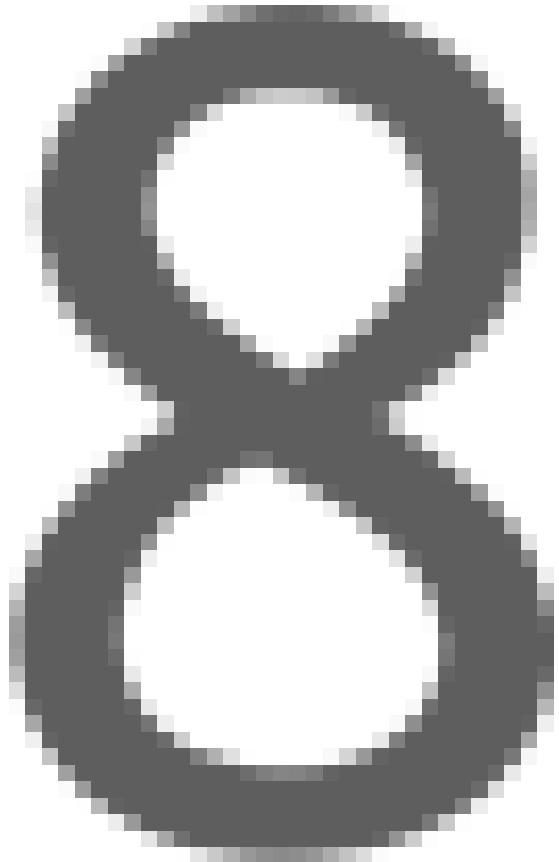
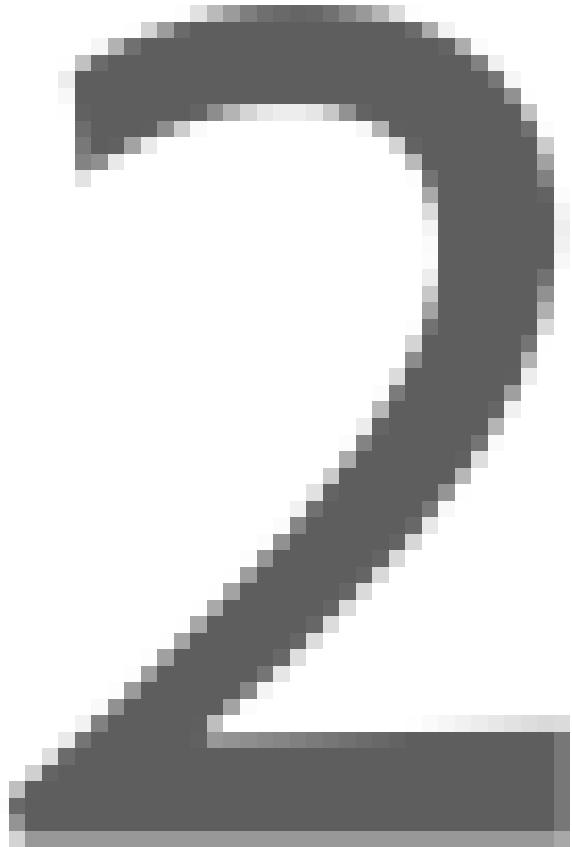


