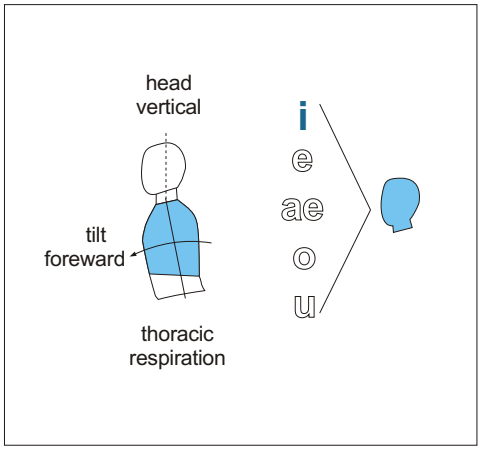
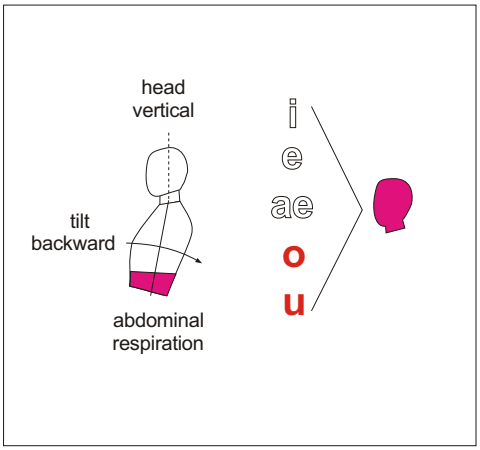
Experiment 1: monadic coaction of body, respiratory region and vocalization



Setup: sit or stand comfortably erect.

Action 1: with eyes closed, holding head and neck vertical, minimally tilt the body forward to initiate fully thoracic respiration.

Observe 1: the speech frame shapes to articulate the cardinal front vowel /i/.



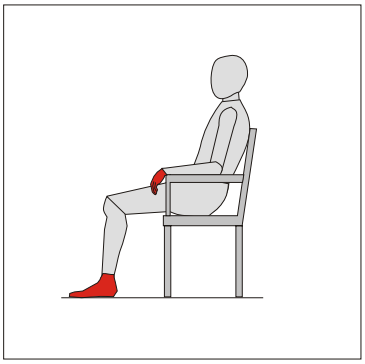
Action 2: repeat action 1, but minimally tilt the body backward for fully abdominal respiration.

Observe 2: the speech frame shapes to articulate the cardinal back vowels /o/ or /u/.

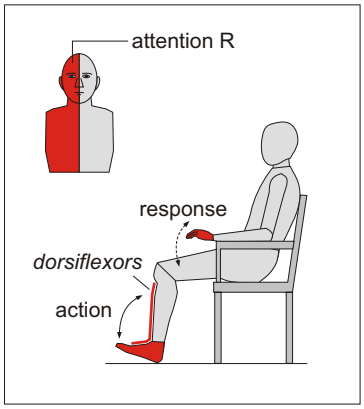
Conversely, the articulation of these vowels activates the corresponding respiration region.

Demonstrated: monadic coactivity between three subframes of a composite frame: (a) body position; (b) respiratory region; and (c) vocalization.

Experiment 2 - monadic hand-foot coordination

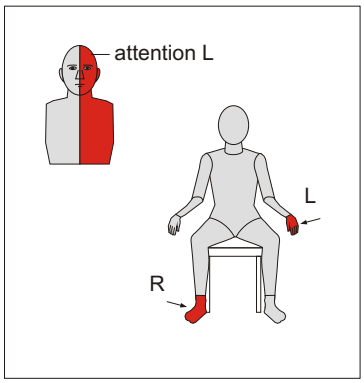


Setup: sitting in armchair fully relax (neutralize) legs and arms supported on arm rest, with hands hanging freely.



Action 1: fix neutral attention on the right and with legs held relaxed rotate up the right foot using only the ankle extensors (dorsiflexors). Optionally rotate in any direction.

Observe 1: the neutral hand respond with identical movement**(**s**)**.



Action 2: repeat right foot movements but fix attention on the left.

Observe 2: the left leg responds.

Demonstrated: monadic coactivity between ankle-wrist and bodily-mental attention frames.

Note: the frame of unrelated thinking cancels these responses.

