2.12 Sexual motivation in roundworms and humans

Caesorhabditis elegans is a roundworm of a length of 1 millimeter, built up of 959 cells in case of the hermaphrodite (which either self-fertilizes or functions as females), and 1025 cells in case of the male. It has a mouth, an intestine, an organ for excretion, muscles for movement, and a nervous system of 302 cells. Males produce sperms, and hermaphrodites have a vulva and grow eggs. If males are on hand, fertilization happens in a copulation act, that goes through encoded coordinated stages, which, when studied in detail appear complicated for such a simple organism.

The most amazing thing about all of this is not that it happens, but why it happens. It happens because of a nervous system of just 302 cells, which control the life of this worm. And these 302 cells and their connectome of 7000 synapses provide, first of all, motivation.

Motivation to avoid annihilation, motivation to seek nutrition, and, most astonishingly, sexual motivation.

Do you see the parallels? These are exactly the same motivations that govern human life.

We are just more cells, and we therefore are more detailed. But the basic motivations are the same.

Even the parallels of hormonal control are striking. It’s all there, in caenorhabditis elegans: steroid hormones, estrogen receptors, vasopressin and oxytocin, which in humans is the hormone of love.

It is obvious: our deepest self already exists in that accumulation of just 302 neurons and their hormonal biochemistry. And everything else that we humans are, is just adaptive accessories and functional garnish.