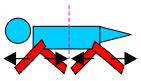
MATRIX OF COORDINATED LIMB ROTATIONS

by Gary S. Tong 12-10-2017

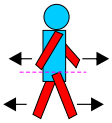
ALTERNATING STROKES

SYMMETRICAL LIMBS

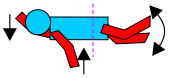
VERTICAL PLANE



Quadruped walk, run
Swim: dog, bear, ungulates, (felines?)
Tobaggon: penguins

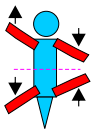


Biped walk, run



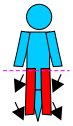
Human crawl swim

HORIZONTAL PLANE

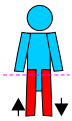


Swim: otter (slow)
Salmanders (slow?)

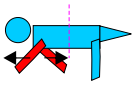
ASYMMETRICAL LIMBS



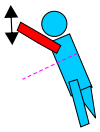
Fast swim: otter, seals, walrus, crocodile, Komodo dragon



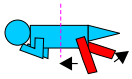
Human scuba



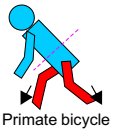
Swim: polar bear



Scratching ursid, feline

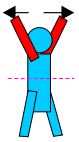


Swim: rat, mouse,...

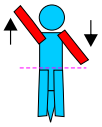


Primate bicycle

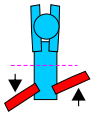
Bird walk, run



Primate brachiate



Excavating mole
Swim (platypus), sea lion (?)

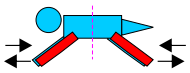


Archaic frog swim

PARALLEL STROKES

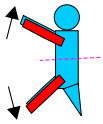
SYMMETRICAL LIMBS

VERTICAL PLANE



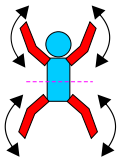
Jump, gallop, bound

Primate biped jump,
quadruped jump
bird jump
gliders jump/glide

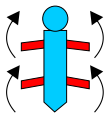


Boxing kangaroo

HORIZONTAL PLANE



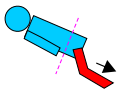
Slow swim frog, human,
(primate?); all arboreal gliders



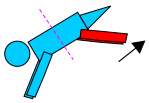
Glide: flying fish

ASYMMETRICAL LIMBS

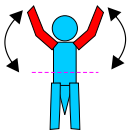
Hop: ricocheters (kangaroo, etc.,
Bird hop



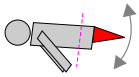
Frog jump



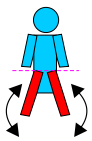
Ungulate rear kick



Fly: biped bird,
penguin, auk
(mammal) sea lion



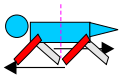
Swim: whales
and manatees,
etc.



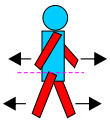
Frog swim (fast)
beaver swim
(fast)

ANOMALOUS GAITS

ALTERNATE ANOMALOUS

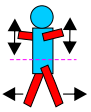


Pace gait



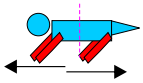
Fatigue gait (human)

MIXED GAIT



Bird running takeoff

PARALLEL ANOMALOUS



Sea turtle on land:
swing-and-stance