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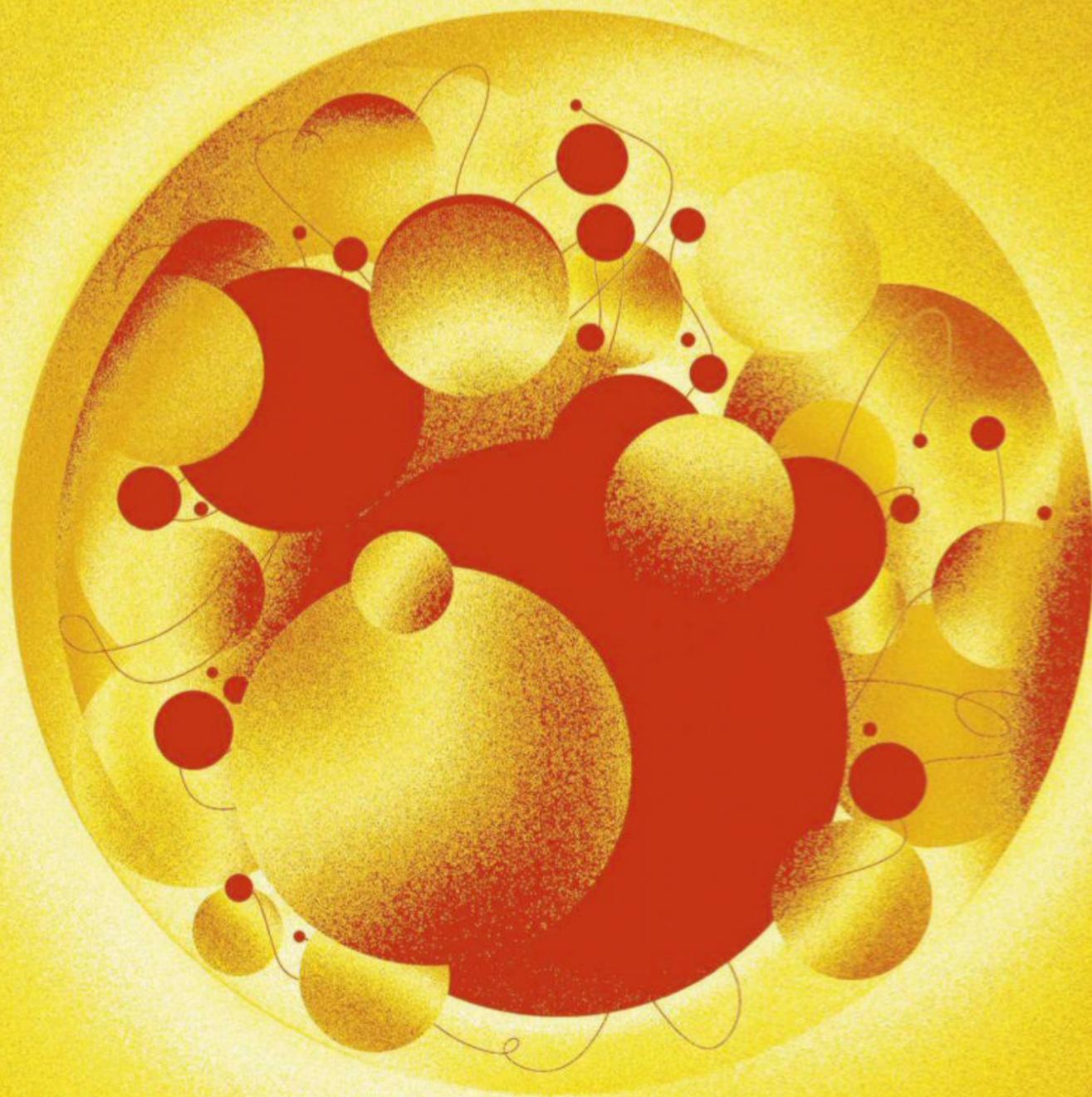
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PSYCHOLOGICAL STRESS IS LIKELY TO SURFACE DURING A HUMAN MISSION TO MARS. PROF JEFF JOHNSON THINKS AN ON-BOARD 'COURT JESTER' COULD KEEP SPIRITS UP DURING THE LONG AND ARDUOUS JOURNEY. HE IS DRAWING ON HIS RESEARCH ON THE DIFFERING TEAM-BUILDING APPROACHES OF RIVAL POLAR EXPLORERS ROALD AMUNDSEN AND ROBERT FALCON SCOTT TO MAKE HIS CASE

AMUNDSEN'S TEAM MADE IT TO THE SOUTH POLE AND BACK WHILE SCOTT'S PERISHED ON THE RETURN JOURNEY. HOW DID THEIR APPROACHES TO GROUP DYNAMICS DIFFER?