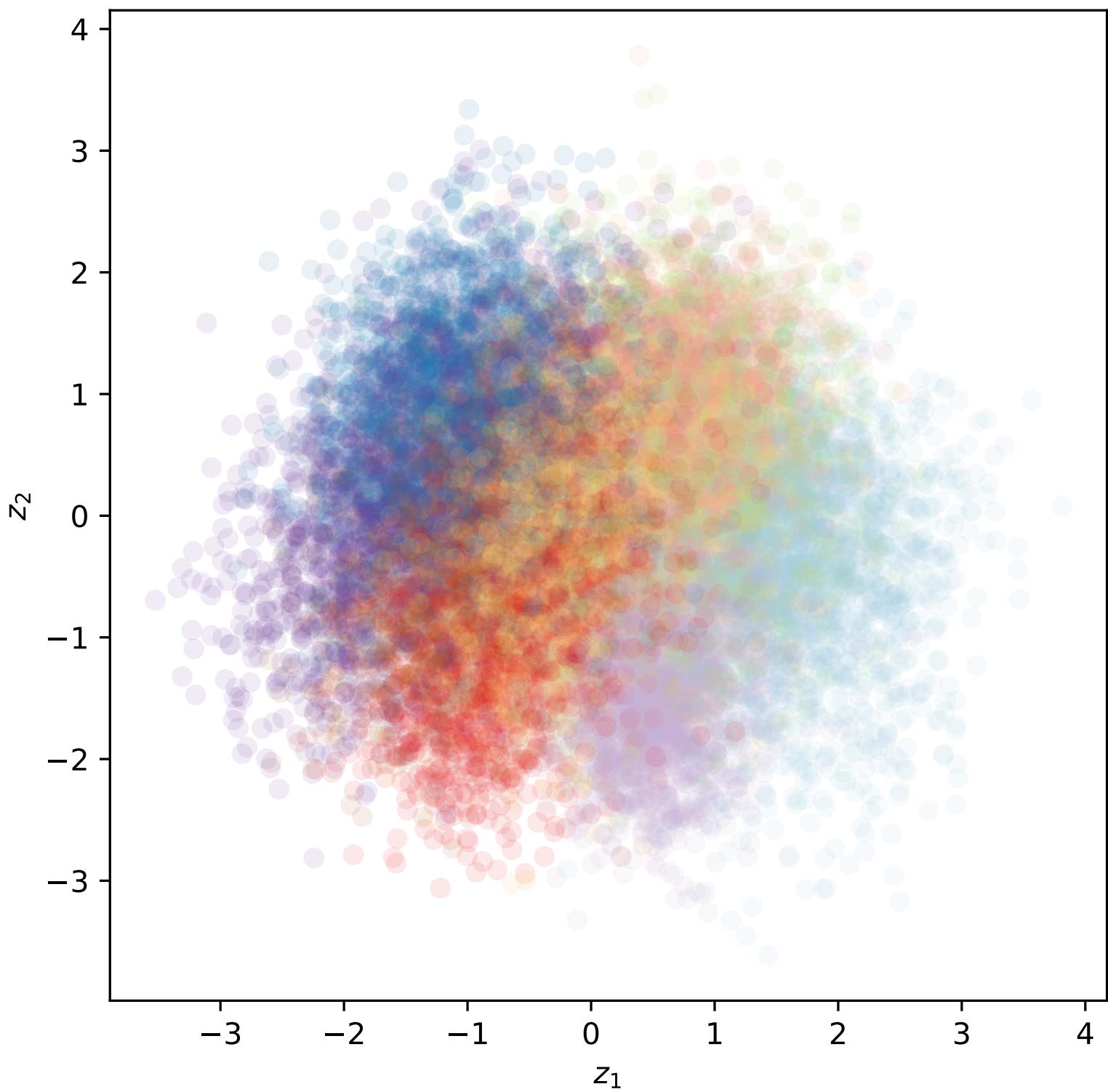
Siddhartha Mishra (MIT/Alfi) Summer School