Experiment 3 - monadism of the mechanical frames of the feet, hands and respiration

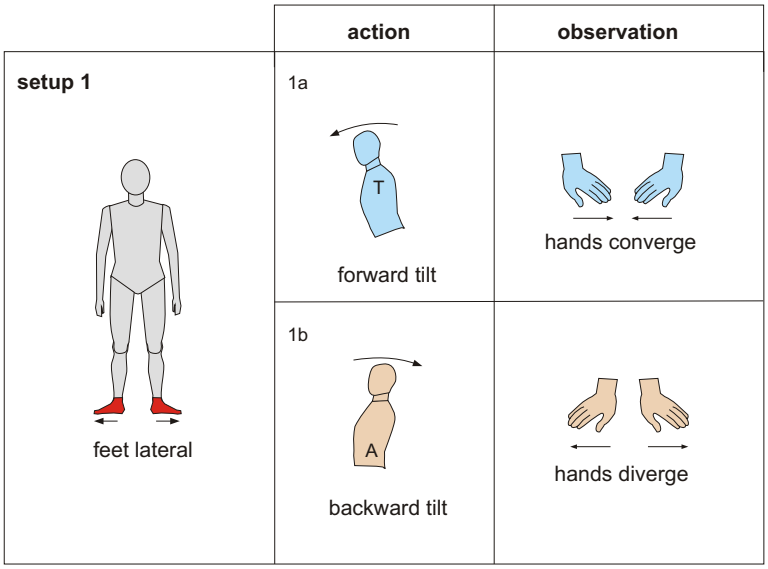
Setup 1: stand straight and turn feet outward. Arms hang relaxed.

Action 1a: breathe thoracically (T) and slowly tilt body (or only head) forward.

Observe: arms and hands respond by turning inward.

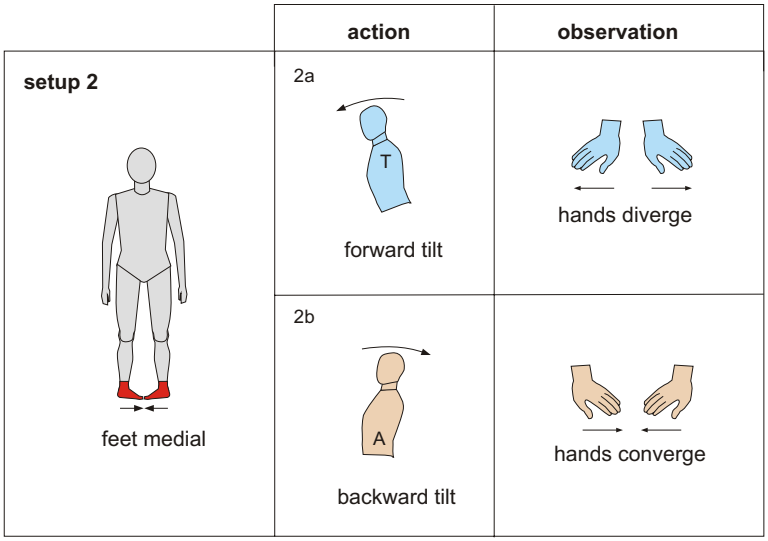
Action 1b: breathe abdominally and slowly tilt backward.

Observe: arms and hands turn outward.



Setup 2: stand straight and turn feet inward.

Observe: repeating the two actions generates results contrary to ones in Action 1.



Note: if tilting continues, the arms and hands, after their initial responses, rotate again, in the opposite direction. See Experiment 5, note.

Demonstrated: systematics and symmetries in two aspects of body-mind monadism: arm-hand axial rotation varies with (a) rotation of feet, and with (b) respiratory region. Such innate behavior is masked by normal global movement complexity.

Experiment 4 - mechanical coaction of five behavioral frames

Setup 1: sit with head and body in line, with legs and feet pointed **outward**. Hands, with interlaced fingers rest on the lap or thighs. Jaw, face, head, neck shoulders, upper visceral body should be relaxed.

Action1: from a **perfectly balanced** posture slowly tilt forward the body and the head as one.

