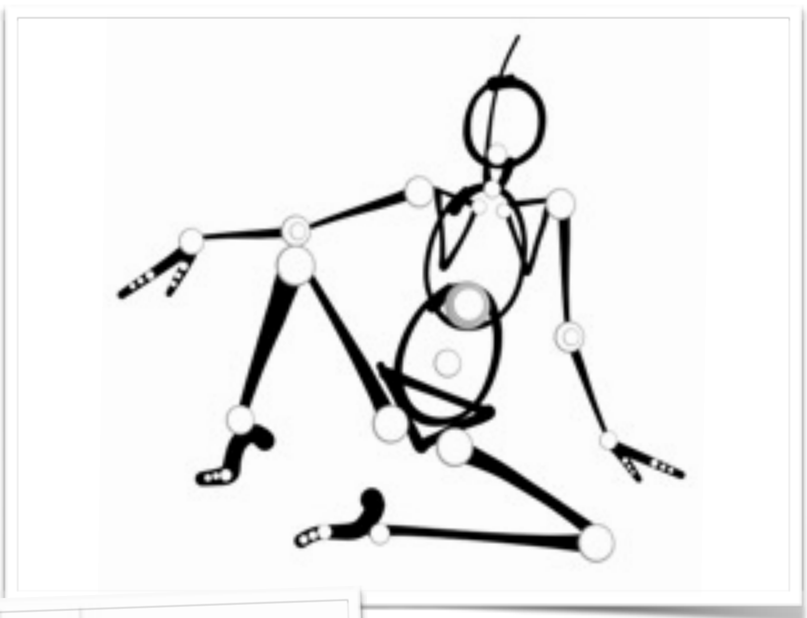
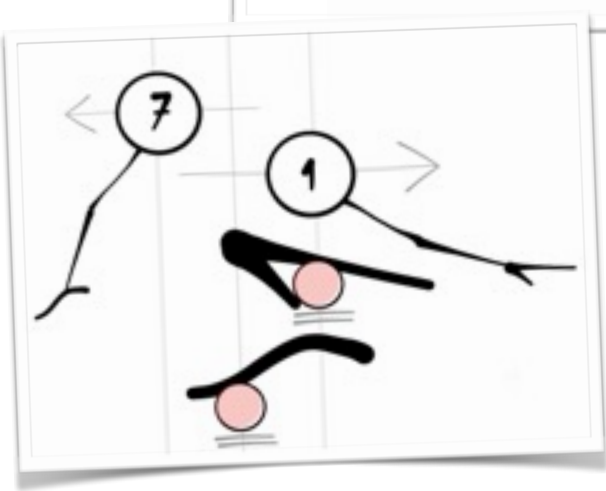
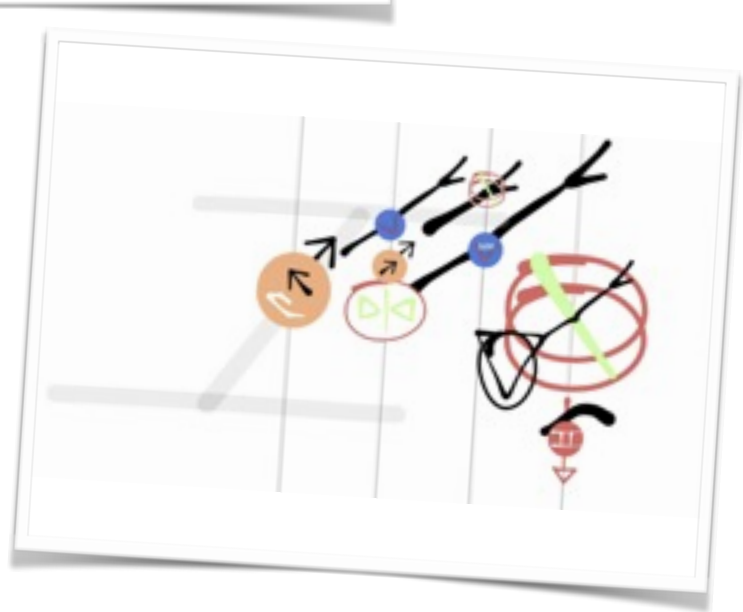
The

