2) Deformation Retraction from $\mathbb{R}^n$ to S^{n-1}

$\Longrightarrow$) Essentially, it is just a normalization

i.e take $x \in \mathbb{R}^n$, $\dfrac{x}{\|x\|} \in S^{n-1}$. But

we also need a parameter t. $\dfrac{x}{\|x\| \cdot t}$ wont

work as $t = 0$ will be undefined. Hence

$\dfrac{x}{[\|x\| \cdot t + (1-t)]}$ is well defined. $f_0 = x$

$f_1 = \dfrac{x}{\|x\|}$. f_t is continuous, as $f_{i_t} = \dfrac{x_i}{f(\|x\|t + (t)}$

all of its components are continuous