Observe: immediately as tilt begins a bias (or actual action) appears for:

(a) eyes to converge

(b) eyelids to close

(c) tongue to pull forward and horizontally narrow

(d) mouth to close

Action 2: repeat action 1 but now tilt backwards. Observe bias or actual action for:

(a) eyes to diverge

(b) eyelids to open

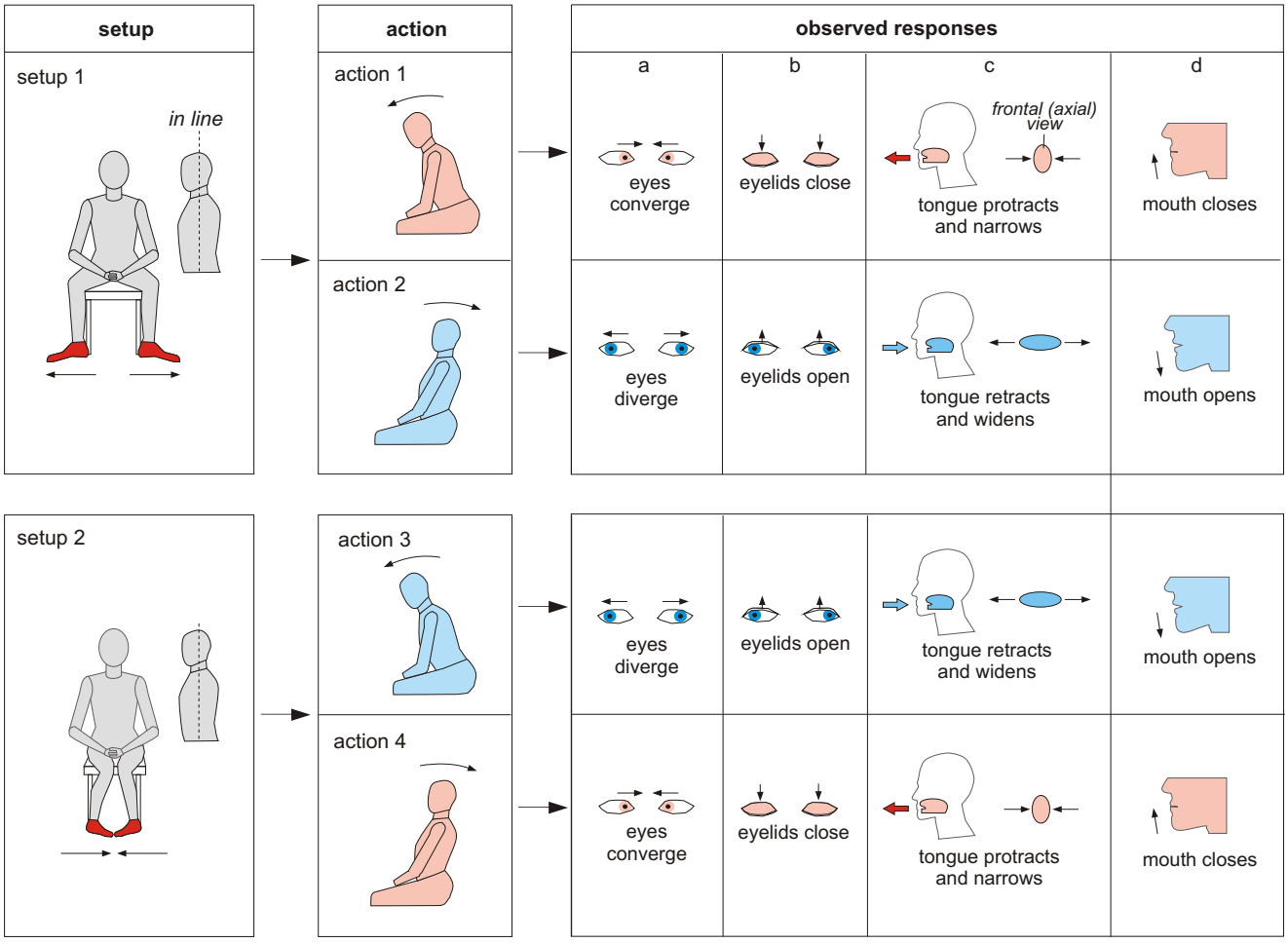
(c) tongue to retract and horizontally expand

(d) mouth to open

Setup 2: repeat setup 1, but with feet pointed inward.

Observe: repeating the two actions generates mirror opposite responses.

Demonstrated: (see **page 7**).