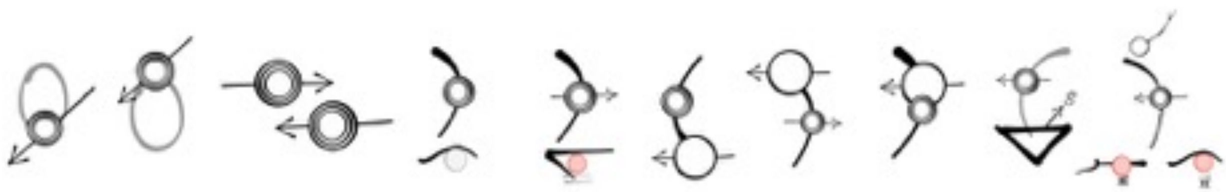
Human Movement Alphabet

tutorial, overview







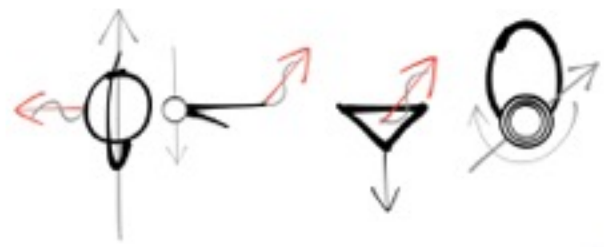


The Human Movement ALPHABET

Contributing Authors:
Sebastian Grubb
Francesca Pedullá
Daniel Davis

Editors, Consultants:
Maria Dogliotti
Anja Börnsek
Kevin O'Connor
Tom Myers

In loving memory of Maria Dogliotti



The Human Movement Alphabet proposes a universal writing system for describing, documenting, evaluating and composing the movement patterns and possibilities of the human body. By default, the HMA is process rather than still-image oriented, and expresses the personal view of the mover rather than the spectator view.

HMA symbols retain intuitive or common cultural references to body parts, posture, directions, forces, and time signature. Besides location and type of events in the body and in space, the HMA can describe the elastic reactions of the body's connective tissues and various contractile roles of muscles and fascia. In addition, the HMA proposes streamlined notation for spinal mechanics. Repetition, mirror symmetry and symmetry through time, and complex compensatory processes such as undulations, translations, recoil, helix or spiral trajectories can all be documented or expressed with ease.

The HMA can be used to document choreography or create interpretable scores and performance structures that allow conceptual coherency while soliciting the creativity of the actor or dancer. It can also be used for the precise and detailed diagnosis of pathologies, or to create an algorithm for exemplary movement execution.

The HMA relies on a good user's understanding of anatomy and basic physics, but requires no special graphic talent, and all the symbols can be constructed using a pencil.

Although spearheaded by Mr. Faust, the Human Movement Alphabet is the common project of the Axis Syllabus International Research Community, and so draws heavily on the Axis Syllabus for its defaults and assumptions about human movement limitations and potentials.

Get the book at www.blurb.com :
"The Axis Syllabus – human movement lexicon"
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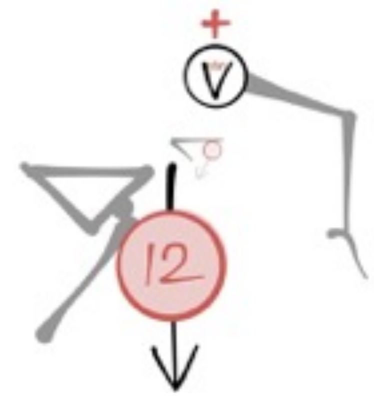

Why Write Down Movement?

Why write down anything? Writing is evocative, rather than definitive. It leaves room for, even requires, the imagination and participation of the reader. Instead of watching a video or person and trying to mimic their shapes, someone reading the HMA would have to focus internally to re-create the bio-mechanical situation being described.

Writing is also a self-educational tool. When you write something down, you may notice what you are missing in your own understanding, and also see how your understanding evolves over time. So even without a reader, writing is valuable in itself.

