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## Robots bring sunshine to the elderly

At the Shintomi care home, 40 elderly people gather in the main hall to watch a double act by robots. The little straight man, Palro, has just led everyone in a dance. Pepper, the taller funny guy, is making old ladies cackle by trying, and failing, to guess their ages. These humanoids are using artificial intelligence to soothe, stimulate and entertain the old.

The robotic revolution has happened because of the convergence of two forces; robot technology and human ageing. By 2050, 27 percent of the UK population is expected to be 65 or older; in Japan, with a shrinking population, the proportion will be 36.4 per cent.



A year ago the Japanese government unveiled its 'new strategy for robots', which aims to quadruple the size of the industry. Few sectors offer greater opportunity than that of elderly care. There is the Honda Walking Assist Device, a lightweight apparatus of belt and leg braces buckled to a stroke patient who would hobble awkwardly with a stick but now manages a steady walk.

Some of the most useful technology is aimed not at the home's patients but at its staff. Many of those who care for the elderly are afflicted by back injuries, from the effort of repeatedly lifting and lowering immobile patients. An exo-suit relieves this burden. Powered by compressed air, it adds 30kg to the amount that a user can lift. Similar devices are being used by construction workers and airport baggage handlers to reduce the burden of their loads. Elderly workers are taking part in trials to see if such devices can extend their working lives.

Then there are the humanoid robots. "Some people with dementia like talking to people," Tomiko Kuge, of Fujisoft, which makes Palro, said. "They feel self-conscious because they fear that they're repeating themselves or not making sense. Sometimes they get angry with their carers, but a robot soothes them and they can talk to it easily."

A robot like Palro costs about £4,000, but is available to rent for £180 a month. About 300 are at work, mostly in care homes but some as receptionists in banks.

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