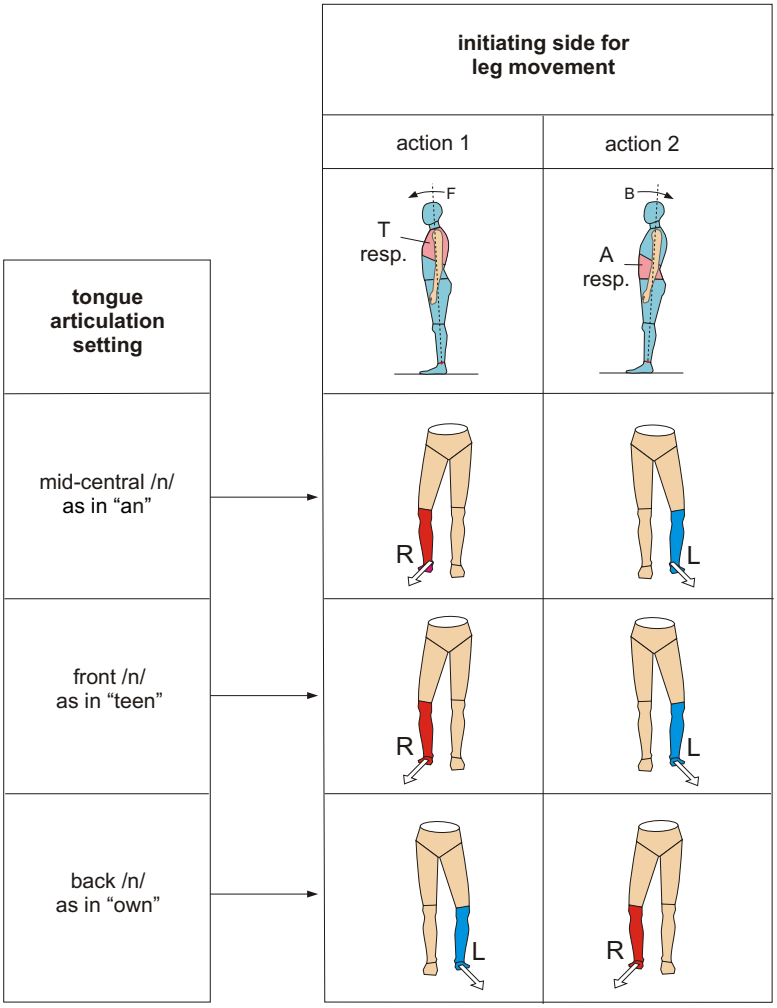


Experiment 5 - monadic coactivites

Experiment 5a

Setup: (for English speakers): stand comfortably but perfectly balanced. Prepare to articulate and hold the tongue to produce the consonant /n/ (without vowel) in three positions: mid-centrally (as in “an”), fronted, as in “teen”, and backed as in “own”.

Actions: separately producing each sound, tilt body forward pivoting at ankles until one leg shoots forward. Repeat actions with backward tilt.