Writing is a way to announce and transmit ideas for re-elaboration and further expansion to those who are far away, or those who come after. Some written, non-verbal languages are nearly universal: musical notation, math, geometry, chemistry, color code, computer code, traffic code, etc. An accessible, universal written language for movement is missing from this list.

Anatomists have made good headway with a raft of terms, such as protraction, retraction, elevation, abduction, adduction and circumduction, etc., and these terms enjoy some international utility among doctors and some scientists. Even though the terms are accurate, the main problem is that spoken languages can only describe one thing at a time, whereas when you move, there are lots of things happening at once. The HMA solves this problem.

I do not pretend to have found the universal code, but the HMA could perhaps provide us with a basis, or at least compliment work being done elsewhere. I hope that you see the utility of my effort and that this tool is as useful to you as it is to me. Please do not hesitate to write to me with your thoughts.

Yours, Frey Faust

Bio-mechanical Defaults, Assumptions

The HMA uses near-representational symbols to describe movement events of the human body. All described movements are assumed to be poly-axial and observe recommended anatomical parameters for healthy use unless specified. Here is a list of defaults and parameters for using the system.

The HMA code is written from the visual perspective of the user.
Each symbol represents the beginning of an action unless specified

Healthy biomechanics:

Hip Axis Arc: The femur rotates externally in hip flexion and internally in hip extension.
Shoulder Axis Arc: The humerus rotates externally in shoulder flexion and internally in shoulder extension.
Kinetic Chain Torsions: Each section of the body rotates counter to its adjacent body part.

Foot and Hand Arches: These arches provide resilience and even kinetic feedback to help drive movement. Maintaining the foot arches assist in healthy knee mechanics, aside from other functions. The same is true of the hands when they are the base of physical support.

Spinal Compensations: As the body shifts from one support situation to the next, the spine inclines either towards or away from what is supporting it. During the inclination process, the different sections of the spine rotate counter to each other, compensating for the loss of balance.

Neutral Position: this position, as agreed on by the ASIRC, entails a slight flexion in all major peripheral joints, moderate spinal curves, and a slight anteversion of the entire axial body, and the palms of the hands face on an antero-medial diagonal. The ASIRC considers this posture a more viable starting point for further choices of direction and speed.

Moderate Ranges for Joint Movements: All movements are assumed to stay within moderate ranges, in other words hyper-flexions, hyperextensions and other extreme movements must be specified individually. Default ROM of the joints and myofascial systems are usually within 20-90 degrees, with some exceptions. In our observation, dynamic movement patterns more often use 30 degree angle intervals and changes.

Anatomical Center: Distal and proximal aspects of locations and movements will refer to the mid-spine area between T-8 and T-12 and the corresponding mid-section of the body as the most proximal zone, or anatomical center.

Energy - Momentum - Inertia: All movements will be assumed to avoid injuring the body and make efficient and rational use of the body's resources: mass, dimensions, vectors, kinetic energy, etc.

The HMA can describe accent, rhythm, kinesphere, energy generation and deployment and bio-mechanical processes, but does not prescribe intention, emotion or the esthetic quality of movement, unless it refers to the speed at which an action is performed, or the accenting of the contractile potential of muscles as opposed to the tensile potential of fascia, or the aggregation of various body parts. Movement analysis may require more detailed rendering to analyze and document pathology or conserve specific timing and event relationships, but in general, descriptions using this system can be interpreted as fractal potentials, rather than choreographic axiom.

(For more detail, please refer to a bio-mechanical reference resource, such as The Axis Syllabus book.)

