

Rosetta: How to end the fairytale

September 26 2016, by Mari ette Le Roux, Pascale Mollard



A computer-generated image of Rosetta, the billion-dollar comet-chasing-spacecraft launched by the European Space Agency

Once upon a time, two intrepid space adventurers called Rosetta and Philae set out from Earth to explore a comet far, far away.

So begins the fairy tale adventure of Europe's comet chaser and robot probe, steel boxes with charming cartoon counterparts and a global

following of fans fated for heartbreak when the pair severs ties with Earth forever.

"I think there will be a lot of tears," European Space Agency (ESA) senior science advisor Mark McCaughrean told AFP ahead of D-Day on September 30.

After two years in orbit around comet 67P/Churyumov-Gerasimenko, hundreds of millions of kilometres (miles) from home, Rosetta will terminate its groundbreaking deep-space mission by touching down on the icy dustball.

Running out of power, Rosetta will join already-spent robot lab Philae in an eternal loop around the Sun on the surface of their new alien world.

The signal will die as the craft's antenna bends away from Earth.

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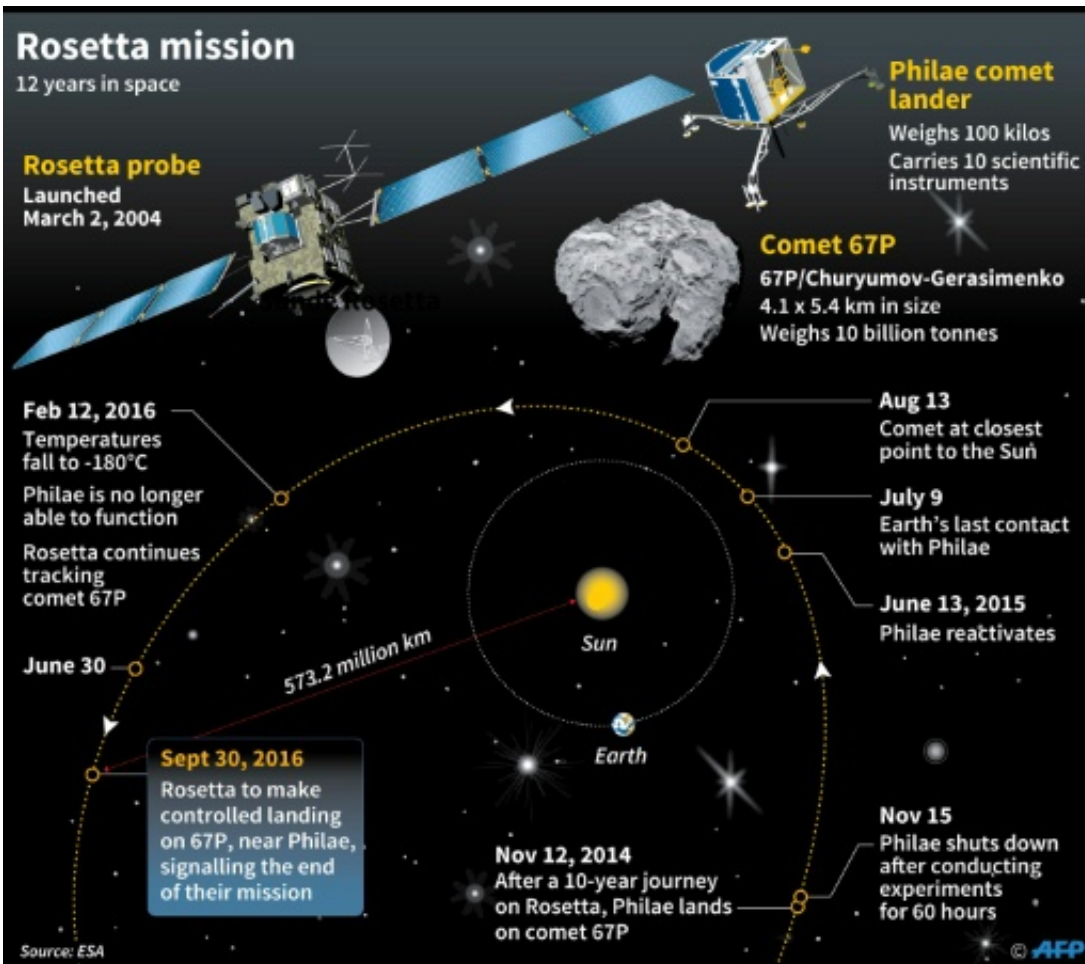
Trouble is—many children, even some adults, have come to think of the machines as cute cartoon characters—a sister with her small brother bravely prodding and sniffing a comet and sending data back to Earth.

Do these storybook heroes now die?

Rosetta and Philae's exploits have made them rare science celebrities, each with its "own" Twitter account. They have sold T-shirts, hoodies and plush toys.

