

Project Seedlings

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EECS UC Berkeley

October 14, 2015

- 60% of grade
- six weeks
- show during RR week
- presentation tuesday during finals week
- four page write up following given template
- application of digifab software and 1-5d ideas
- seedlings or your idea

- goodness
- design space exploration
- design rationale
- how did digifab work out?

Lamp

- articulated
- lighting
- foldable
- google articulated lamp



multilink lamp

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source <http://www.bloodandchampagne.com/page/36/>

scissor lamp

5



source <https://www.etsy.com/listing/125731669/scissor-lamp-industrial-articulating>

octopus lamp chandelier

6



By Andrew Liszewski source <http://www.ohgizmo.com/2011/03/17/dear-ingo-articulated-lamp-chandelier/>

crawling / walking robot

7

- moving by crawling
- actuated
- coordinated linkages



Insect walker



Inch Worm

9



Roller

10

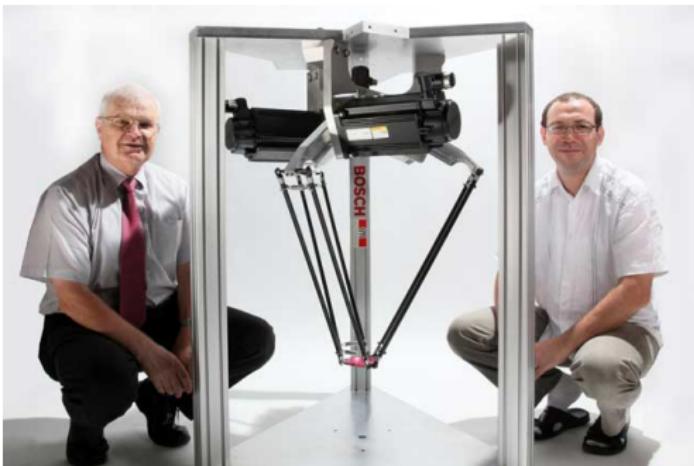




Delta Robot Arm

12

- gripper
- accuracy

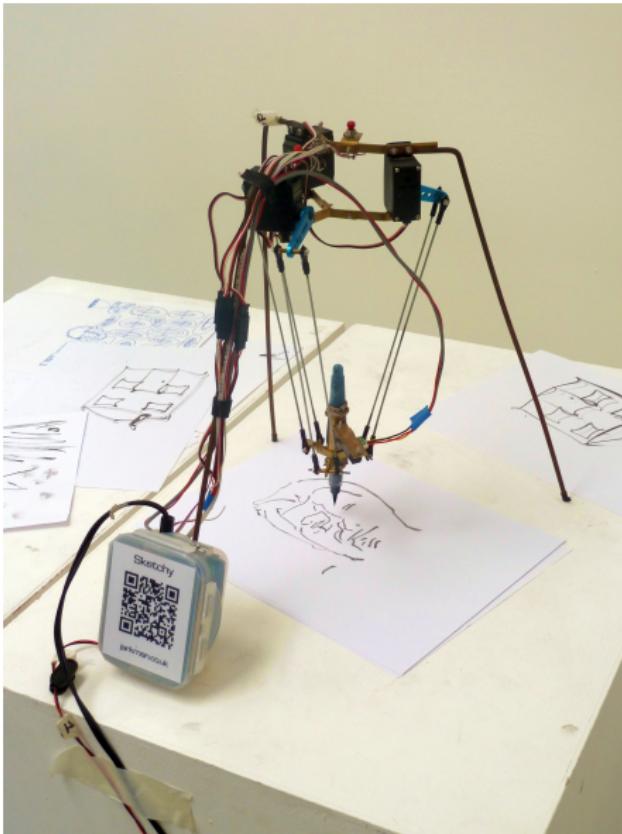


by reymond clavel at epfl

delta robot arm

13

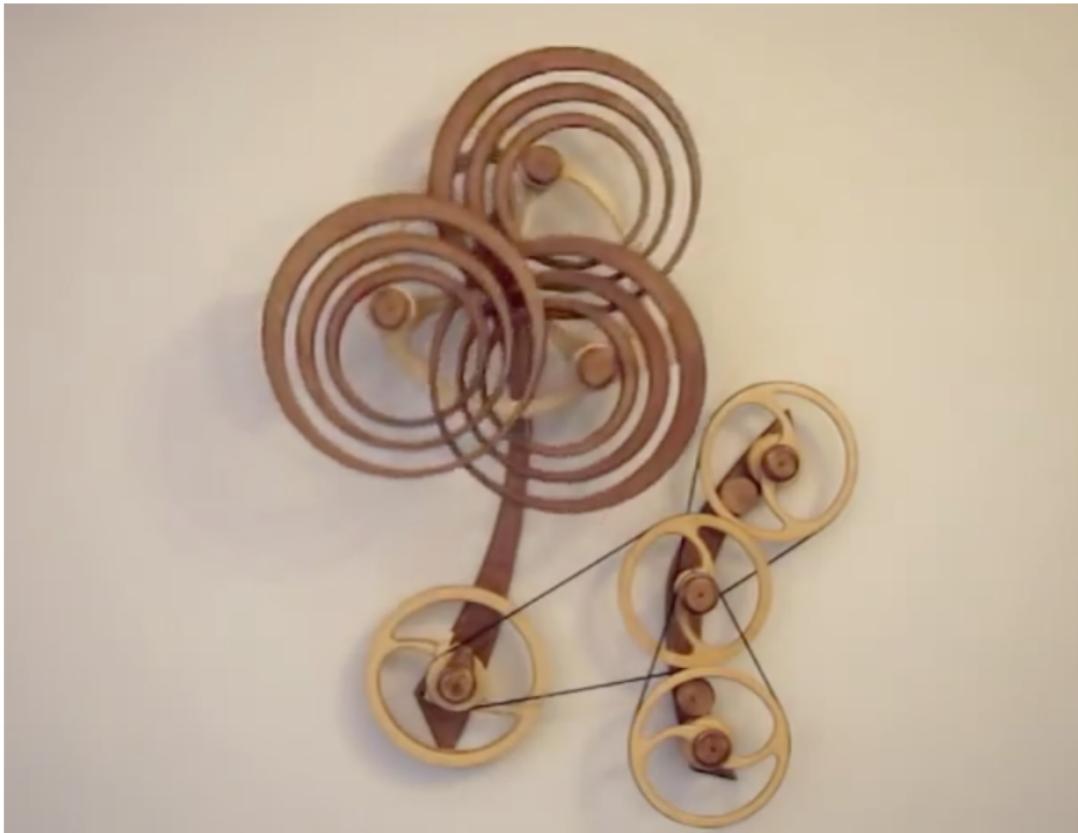




- ever changing
- surprising
- ???



