



Roos Pals

PHD STUDENT ENVIRONMENTAL PSYCHOLOGY

MOVING THROUGH A virtual environment

The healing effect of virtual nature

Sending people into a virtual zoo to find out how they experience zoo attractions and how nature affects their mood is all part of a day's work for Roos Pals, a PhD student of environmental psychology at the University of Groningen.

Since 2006 she has been engaged in research commissioned by Emmen Zoo to explore nature's positive influence and restorative effect on people with stress and mental fatigue. Pals: 'I was curious to see whether this was also the case in a virtual environment.'

In an initial study, Pals asked CIT to design a virtual butterfly garden and a virtual neighbourhood, which could be visualized in a CAVE, or Computer Animated Virtual Environment. Participants visiting the three-dimensional space were given a headtracker to place on their head. This then enabled them to look under and behind objects like leaves and flowers in the garden or on the street. 'This meant that they could direct what they did and could move about in the garden. It gave them much more interaction with their environment', says Pals.

The visitors' heart rate and breathing were measured before, during and after their walks. They also completed a questionnaire about their experience of the virtual environments.

COHESION IS AFFECTED BY unnatural objects

In a second study, Pals arranged for part of the plans for new developments at Emmen Zoo to be converted into a virtual reality environment. One theory as to why nature has a healing effect is that it forms a unified whole, explains Pals. Hence her exploration of how this cohesion is affected by unnatural objects placed in the zoo.

'Three different environments have been designed', she explains. 'An ordinary 'empty' zoo, a zoo with wooden rubbish bins, benches and fences and another with modern, metal objects. At present, a Master's student and I are investigating the effect of these different types of park furniture on people's experience in a zoo.'

The good thing about virtual reality, Pals believes, is that it's easy to make modifications and to monitor their effects. A major advantage is that you can keep the environmental factors constant, and can change one of them artificially each time to see what happens. 'In a real natural environment, there are many things that you can't control, such as the weather and whether other people are present.'