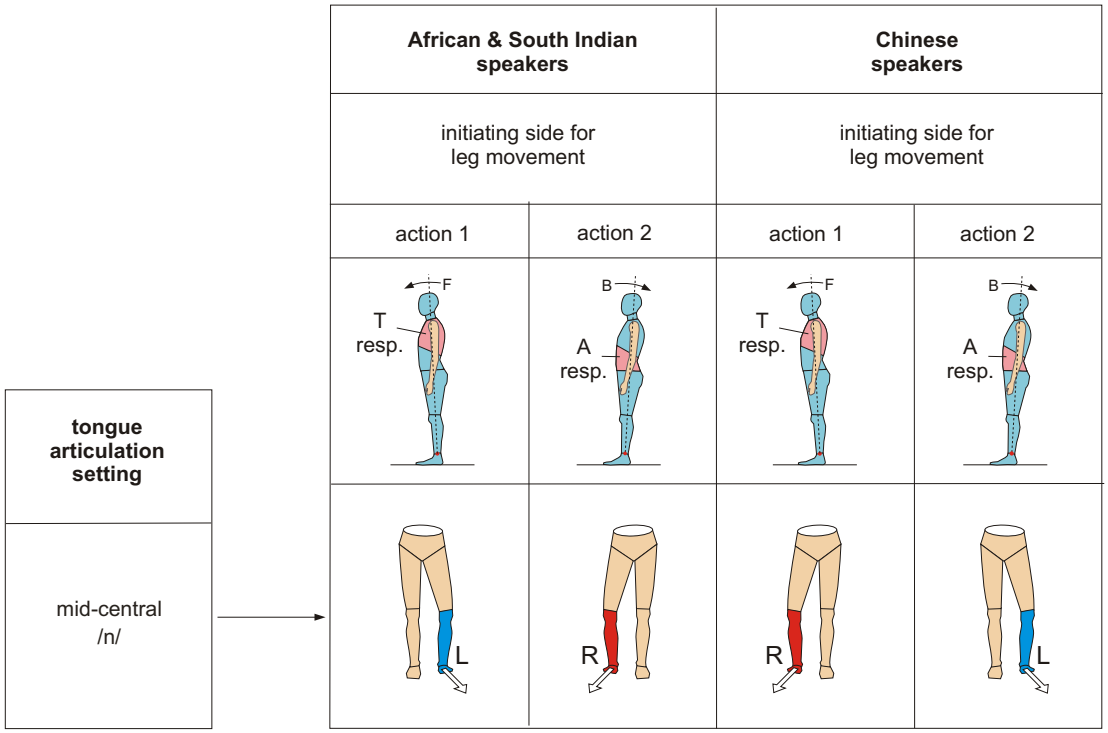


Observe: with mid-central and front /n/: a) forward tilt generates thoracic (T) respiration and right leg to step forward; (b) backward tilt generates abdominal (A) respiration and left leg smovement; and (c) action with back /n/ generates the opposites.

Experiment 5 b

Setup: (for speakers of African or South Indian languages): stand as in setup 1 but prepare to articulate and hold the tongue to produce the mid-central /n/.

Actions: repeat action 1, while producing the /n/.



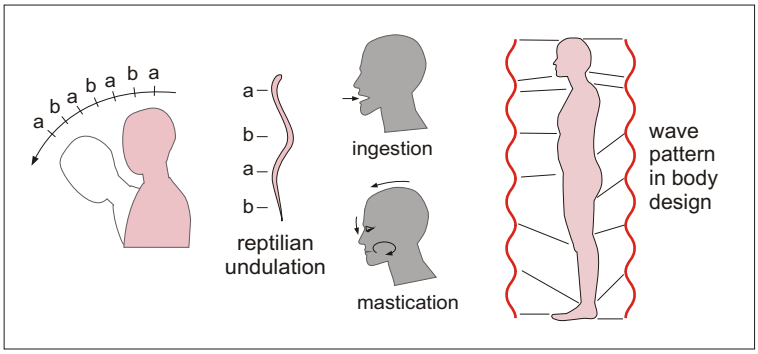
Observe: alternation in respiratory regions, and (a) for African and South Indian speaker forward and backward tilt triggers, respectively, left and right foot movement; (b) the Chinese speaker's response parallels the English one.

Demonstrated: monadic unity of body tilt, respiratory region, articulatory setting of language, and lateral bias in walk initiation, i.e., coordination of axial and transverse body movements. The involvement of articulatory basis exhibits the effects of language base on body behaviors.

Demonstrated in experiment 4: symmetries in mechanical behaviors: angle of leg and foot rotation triggers contrasting changes in (a) eye and (b) eyelid positions, (c) tongue position and shape, and (d) jaw rotation.

Any of the behaviors triggers the others, but smaller parts (eyes, eyelids or tongue) only minimally affect more massive part (legs and feet).

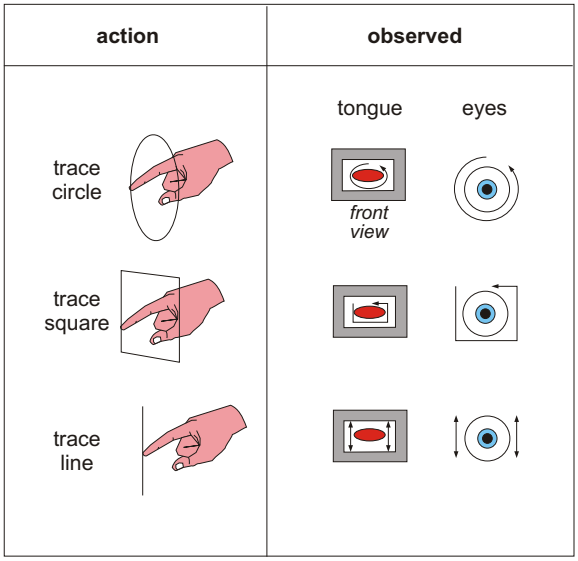
Note: continuously increased tilting prompts a sequence of alternating configurations of divergence and convergence. This alternation is a fundamental pattern in breathing, locomotion, mastication, suckling, digestion, handshaking, laughing, syllabification, etc. The mouth aperture alternation series serve biological functions in feeding. To pass from ingestion to mastication the mouth closes, and either the head tilts, or the eyelids close, or the eyes look down; without one of these actions, the respiratory tract, closed during ingestion, remains blocked.