by Limee Youngby Christopher Jobson

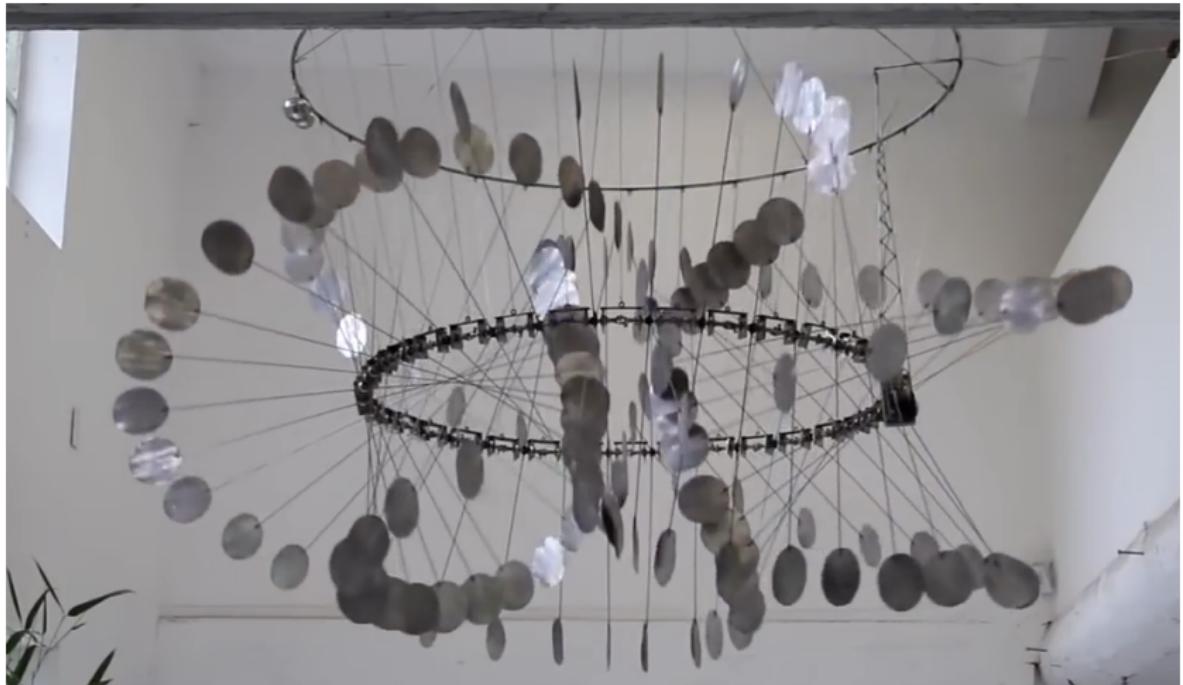


by david roy source <https://www.youtube.com/watch?v=02JuaxR0nVo>

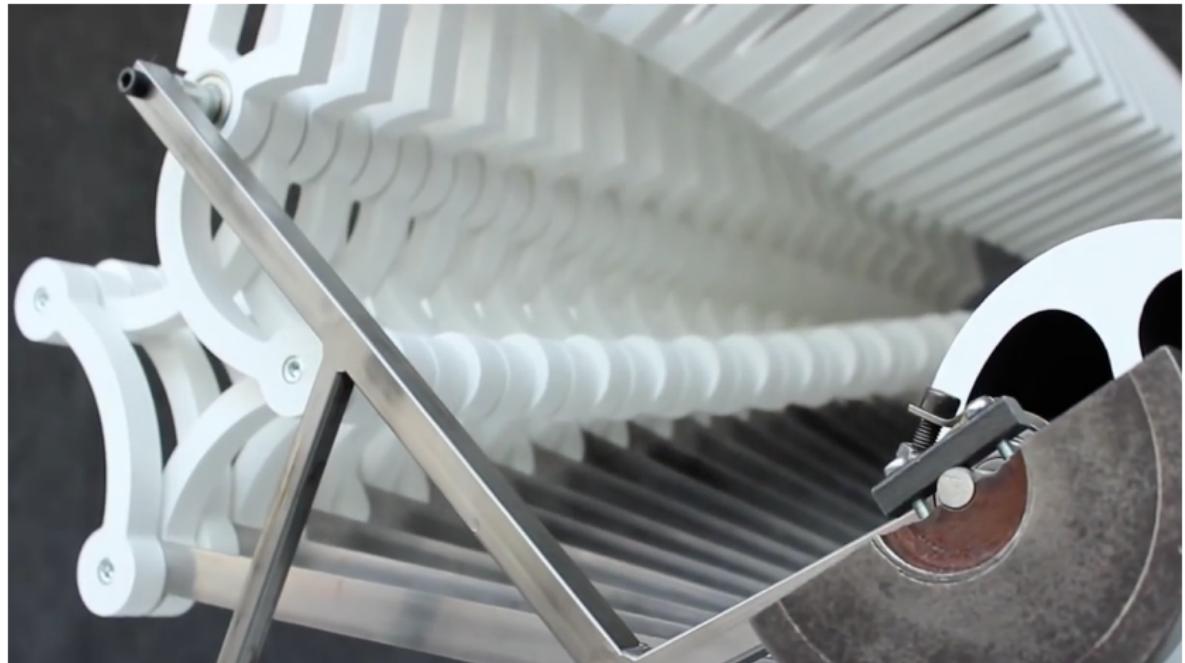
three rectangles horizontal jointed gyratory iii 17