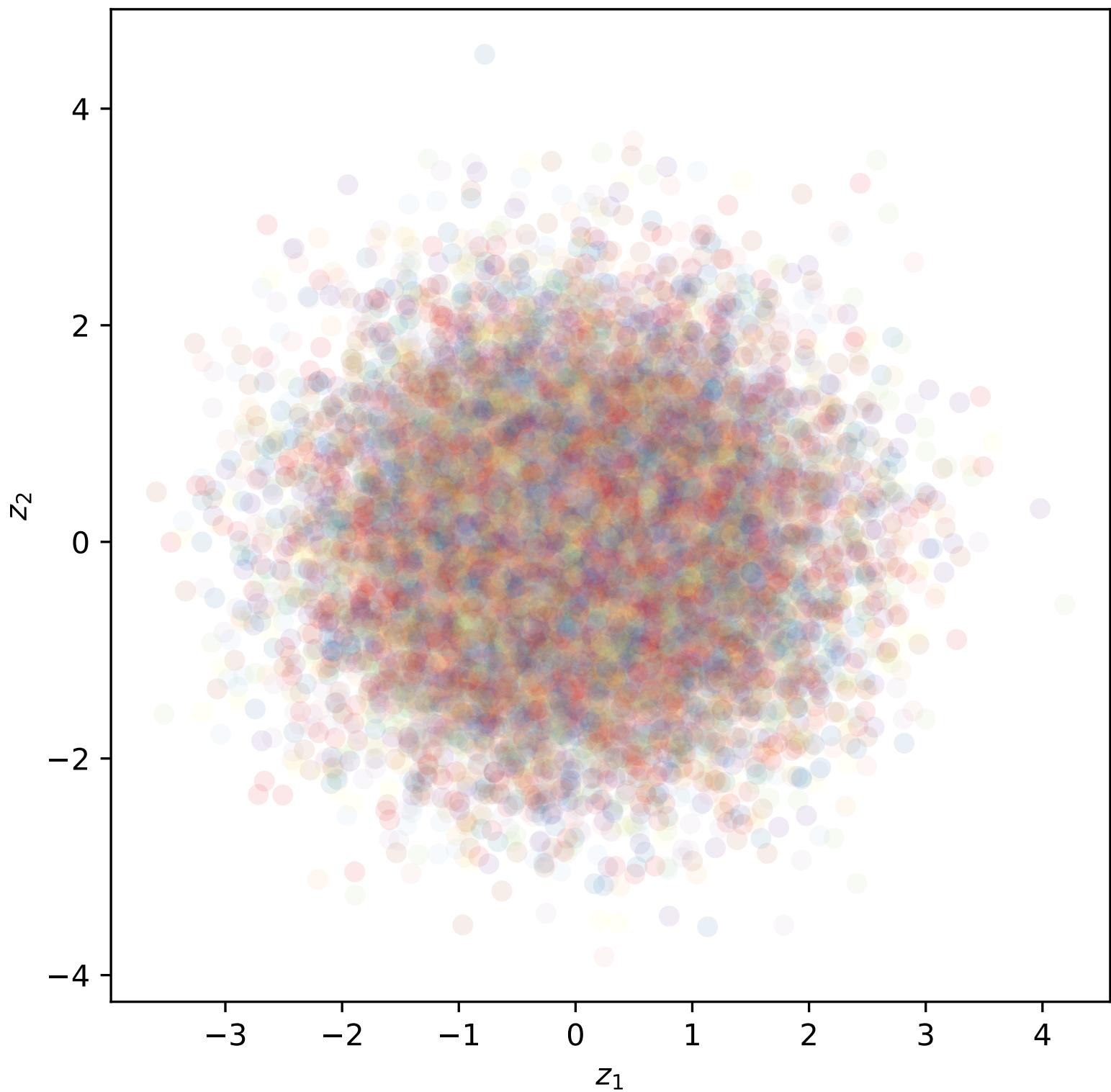




A space at once meaningful and meaningless.

The space and terrain were torn apart, simple structures and buildings collapsed, and the city was engulfed in the silent, featureless void.