Experiment 6 - mind and finger movement coactivity

Action: sitting balanced, with eyes closed, focusing attention on the eyes and/or tongue and without breathing continually trace a circle, square, or line with index finger.

Observe: identical incipient movements by the tongue and/or the eyes.

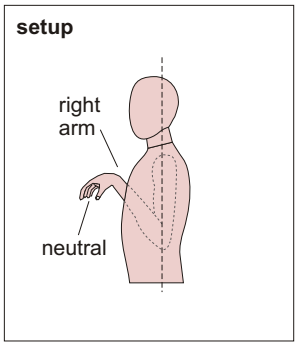


Demonstrated: hand motions generate mirror movements in tongue and eye muscles.

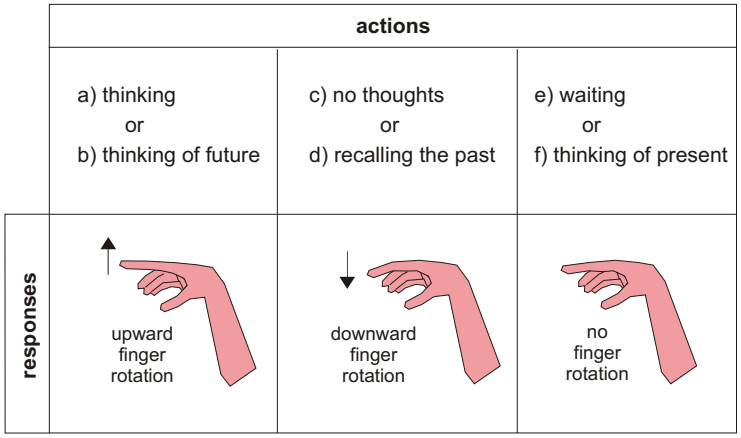
The nature of this undulating alternation, related to ancestral vertebrate locomotive undulation, (cf. wave pattern in fish, reptile and marine mammal movement) is not covered here.

Experiment 7 - mind and finger movement coactivity

Setup: hold relaxed arm, hand and fingers. Keep head level and balanced. Stopping of respiration is not necessary, but enhances the effect.



Actions and observations: performing actions labelled *a* to *f* can be observed to trigger the finger movements illustrated and also listed in Table 2.



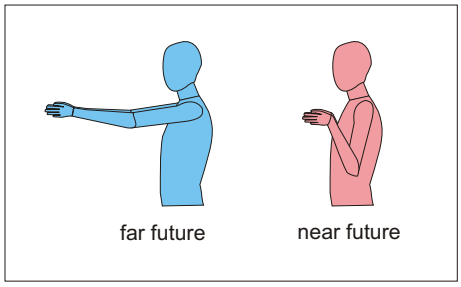


Figure 00. Association of time sense and hand-body proximity

Table 2

actions A	responses	actions B
mental function	*observed finger movement direction*	*time conceived*
thinking	up	future
waiting	none	present
no thoughts	down	past

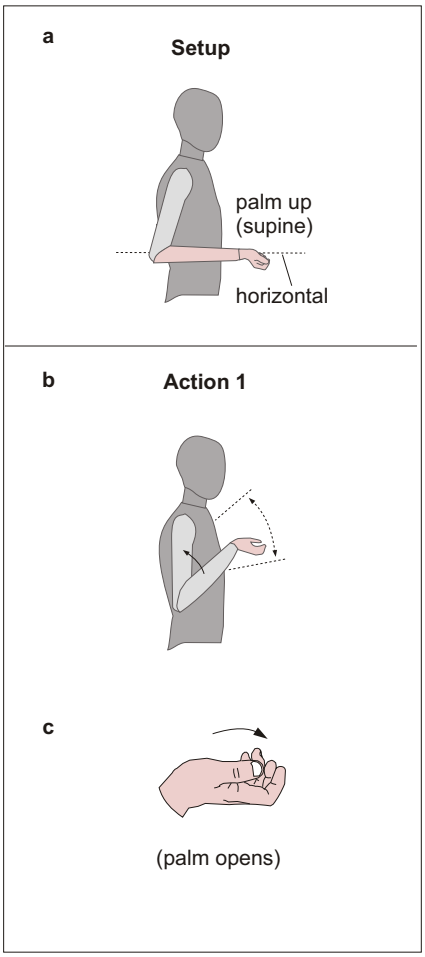
Demonstrated: monadism between mental actions and hand-finger movements. The numerous interesting inferences are not covered here.