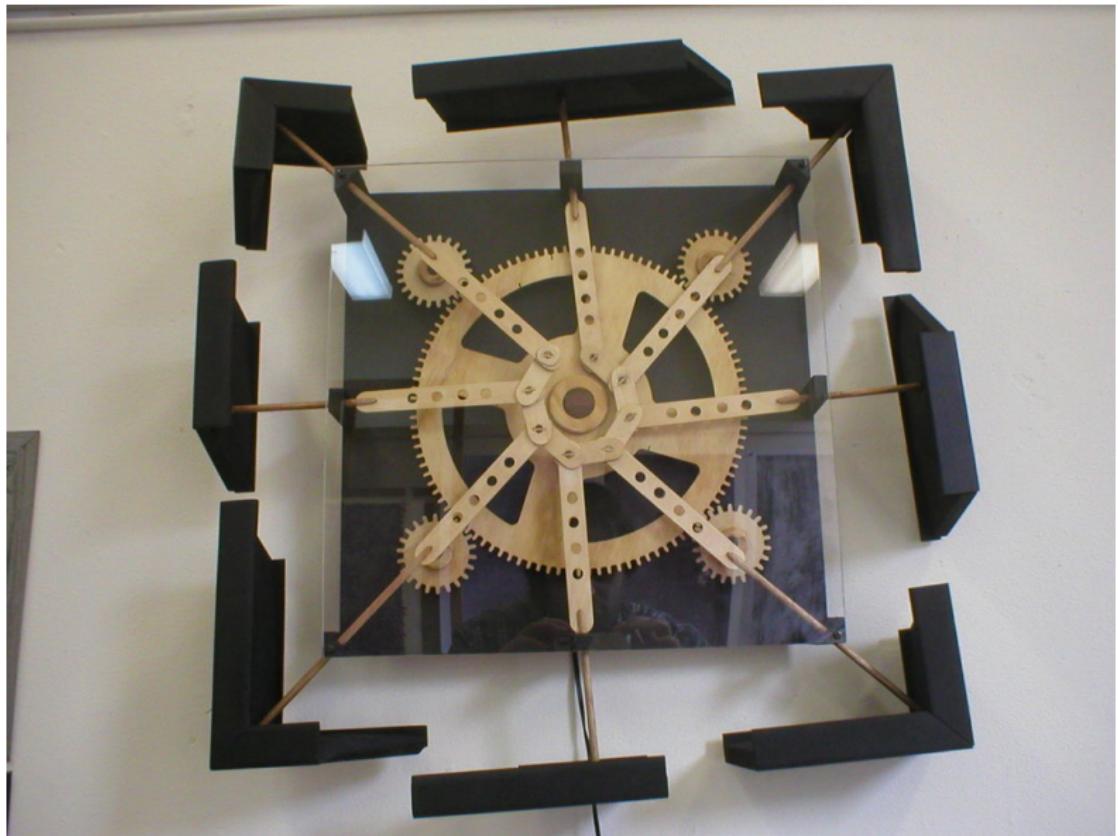
by george rickey on <https://www.youtube.com/watch?v=di70PsjVnjA>



by anthony howe on <https://www.youtube.com/watch?v=02JuaxR0nVo>



by jennifer townley on https://www.youtube.com/watch?v=0_22x26qYPA



by mechanicalsculpter source instructables

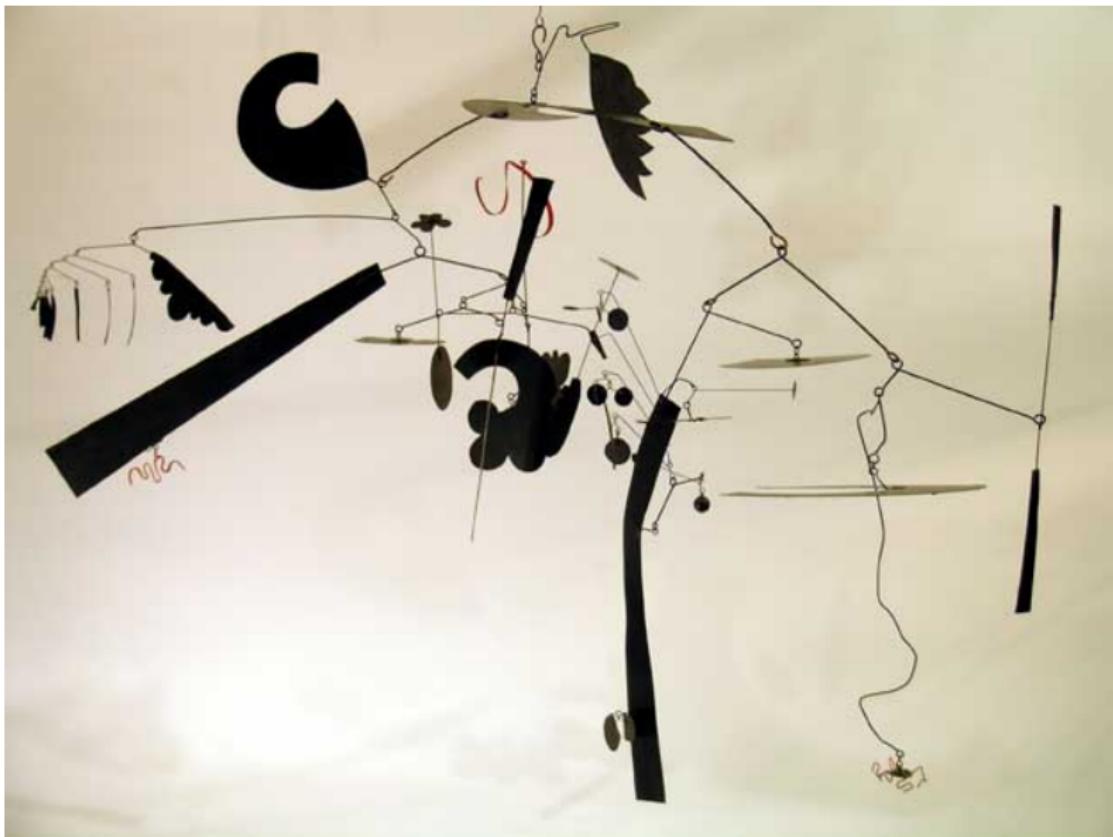
- balanced
- untangled
- ???