Cartoon videos endow the duo with human features—eyes to see with, mouths for smiling, eyebrows that lift in amazement, as well as arms, hands and for Philae—a pair of spindly legs.

They are made to exhibit emotions as well: affection, trepidation, courage and exhilaration.



Rosetta Mission

Now the very people who gave birth to the endearing duo face a difficult task.

"In a sort of coldblooded way, we need to make sure that people understand that it really is over," said Mark McCaughrean, who has been closely involved in the mission's public profile.

"OK, we've created these loveable characters and so on, but there's a limit, it has to end."

Falling asleep

The fairy tale began in January 2014, when Rosetta "woke up" after hibernating for nearly three years to conserve energy on her 10-year journey from Earth to 67P—a veritable deep-space Sleeping Beauty.

ESA released the first cartoon video the previous month, entitled: "Once upon a time."

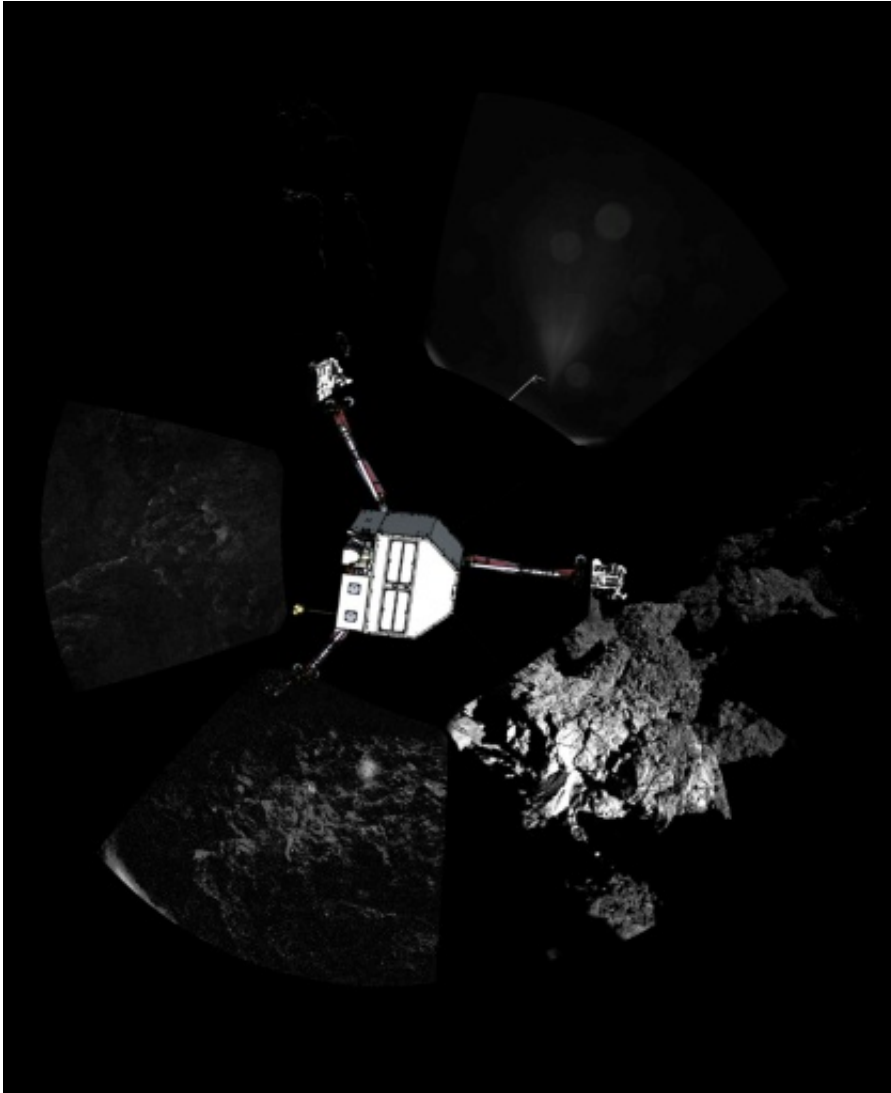
"We thought we wanted this idea of a fairy story, a princess being woken up, and that just took off—it took off enormously," said McCaughrean.

Subsequent movies followed Rosetta's journey, Philae perched on her head and jumping up and down as he insists: "Are we there yet? Are we there yet?"

The real drama came in November 2014, when Rosetta released Philae onto the comet surface.

A cartoon depicts Philae strapping on a pair of studded boots and a hard hat, stuffing a cheese sandwich and compass into a backpack, and bidding Rosetta a fond farewell before leaping boldly into space.

Things did not go according to plan.



