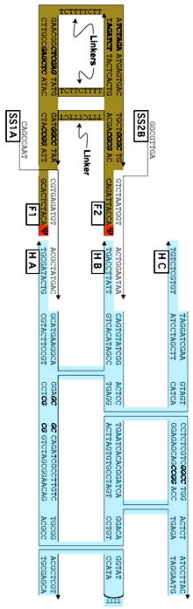
DNA Walking Biped

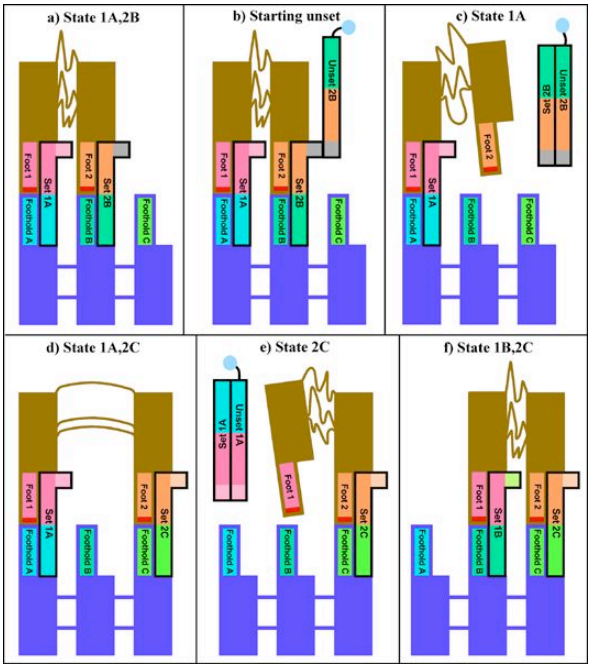
Bill Sherman

Schematic of the Device and Sidewalk



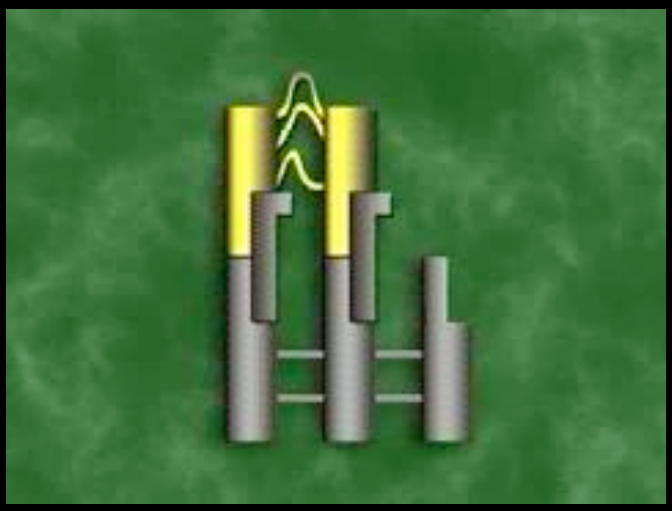
Sherman, W.B. & Seeman, N.C. (2004), *NanoLett*. **4**, 1203-1207.

The Steps in a Walk



Sherman, W.B. & Seeman, N.C. (2004), *NanoLett*. **4**, 1203-1207.