archaeopteryx by mod mobiles

messy mobile

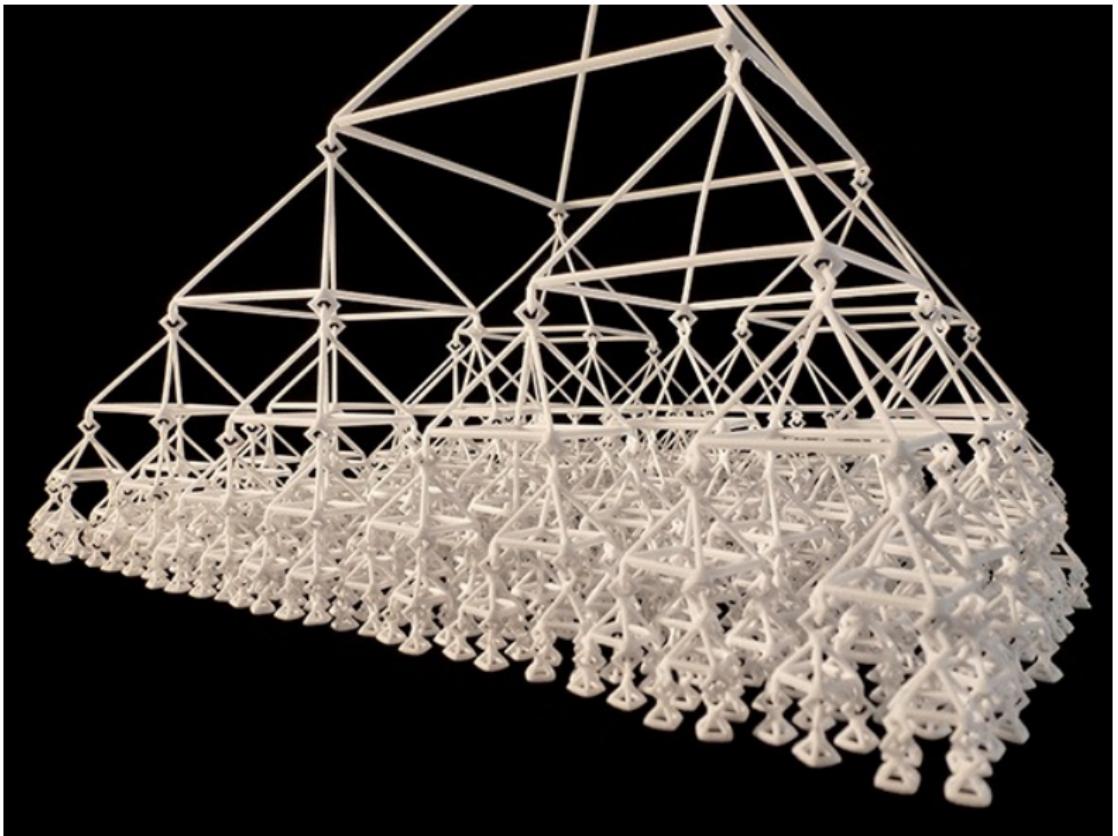
22



ayh by timothy rose

quaternary tree

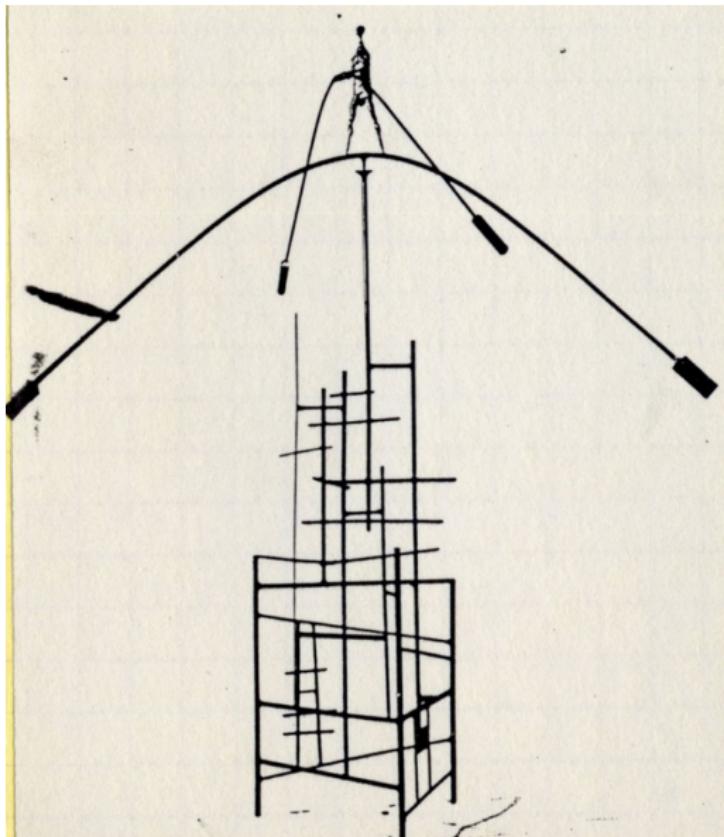
23



by marco mahler

tight rope walker

24



by philippe hiiquily

passive dynamic walkers

25

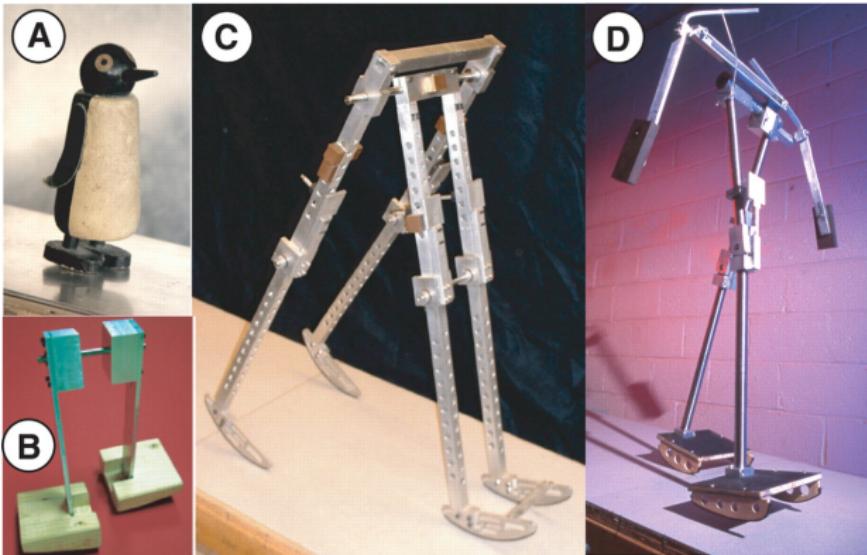
- walks
- efficient
- stable



dexter by andrew greaves and ian lohrenz

prior passive dynamic walkers

26



"Ramp-walking," "downhill," "unpowered," or "passive-dynamic" machines. Our powered bipeds are based on these passive designs. (A) The Wilson "Walkie" (27). (B) MIT's improved version (28). Both (A) and (B) walk down a slight ramp with the "comical, awkward, waddling gait of the penguin" (27). (C) Cornell copy (29) of McGeer's capstone design (7). This fourlegged "biped" has two pairs of legs, an inner and outer pair, to prevent falling sideways. (D) The Cornell passive biped with arms [photo: H. Morgan]. This walker has knees and arms and is perhaps the most humanlike passive-dynamic walker to date (8).