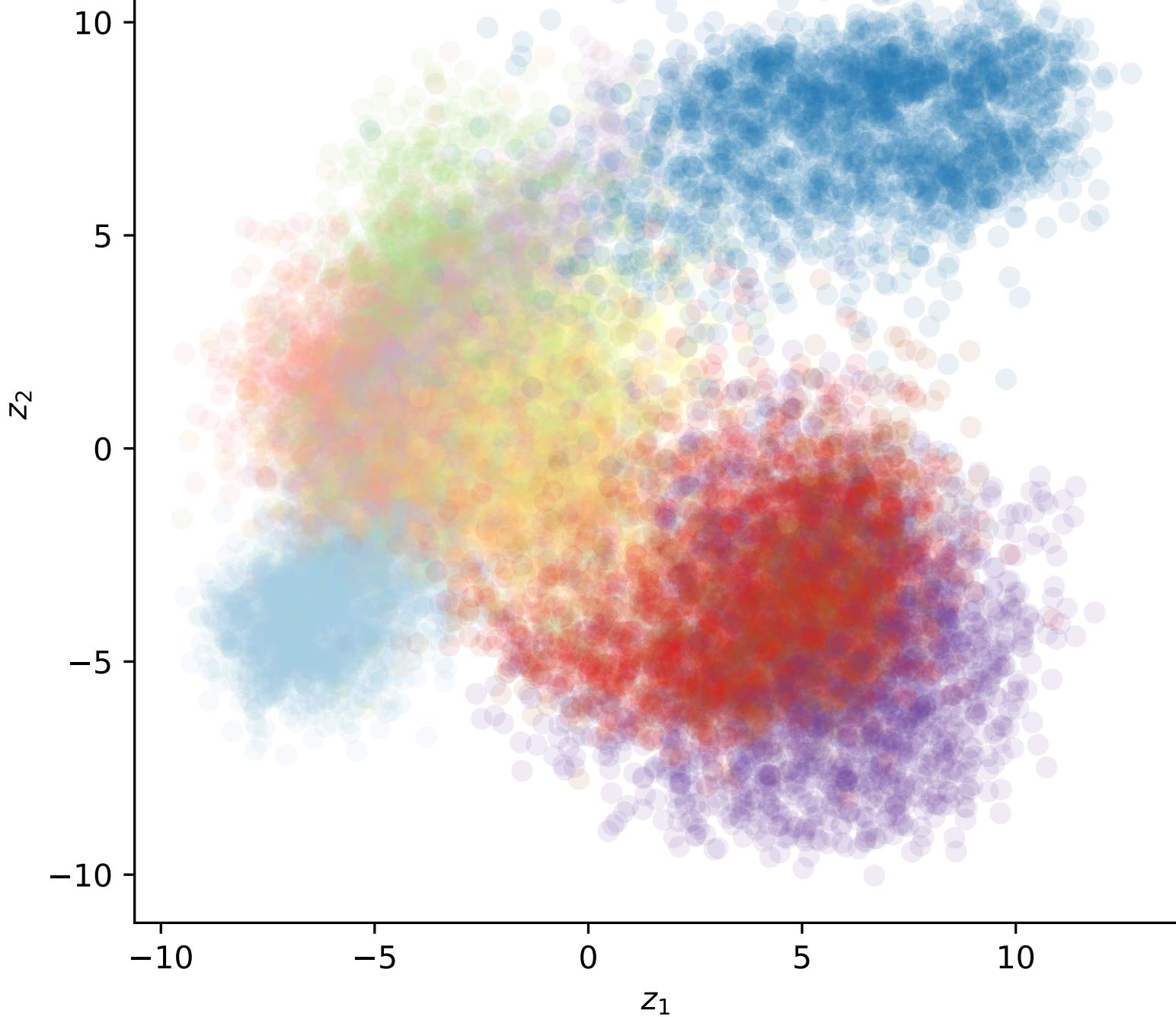




Pure reconstruction *More latent regularization*



First two PCs

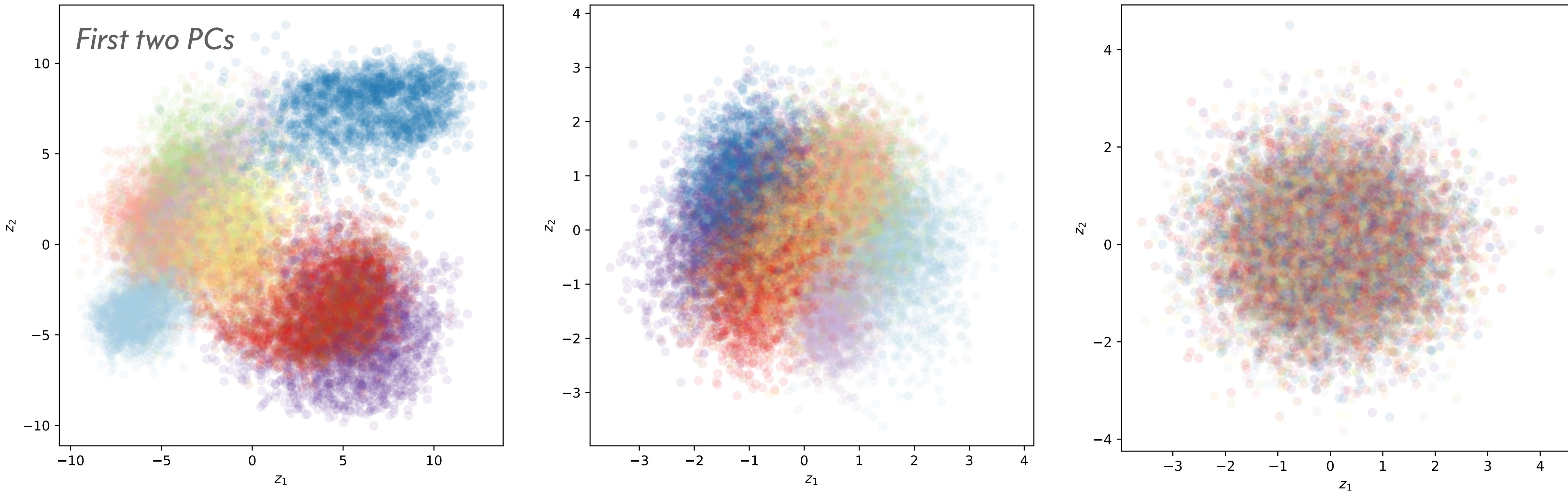


A semantically meaningful latent space

The KL-term enforces simplicity in the latent space, encouraging learned semantic structure and *disentanglement*

Pure reconstruction

More latent regularization



Neural compression: *Rate-distortion theory*

Autoencoding is a form of (neural) compression!

$$-\text{ELBO} = -\left\langle \log p_\theta(x | z) \right\rangle_{q_\varphi} + D_{\text{KL}}\left(q_\varphi(z | x) \| p(z)\right)$$