

## AR Genes and the New DNA

'Augmented reality (AR) involves overlaying visual, auditory, or other sensory information onto the real world to enhance one's experience. Unlike virtual reality, which creates its own cyber environment, augmented reality adds to the existing world as it is.' (investopedia.com)

Deoxyribonucleic acid (abbreviated DNA) is the molecule that carries genetic information for the development and functioning of an organism. DNA is made of two linked strands that wind around each other to resemble a twisted ladder - a shape known as a double helix.

"Although the traditional 2D screen visualization is still preferred when teaching chemistry, the application of AR in early education has shown potential to facilitate the understanding and visualization of chemical structures. The increasing connectivity of the AR technology to web platforms and scientific networks should translate into new opportunities for teaching and learning strategies." <a href="https://www.ncbi.nlm.nih.gov/pmc/articles/PMC9044447/">https://www.ncbi.nlm.nih.gov/pmc/articles/PMC9044447/</a>

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The barn at the City Ranch Industrial Complex (CRIC) houses everything from a coffee bar, a running track, to an advanced AR research lab. Post-doctoral voyager Jenney Derringer enjoys all three. She tackles the joe while working with human DNR through an augmented reality lens. Running is a much-needed de-stressor for most folks in rural Eugene.

Ms. Derringer, as it turns-out, is a big practical joker. She recently filled a claw-foot bathtub with whipped cream, popping out of the sweet camouflage to the embarrassment of her co-workers.

But she is all work and science at the molecular level.

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Her research focus is using AR to duplicate actual DNA genes with the double helix and observe how the two technologies interact to create new, living AR genes.

"The double-helix shape allows for DNA replication and protein synthesis to occur. In these processes, the twisted DNA unwinds and opens to allow a copy of the DNA to be made. In DNA replication, the double helix unwinds and each separated strand is used to synthesize a new strand." https://www.thoughtco.com/double-helix-373302

## **DNA synthesizes AR Genes**

The AR gene technology (with its sub-cellular human-machine interface) makes a copy from the original DNA helix's single strand. The resultant super-charged "AR genes" are available to the host's future DNA exchanges, and work as a modified, independent double helix in their own right. AR genes have been shown

to improve the functioning of cell components like mitochondria, the Golgi apparatus, organelles, cytoplasm and reproduction.

## Questions

Can AR genes carry more information? Are they more elastic and durable, and less likely to mutate, than their DNA-gene counterparts?

Are there new hybrid organisms that can be grown with the AR genes? Are they partly digital in cellular makeup and outward appearance?

Are there ethical issues with artificial AR genes?

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