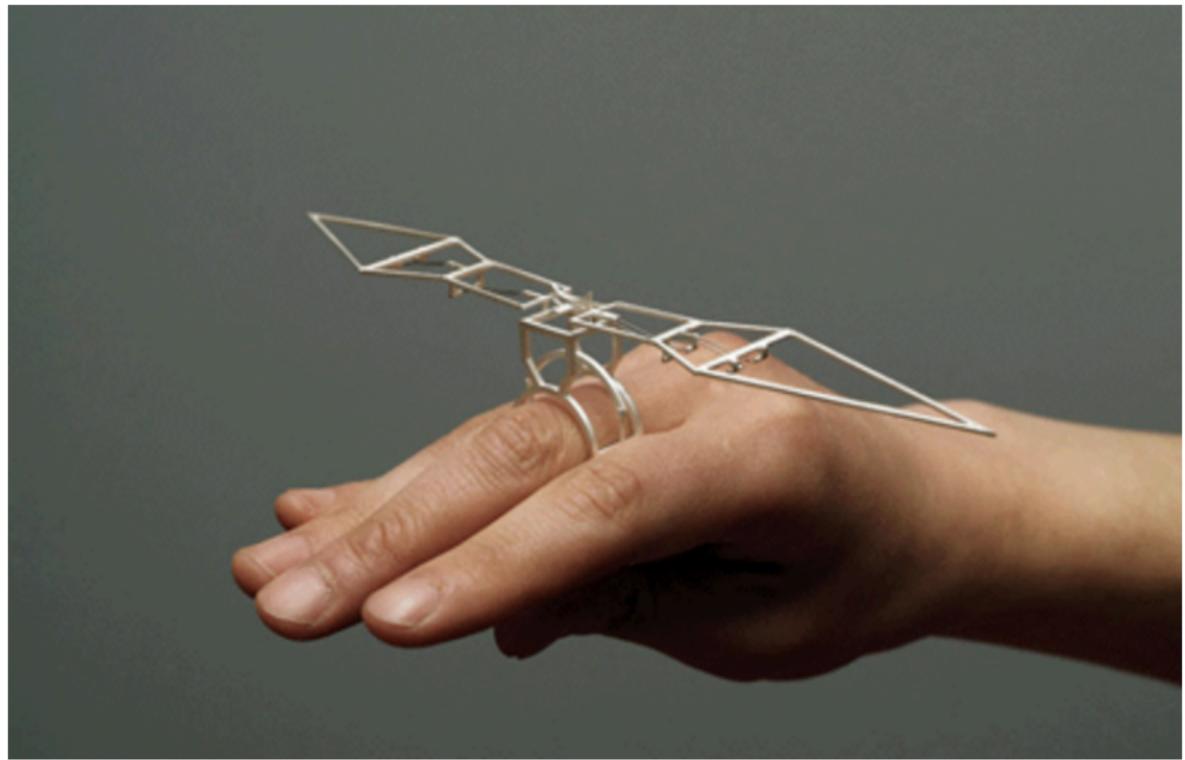
from

"Efficient Bipedal Robots Based on Passive-Dynamic Walkers"

- simple
- magic
- ???



by carlos zapata



by dukno yoon

chair explosion

29



by arthur ganson



by spike dennis



by martin smith



by keith newstead



by <http://www.cabaret.co.uk>

rube goldberg machine

34

- overly complicated
- suspense
- wonder
- variety
- ???