Images from the Rosetta comet probe shows the Philae lander descending to the surface of comet 67P/Churyumov-Gerasimenko in November 2014

Washing machine-sized Philae bounced several times before ending up in a shaded crevice, away from the Sun's battery-charging rays. It ran 60 hours worth of experiments and sent results home before entering standby mode.

In the ESA animation, the little lander falls asleep on the cold, dark

comet surface, clutching a blanket, at the foot of a cliff it had decorated with photos and newspaper clippings.

"We didn't have to kill Philae. He was falling asleep," said McCaughrean.

The big question at the time was whether Philae would wake up again as the comet moved closer to the Sun.

It did, several times.

With Rosetta, however, the mission will end, irrevocably, as soon as the craft touches the comet surface.

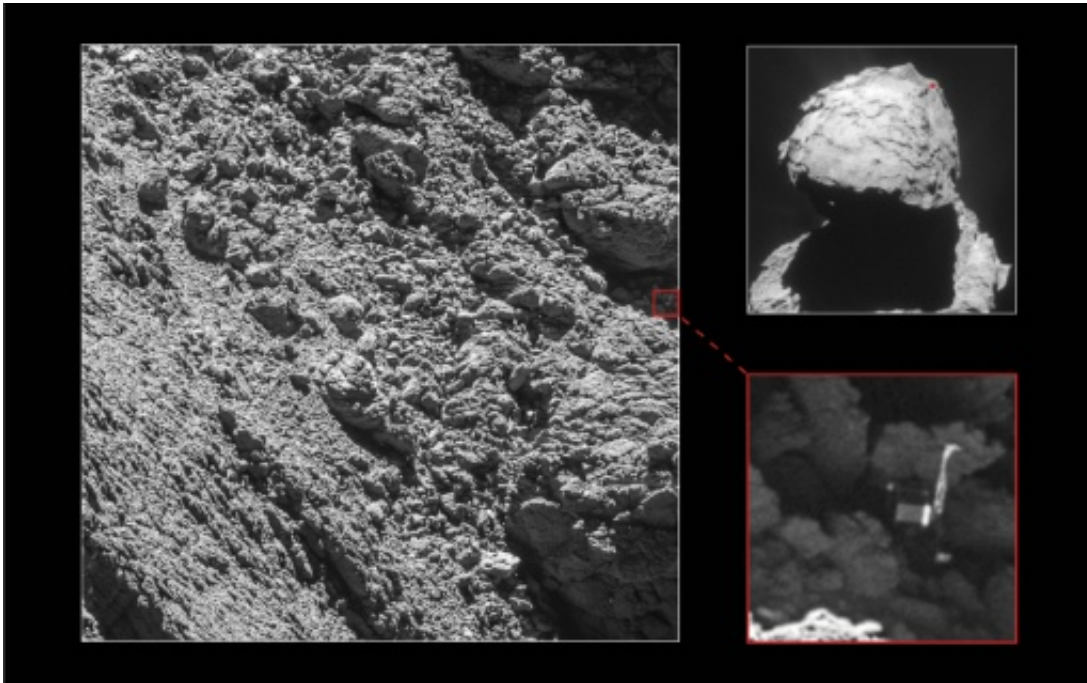
Gone forever

The communications campaign was conceived, ESA chief executive Jan Woerner said, to account to the European public "where their taxes go".

"We're duty-bound to play this role with the European public, to try and inspire the new generation," added Fabio Favata of the agency's robotic exploration directorate.

In many ways, anthropomorphisation was an obvious choice. There were two protagonists, communicating with one another and cooperating on a decades-long odyssey into unexplored territory.

Nevertheless, the success surprised many.



The European Space Agency craft Philae is shown on September 2, 2016, at the site of its landing on comet 67P/Churyumov-Gerasimenko

Philae has nearly 450,000 Twitter followers. It's first message after briefly waking up in June 2015, "Hello Earth! Can you hear me?", was retweeted 30,000 times and 'liked' 25,000 times.

"I must be frank, it was... surprising, the level of public engagement," said Favata.

Even hard-nosed ESA scientists were taken in.

"The emotion which we will all feel next week, I think even in ESA there will be a degree of the anthropomorphisation," admitted McCaughrean.

For social and consumer psychologist Dimitrios Tsivrikos at University

College London, the campaign worked because "it was playful, it was accessible and it allowed people to understand what might be happening without being intimidated."

"I'm a scientist as well, (and) when it comes to communicating about science I think in the past we've been a bit too harsh with the general public," he told AFP.

Tsivrikos does not expect mass mourning.

"At the end of every video game there's a fantastic line that says: 'Game over'," he said. "We are now accustomed to see characters dying."

The end.

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Citation: Rosetta: How to end the fairytale (2016, September 26) retrieved 4 May 2024 from <https://phys.org/news/2016-09-rosetta-fairytale.html>

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