

CANS OF JAM ²

issue 17, day one after the end of the world, 2012

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Cover artwork by Orphélia R.

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From the editors

Are we still alive? Of course we are! So, welcome to this new issue of *cans of jam²*, your science magazine; this time, we decided that our theme would be the end of the world, so here is what our reporters-pupils think about it... It will maybe appear less scientific than usual to you, and we certainly hoped for more scientific articles, but then, aren't we all just happy to be still alive? So enjoy, and have wonderfully pleasant end-of-year celebrations! Merry Christmas and Happy New Year to you all!

The end of the world?

by Loïc P.

The world is threatened by greenhouse gases. Indeed, the increase of these gases leads to global warming and that brings about the retreat of glaciers. Oceans will cover the ground which means that humanity won't be able to live on planet Earth.

The end of the world !

by Paulin R.

The end of the world was announced for the 21st December 2012 .

Predictions for December 2012 are based on several beliefs announcing major changes or cataclysmic events for December 21st, 2012. Originally, this date marks the end of the 5,125 years of a 'cycle of long count' in the Mayan calendar, interpreted by some as the definitive end of this calendar.

This major event is an important element in many religions, philosophies and mythologies, and is also the subject of numerous predictions.

In France, there is a little city named Bugarach, and if you were at the top of the mountain of this village, you survived the end of the world !

A film was made in anticipation of this tragic event.

What will you do for the end of the world?

by Damien F. and Jean-Gabriel W.

A lot of peoples said that they will do every wish they couldn't realize : some said that they would kill their enemies, attack a bank or do a lot of crazy ideas.

On the other hand, some people decided to make good actions such as giving their wealth to charity associations or poor people.

But was the 21st December really the end of the world ? According to NASA, This is only a joke. In reality it is simply a galactic alignment which changes the solar cycle. It is possible that it will cause climatic modifications, but ideas on chaos and the end of the Earth aren't realistic. It's more a **new beginning** !



Is this the end of the world?

by Margaux B.

In a few days, it will be December 21st, 2012. This date marks the end of the Mayan calendar cycle and for some people, this would also be the end of humanity. For the Mayans, it means a new era where the Earth and its people change, but for many people, it means the end of the world or a similar catastrophe.

These people suggest several proposals. The human species could destroy itself with war or pollution. The Earth's magnetic field change, that occurs about every 250,000 years could cause a significant cosmic bombardment.

Some also speak of NEO (near-Earth objects), which are objects in the solar system, turning away from the sun and crashing into the Earth. Planet Nibiru passes near the Earth every 3,600 years, and some people say its collision with Earth would mark the end of the world.

In conclusion, do we have to worry about December 21st, 2012? In fact, many people believe that, but they have not a clue! All these are still unproven facts. The world will end, that is for sure ! But not right away...



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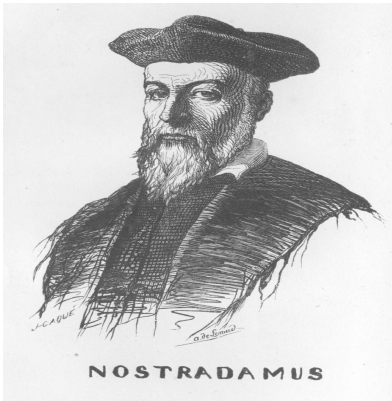
The end of the world

by Vincent S. and Clément R.



Nostradamus, the Mayans and many other civilizations have predicted what would seem to be very bad things for that day, the 21st of December, 2012. Taking into account different predictions, ideologies and calendars, some pseudo-scientists have looked into this question and worked on it... For some of them, it would appear that our galaxy, which is moving on an elliptical

trajectory, is passing for at least the second time through a very disturbed area of the universe. A previous passage may explain, for example, the disappearance of dinosaurs.



The potential risks involved in this case go from big changes and climate disruption to serious electromagnetic disruption, and even finally the total destruction of the planet by a collision with a huge asteroid. In this area the traffic of celestial bodies of varied size is at least 1,000 times higher than usual.