Expriment 8 - coactivity of phoneme articulation and finger movements

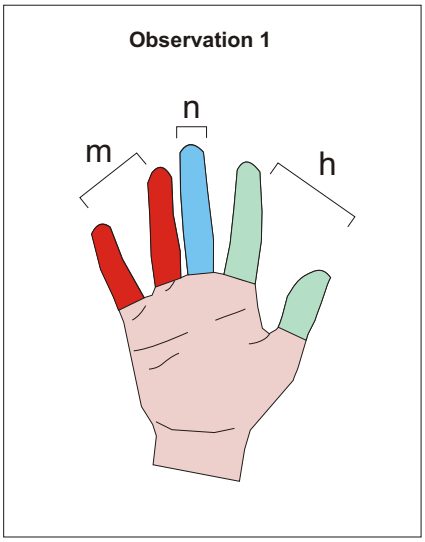
Setup: hold arm keeping forearm horizontal and hand palm up, maximally relaxed. Rotate forearm to enter range where fingers partly open. See figs. (a), (b) and (c).

Action 1: with attention on fingers, but without looking at them, separately produce forcefully the three phonemes /h/, /n/, and /m/, without vowels.

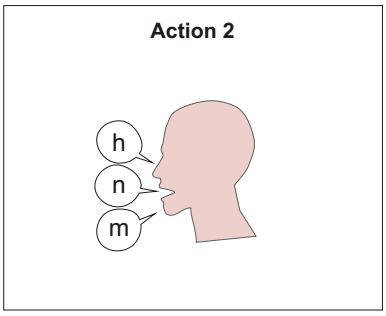
Alternatively, produce the syllables "he", n+neutral vowel, and "mah".



Observation 1: each sound activates, or initiates the flexure of particular fingers: /h/, /n/, and /m/ respectively move the thumb-plus-index, the middle, and the fourth-plus-fifth fingers. Here respiration is combined thoracic-abdominal. When isolated the two modes differ: in abdominal breathing the fingers extend.



Action 2: merely producing the three sounds, examine which of three mental contents, (a) perceiving the outer world, (b) objectless attention, or (c) sense of the "I" (or "self") most spontaneously associates with which particular vocalization.

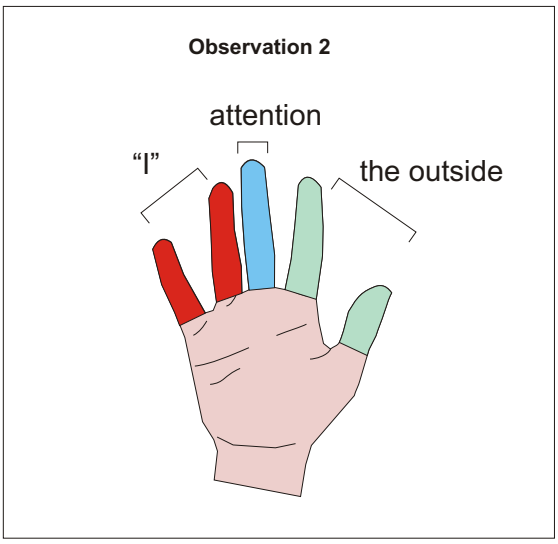


Observation 2: the following associations will occur:

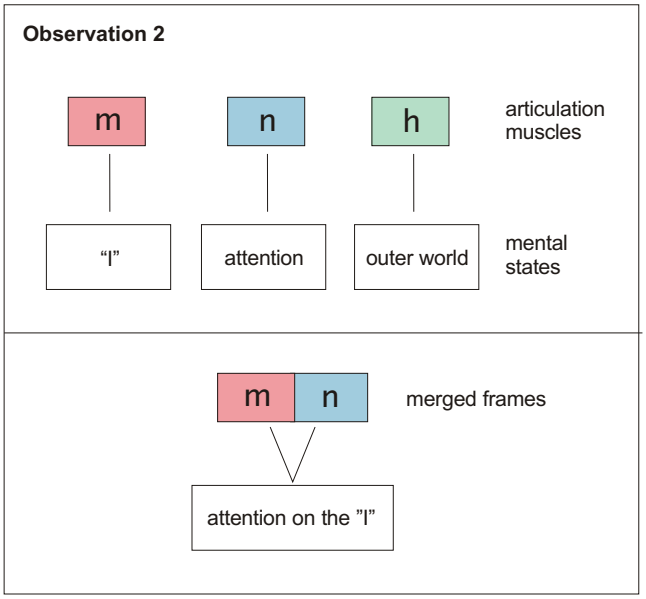
/h/ - outer perception

/n/ - objectless attention

/m/ - the "I" or "self"

