 魔術(需要解釋原理)
3. 短片
4. 趣笑

初賽: 6/3/2015  
決賽: 13/3/2015  
截止日期: 5/3/2015  
組別人數上限: 4人  
時限: 1-5分鐘

學科分數獎勵: 化學1分  
評分準則:  
1. 台風 2. 原創性  
3. 內容表達  
總分100分, 每題時30秒和5分, 題時不多於30秒當30秒計。

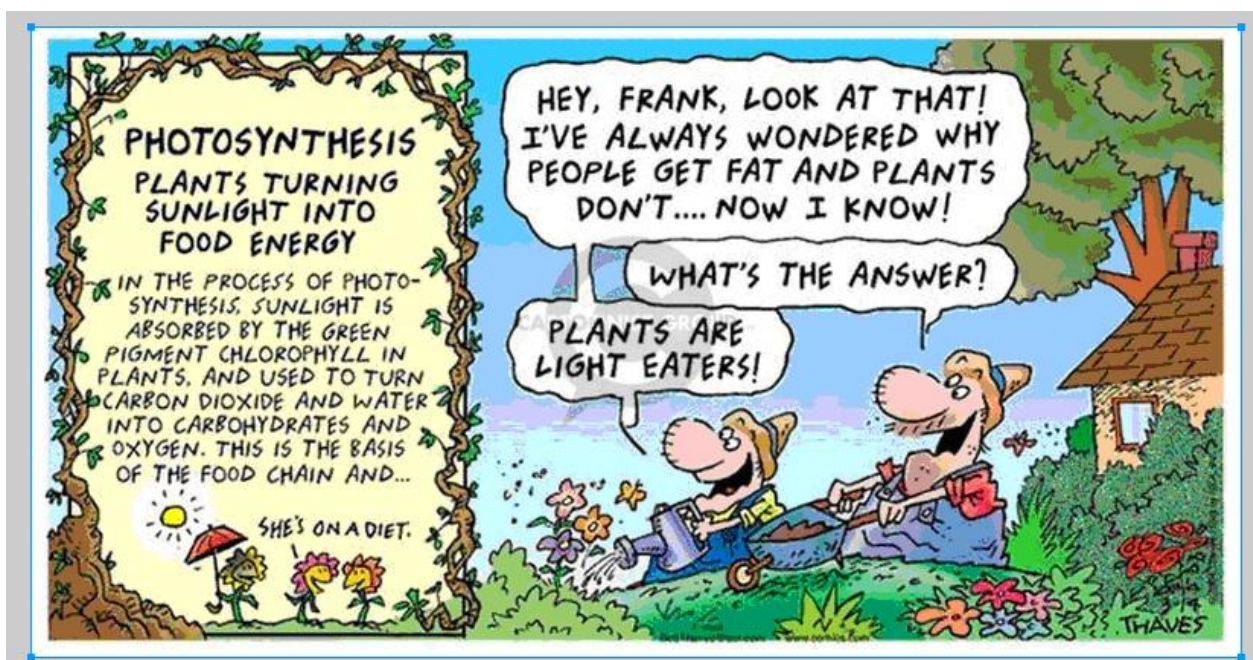
獎品:

冠軍: 大眾書局書券二百元正  
亞軍: 大眾書局書券一百五十元正  
季軍: 大眾書局書券一百元正  
最具創意獎: 大眾書局書券一百元正

### ~Relaxing time ~

	6			9		5	
				5			3
3			4				9
8				4			6
		9		3	5	1	
2			6				7
9					6		2
5							
	7		8				9

## COMIC CORNER



### SCIENCE SOCIETY 2014-15

CHAIRMAN: LAU MEI SZE 劉美施 5E

VICE-CHAIRMAN: LUI KAM SHING 呂錦晟 5E

COMMITTEE MEMBER: LEE NGA MAN 李雅雯 4C, MA CHUN HIN 馬俊軒 4C, WONG SHUK YI 黃淑怡 4C, YEUNG PUI SZE 楊培詩 4C, AU CHI HO 歐智浩 4D, CHIK HIU CHING 戚曉晴 4D, WONG SIU TIN 王嘯天 4D, LAW CHUN HO 羅俊豪 5C, LEUNG KWOK PANG 梁國鵬 5C, TAM SUM MEI 譚心澂 5C, WONG CHING HUNG 王靖雄 5C

### Answer

1	6	8	3	7	9	2	5	4
7	9	4	1	5	2	8	6	3
3	2	5	4	6	8	7	1	9
8	1	7	2	9	4	5	3	6
6	4	9	7	3	5	1	2	8
2	5	3	6	8	1	9	4	7
9	8	1	5	4	6	3	7	2
5	3	6	9	2	7	4	8	1
4	7	2	8	1	3	6	9	5