If we add to these predictions the rumours and popular beliefs, we can make a list of possible causes



for the end of the world :

- important climate disruption.
- serious electromagnetic disturbance.
- destruction of the total world by collision with a big asteroid.
- total war, for example a nuclear war.
- total exhaustion of fossil fuels.
- alien invasion (the return of the gods on Earth, according to some Maya).
- epidemic or pandemic worldwide.
- solar radiation.

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The end of the world (*continued*)

by Vincent S. and Clément R.

In conclusion, we can say that with so many rumours, it is not surprising that some people ask silly questions such as 'what do you think about this terrible disaster?', or 'how can we avoid this?', or 'is it a punishment?', and expect that kind of spectacle...



A scientist who counted : 5- James Prescott Joule

by Thomas D.



He was born on the 24th December 1818 in Salford (in Lancashire) and he died on the 11th October 1889, aged 70 years old in Sale. He was an English physicist.

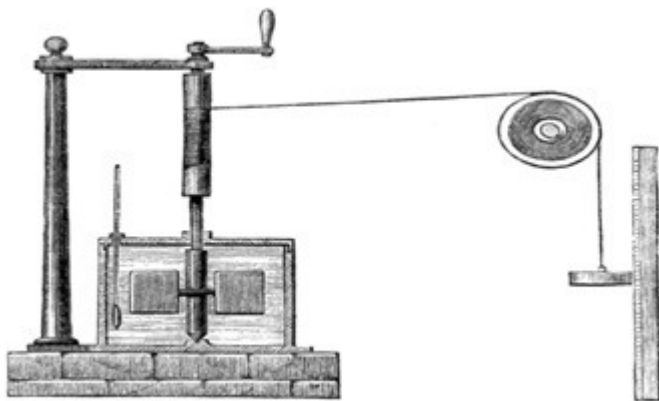
His study on the nature of heat and his discovery of its relation with mechanical work drove him to the theory of the preservation of energy.

He also expressed a relation between the electric current crossing a resistance and the heat dissipated by this resistance, known today as the Joule's law.

Finally, he worked with Lord Kelvin to develop the absolute scale for temperature and studied magnetostriction.

In 1850, he became a member of the Royal Society. Two years later, he was awarded the Royal Medal and in 1870, he received the Copley Medal.

In the international system, the unit for energy, work and the quantity of heat bears his name; it is the joule.



Joule's heat device

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Games' Corner : play with Joule's law!

by Jean C.C. and Thomas D.

Use Joule's law to calculate these conversions. Here is some help :

1 W is 1 J/s
1 Wh is 3,600 J

1kWh is 3,600,000 J
1kWh is 3.6 MJ

32,400,000 J = kWh

..... J = 857 Wh

..... J = 529 kWh

180 MJ = kWh

360,000 J = Wh

..... MJ = 85 kWh

Readers' emails (slightly corrected by the editors)

Dear journalists,

It is always a pleasure to read your publication !

Presently, I'm reading an interesting book called "Chemists from A to Z" (in French...).

About the great Avogadro, it is said that he lost his pulpit in Turin in 1822, probably for political reasons, then he came back to this pulpit in 1834 and occupied it until his death.

This chemist wasn't famous during his life, contrary to Lavoisier, Chevreul, Berthelot, etc. Canizarro, another Italian chemist made him famous in 1858 when he created a new atomic theory.

In fact, the name "Avogadro's number" was given by Canizarro.

Have a nice week,

Gérald, from Saint-Léger, 60

Well, thank you Gérald for these precisions on last issue's article!

The editors

Thank you for this new issue. It will soon be on our site. Sincerely yours,

Pierre, from Amiens, 80

Thank you Sir! cans of jam² would not be what it is without your assistance.

The editors

I still read [cans of jam²] sir, that's a pleasure to still receive it, thank you.

Alexandre (former reporter for cans of jam², from where?)

Answers to the game

32,400,000 J = **9** kWh

3,085,200 J = 857 Wh

1.9 x 10⁹ J = 529 kWh

180 MJ = **50** kWh

360,000 J = **100** Wh

306 MJ = 85 kWh

Cans of jam² is a scientific magazine written by the pupils from the European classes of Paul Langevin High School in Beauvais, Oise. It is free, available mainly through internet, and usually published for each school holiday period.

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