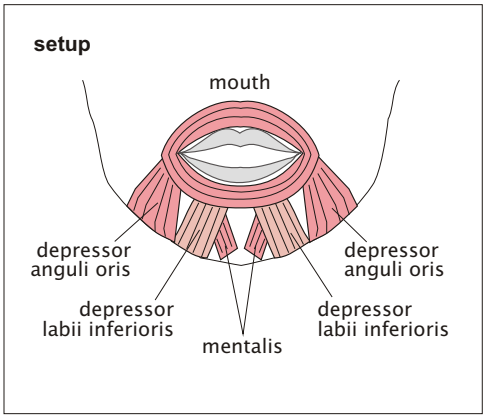


Each coactivity comprises a single frame. Combining two or three frames yields **mergers,** e.g., /m/+/n/ = attention on the “I”. This relates to gesticulation, cognitive embodiments, religious and meditative hand gestures and vocalizations, cf. “hoshannah”, “halleluya”, "amen", "mu", “om-mani-padme-hum", etc.

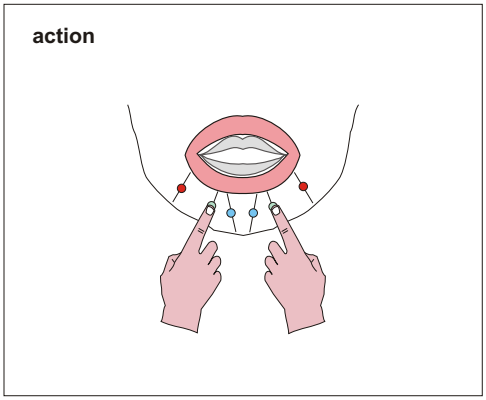


Demonstrated: inherent coactions between particular phoneme articulations, finger movements and mental settings.

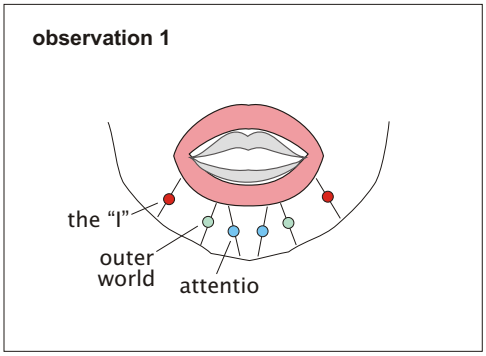
Experiment 9 - some facial muscles associated with mental states



Setup: locate and familiarize with the muscles indicated. Each pair depresses a particular section of the lower lip: the corners, midway, or the middle.



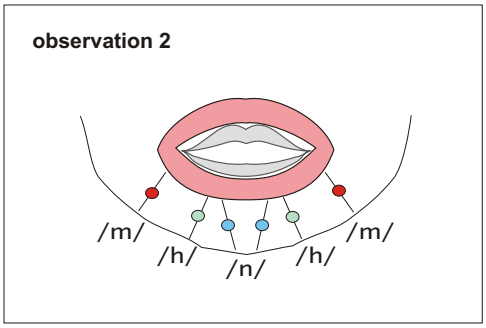
Action: With eyes closed, and body, head, upper visceral region neutralized continuously press with fingers any two symmetrically paired points. Examine which of the following mental states most spontaneously associates with a particular muscle: (a) perceiving the outer world, (b) objectless attention, or



Observation 1: (a) pressure on the *depressor anguli oris* associates with the "I"sense;

(b) pressure on the *depressor labii inferioris* with outer perception;

(c) pressure on the *mentalis* with objectless attention.



Observation 2: pressure on each muscle is also associated with germinally or fully articulating one of the phonemes /h/, /n/ and /m/.

Demonstrated in experiments 7 and 8: integration of four frames: (a) sound articulation; (b) facial muscles; (c) finger movements; and (d) mental states shows monadism, frame organization, and association between mental and bodily functions. The mapping of these frame associations necessarily reflects a corresponding neuromuscular dimension of this map.