Animation of the Biped Walker

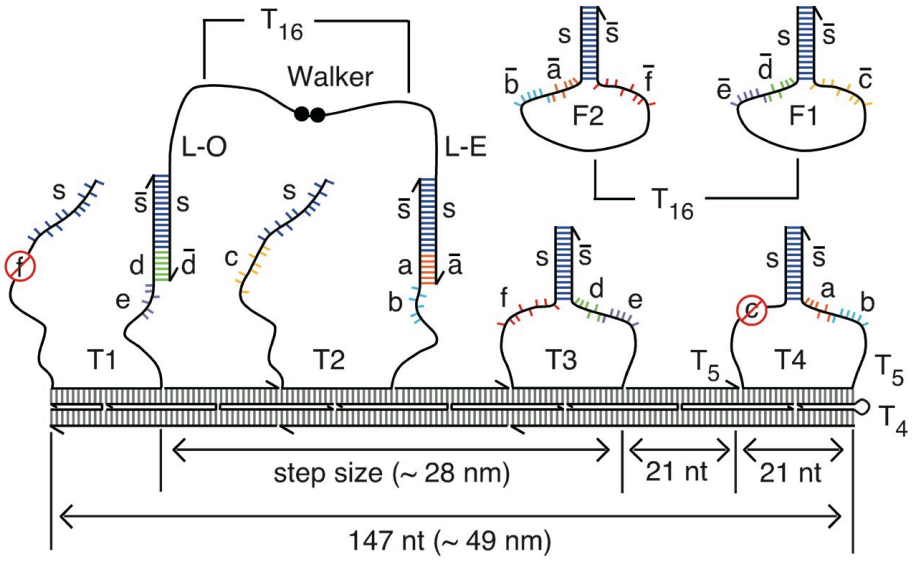


Courtesy of Ann Marie Cunningham and Donna Vaughn of ScienCentral News

Autonomous DNA Walking Biped

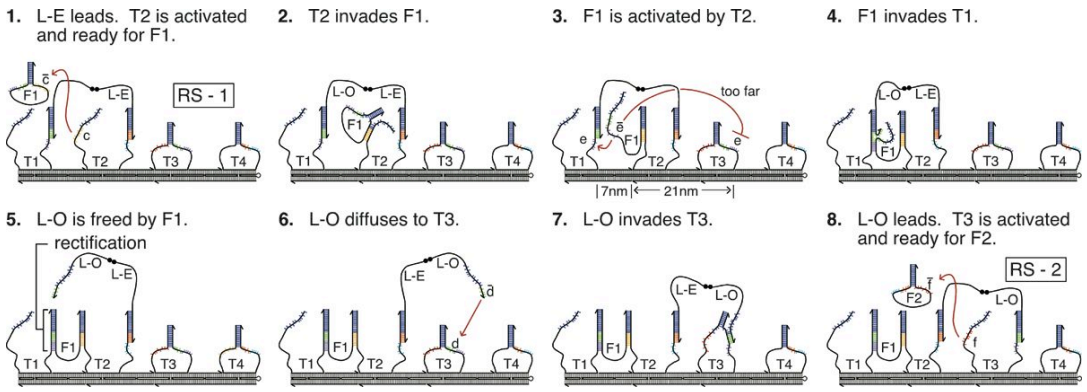
Tosan Omabegho

Autonomous Walker Design



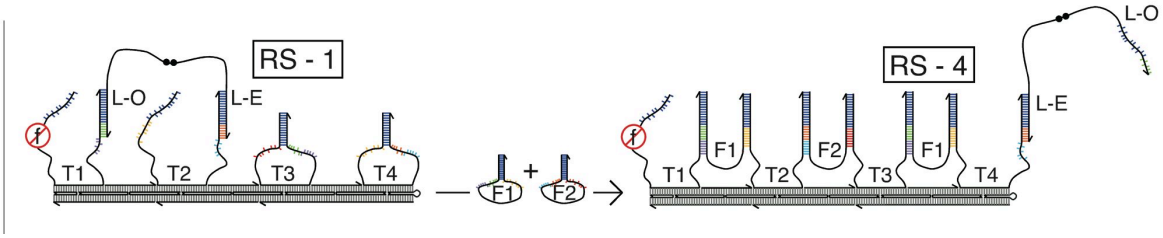
T. Omabegho, R. Sha, & N.C. Seeman**,** *Science* **324**, 67-71 (2009)**.**

Autonomous Walker Movement



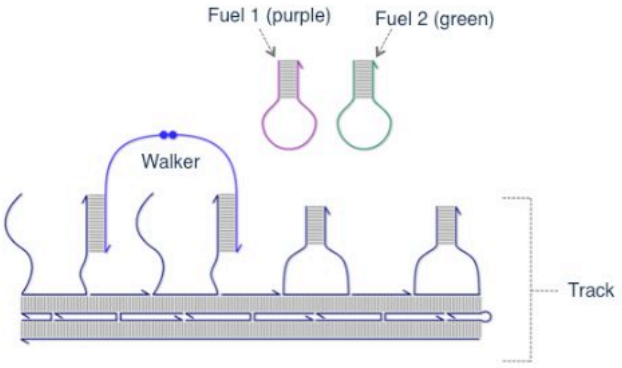
T. Omabegho, R. Sha, & N.C. Seeman**,** *Science* **324**, 67-71 (2009)**.**

Autonomous Walker Uses Up the Track



T. Omabegho, R. Sha, & N.C. Seeman**,** *Science* **324**, 67-71 (2009)**.**

Animation of the Autonomous Walker



T. Omabegho, R. Sha, & N.C. Seeman**,** *Science* **324**, 67-71 (2009)**.**

Summary of Results

- **Polyhedral Catenanes, Knots and Borromean Rings can be Assembled from Branched DNA by Ligation.**
- **2D Lattices with Tunable Features have been Made from Branched DNA Components.**
- **3D Crystals have been Self-Assembled and their Structures have been Determined.**
- **Heterologous Species have been Included in DNA Nanoconstructs.**
- **Nanomechanical Devices have been Assembled from Branched DNA, including a Translation Device a Clocked Walker, and an Autonomous Walker. A Machine has been Incorporated into a 2D Lattice and Used to Capture Pattern Components.**