Well, Roald Amundsen actually put people through tests before they set off to make sure that they would take orders and, in particular, whether they

would challenge any of them. Amundsen would set up situations where there would be an ambiguous context to see what their responses would be, and if somebody questioned him, they were eliminated. But there was also Adolf Lindstrøm, the cook; he was a key figure. If you read Amundsen's diary, he writes that Lindstrøm was basically the most important person on the expedition.

WHY WAS THAT?

Lindstrøm was the comedian. He didn't actually go to the South Pole, but you've got to remember that the walking expedition was a small component of the overall time that they were on the ice. They were there for well over a year, waiting to walk to the Pole. They had to wait during the winter and it's a very tense time when people are idle, without a lot to do. Lindstrøm played an essential role in keeping the peace in the group when there were tense moments.

WHAT MAKES PEOPLE LIKE LINDSTRØM DIFFERENT FROM THE REST OF US?

People like Lindstrøm have a high social intelligence. It's hard to know exactly what went on – diaries are not necessarily a good indication because people may want to portray a different version of events – but I do know that during tense moments, Lindstrøm would do something funny to get everybody to laugh, which would break the tension.

HAVE YOU SEEN THIS SORT OF THING IN ACTION IN YOUR OWN RESEARCH?

I did participant observation as an anthropologist while I spent two years working as a carpenter in a salmon fish camp in Bristol Bay, Alaska. That was the only way to do the research – I had to live there and be a part of it. I observed the emergence of a 'court jester' during a strike that the fishermen held. There was lots of tension because people were losing money during the strike, but they used to make fun of this one individual and he played along with it – he became the butt of their jokes. He was the worst fisherman



Joker in the pack: Adolf Lindstrøm (first from right) played a crucial role in Roald Amundsen's (with the pipe) 1911 expedition to the South Pole



“Lindstrøm played an essential role in keeping the peace in the group when there were tense moments”

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in the camp, even though he was a captain. But he was well-loved. The other fishermen held a mock-funeral for him, they buried him in the tundra, they'd pile up benches in front of his door so he couldn't get out... After the strike was over, he received over-limit fish-transfers. If you went over your 12,000lb limit in 24 hours, you could give away your extra fish to anybody who hadn't reached their limit. The other fishermen gave their extra fish to this court jester, so he was rewarded for his role.

IF WE'RE TRYING TO SELECT THIS TYPE OF PERSON FOR A MISSION TO MARS, WHAT SORT OF QUALITIES WOULD WE BE LOOKING FOR?

There are individuals who have these certain innate abilities that you want to be able to recognise and include when you're putting together groups that are going to be isolated, such as those going into space. There's a number of different

roles that we've discovered are important, but one of them is somebody who has humour. That's clearly important.

So, you'd want to have somebody like Lindstrøm, somebody who is not only good at what they have to do (he was a very good cook) but who also has another skillset over and above what's in the job description. You would want the same thing to be true for any kind of expedition to space. It could be comedians, it could be story-tellers, it could be peace-makers... It has to do with the emergent properties of groups. We can put people together thinking that they're going to work together in a certain way, but over the course of time we get these emergent properties, particularly with these informal roles, that are difficult to predict, particularly when there's a crisis. But I think we can do a better job of putting people together that will do better over the long run. Some of these things are latent in the sense that they

don't come out and surface until they're needed. That's what happened in my research with the fishermen when the strike happened. The comedian role emerged and it went away when the strike was over. These are the kinds of things that make groups more adaptable and help them function better, and I don't think enough attention has been paid to them.

You can think about it in terms of atoms: when you put different elements together, they produce different kinds of things. It's the same with people. They may have their own characteristics, but when you put them together, they're going to create a different kind of situation and we want to have a better idea of what that might be.

PROF JEFF JOHNSON

Jeff a professor of anthropology at the University of Florida. Interviewed by BBC Science Focus commissioning editor Jason Goodyer.