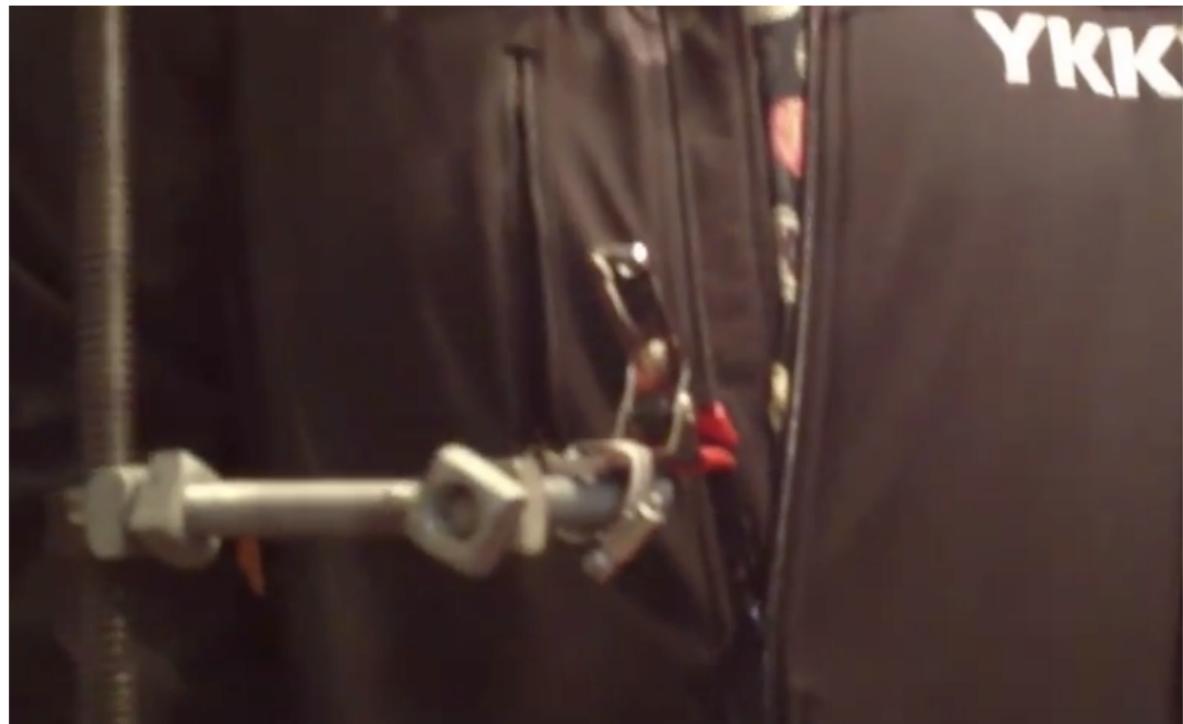
by maine south highschool team #2

mouse trap

35

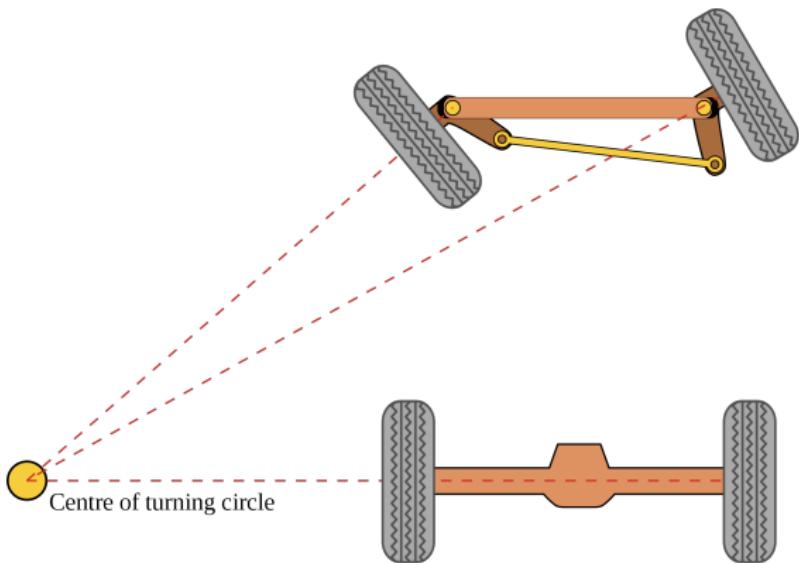


by mark perez



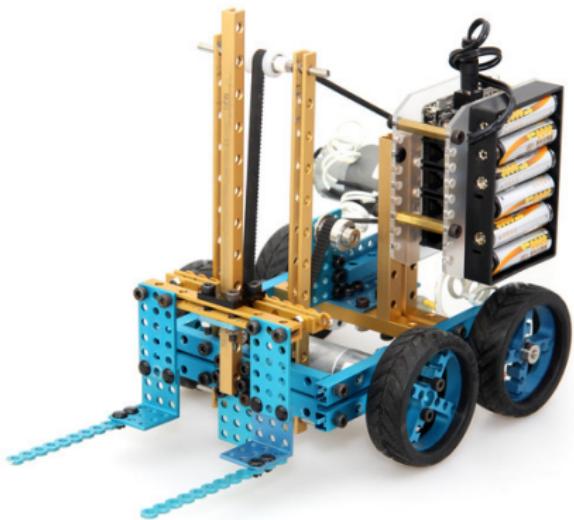
by <https://www.youtube.com/watch?v=AmY-EBSvUcY>

- accuracy
- simplicity



https://youtu.be/MK1lZ0_cdhY?t=3m24s

- strength
- simplicity

