

Swiss "janitor satellite" to clean up space

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On Being a Stranger

(This was written in 2011 when it was made clear I needed to do something about my status. Now, I've got over the reaction, but it's interesting to reflect on the emotional impact, and wonder how it would be for someone who did not have options.)

"Do you have trouble with strangers in New Zealand?" he asked, being just accepted as an immigrant, but meaning 'them', not him himself because to ourselves we are never strangers.

A strange concept - 'trouble with strangers' When it's code for 'do you have troublesome immigrants' recognisable by being from certain lands, certain skins, certain criminal tendencies.

"A stranger is only a friend you haven't met yet" did not seem like the required response.

Now suddenly I find myself the undesired stranger. Indubitably an overstayer subject to a fine if challenged And no, there's nothing can be done

No defence of blameless character, of long relationship with a 'real' Swiss of attempts to fit in, blend in, play along. Not wanted on the journey.

Alienation is a word we use talking about youths rioting in the streets taking action against perceived rejection.

Alienated - made a stranger.
My brain hits back.
Listening to deliberations in simultaneous strange languages of the Swiss Abroad Congress, I suddenly stop understanding, stop wanting to understand. It's just noise in my ears. It's irrelevant. I don't give a damn. I am a stranger.

Carolyn Lane, August 2011

Swiss "janitor satellite" to clean up space

Swiss scientists plan to launch a mini satellite fitted with jellyfish-like tentacles that can clear some of the huge amount of debris orbiting above our heads.

Researchers at the Federal Institute of Technology, Lausanne, (EPFL), hope the CleanSpaceOne prototype satellite will be in the skies by 2016 in a bid to help resolve the worsening space junk problem. After two years of research scientists working on the CleanSpaceOne project aim to build the first prototype in a family of clean-up satellites. Their initial space mission will be to target and de-orbit one of two Swiss satellites - the SwissCube or the TIsat, launched in 2009 and 2010, respectively.

A number of other organisations, including the German, Russian and European space agencies and Nasa, are also working on this international space debris problem but the Swiss hope to be the first to become operational.

However, many challenges lie ahead. The first involves propulsion. Once launched into space the 30cm-by-10cm-by-10 cm "janitor" will have to adjust its trajectory to precisely line up with the target's orbit using a new ultra-compact motor being developed at the EPFL. Then when it approaches one of the junk satellites - travelling at 28,000 km/h, 600-700 km above the Earth's surface - CleanSpaceOne will then have to grab and stabilise it.

Inspired by the animal and plant world, the team plans to develop a tentacle-like gripping mechanism to help it hold on to the spinning object. "Nature has a way of being very energy efficient. If you think of the jellyfish or anemone they can catch objects of different shapes which are tumbling or passing by. We will use them as examples," Muriel Richard, deputy director of the Swiss Space Center, says.

Finally, once the janitor has secured the piece of junk, it will "de-orbit" the redundant satellite by firing up its engines so that both fall back together into the Earth's atmosphere, burning up on re-entry. From launch to destruction the whole process should take six months.

Although the prototype will be destroyed on its first mission, the CleanSpaceOne project is not a one-off.

"We want to offer and sell a whole family of ready-made systems, designed as sustainably as possible, that are able to de-orbit several different kinds of satellites," explained Swiss Space Center Director Volker Gass. "Space agencies are increasingly finding it necessary to take into consideration and prepare for the elimination of the stuff they're sending into space. We want to be the pioneers in this area."

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