

What is the greatest challenge in your field today?

To help people plagued by nightmares, flashbacks, and relentless stress related to a traumatic episode—being raped, narrowly escaping the collapse of the Twin Towers, witnessing a buddy die on the battlefield. Traditionally the best treatment for post-traumatic stress disorder [PTSD] is to have the person relive the trauma using his or her imagination. Repeated exposure to the horror can desensitize individuals and help them stay calm enough to reprocess what happened and get beyond it.

How does virtual reality address this problem?

We immerse the individual in a virtual world to allow him or her to vividly reexperience the episode in a safe and controlled way. In Virtual Iraq, a soldier with PTSD recounts what happened, and a therapist seated before a computer then creates an environment that captures the essential elements of the episode. Say the soldier was driving in a Humvee convoy when the vehicle in front of him blew up. By donning special goggles, he can see a reenactment: To the left he sees a desert landscape; straight ahead, the Humvee. The simulation is done on a vibrating platform, so he feels the humming of the vehicle's motor or the rumble of the exploding IED [improvised explosive device]. We also pipe in sounds and smells: the call to prayer in Arabic, diesel fumes, even the body odor of the guy next to him. The simulation starts off relatively tame. Then, over the course of several weeks, the therapist monitors the patient's response and more elements of the episode are introduced until the individual can finally go through an intensely vivid recreation of it without being overpowered by terror.

What do you hope the therapeutic world will look like 20 years from now?

Virtual reality won't replace a real-life therapist, but I hope it will become a powerful tool. How do you teach

a pilot to fly? A simulator beats a textbook in training how to deal with wind shear. If we want to help people cope with obsessions and anxieties from fear of public speaking to agoraphobia, why not train them in a virtual setting that closely matches the very world in which they'll have to function?

How are you helping to get there?

The first step is to establish virtual therapy's effectiveness in different realms. We have good initial evidence with our first 18 completers of Virtual Iraq that the intervention works for PTSD. Of that group, 14 no longer meet the criteria for the condition. The goal is to build on this kind of research and push forward the virtual revolution in psychology.

Kathleen McAuliffe

arly on in the Iraq War, clinical psychologist Albert "Skip" Rizzo stumbled upon the video game *Full Spectrum Warrior* and determined to make a therapeutic tool out of it. Rizzo, a University of Southern California professor who had designed virtual reality tools to measure attention deficits in children, realized that thousands of soldiers would come back from the Middle East with post-traumatic stress disorder. Since 2005 the program he developed, Virtual Iraq, has had great success in treating the returning troops.