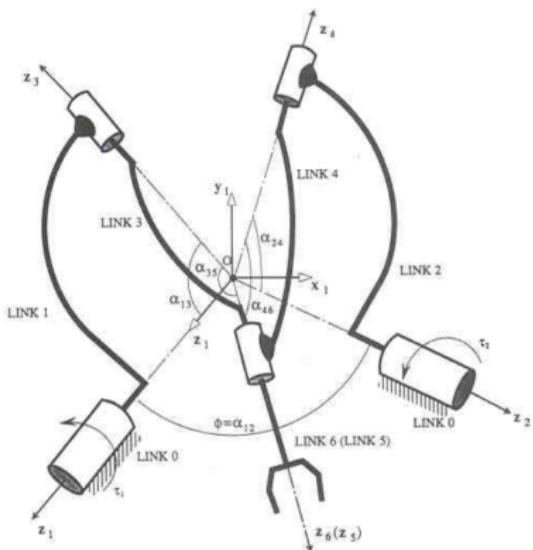


by makeblock

pointing mechanism for laser or camera

39

- speed
- accuracy



https://www.youtube.com/watch?v=nIAfy_ha57M

- 0-5D ideas
- objectives + exploration + rationale
- articulated mechanismx
- digifab
- six week doable
- fun to show

- *Figures in the Fourth Dimension* by Ellen Rixford