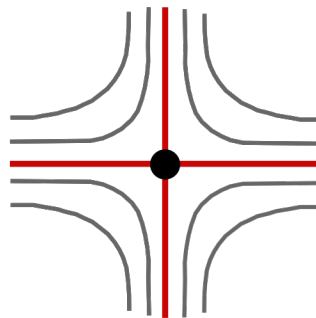
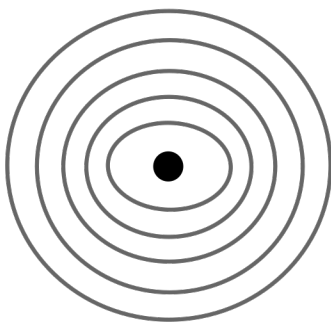
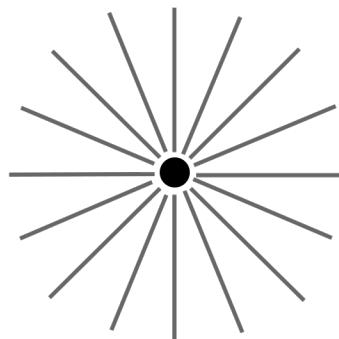


(i)

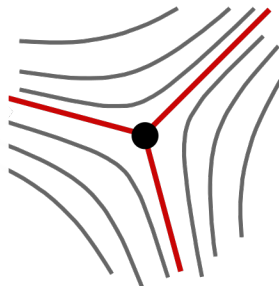
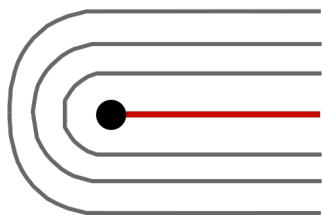
$k = +1$

$k = -1$



$k = +1/2$

$k = -1/2$



- Defect core
- Axis of symmetry
- Director field



Active force



Direction of motility

Contractile system

Extensile system

(ii)