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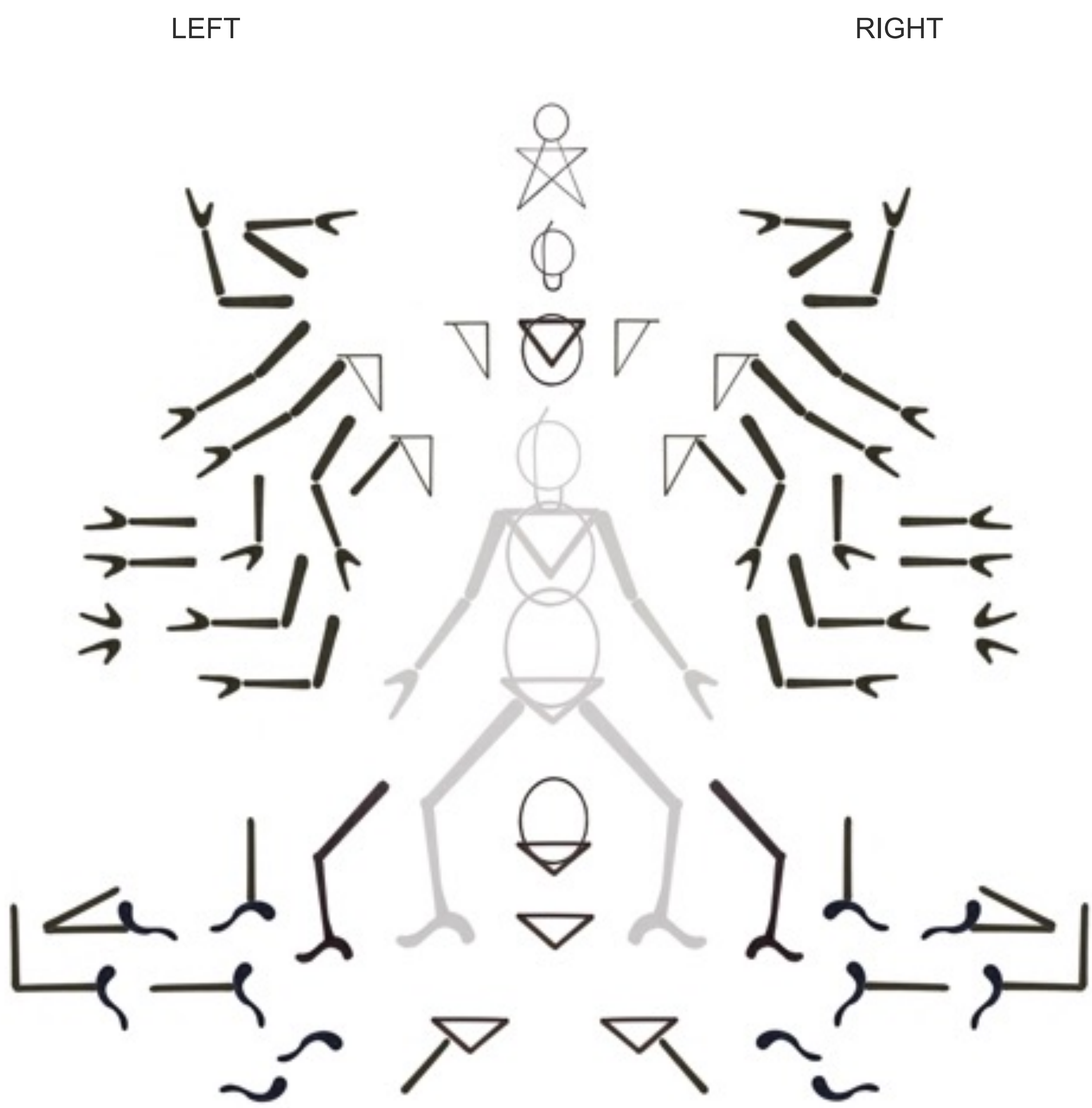
Body Part Symbols (BP)

The body-part symbols are used to indicate an event or the location of an event on the body. The symbols describe the left and right of the person reading the partition, rather than an observed person.They are placed on the partition from left to right, like standard musical notation.They can be used separately or in combination, in order to describe proximal or distal joint movements.

Here is an overview of the conventions for drawing the BP symbols.



The Axis Syllabus refers to the 19 basic Body Parts as masses, or motoric masses, to accent their role in generating and storing K-energy. There are six main motoric groupings, numbered 0 to 6 (6a) in order of volume/size.

Motor 0: the whole body. The five pointed star is a symbol for humanity. Zero is symbolic of entirety, or all. M0 is used to indicate a movement where the entire body is assembled, or held in a shape as it moves.

Motor 1: axial body - pelvis, abdomen, torso, shoulder girdle, neck and head.
The isosceles triangle symbolizes the pelvis. The single straight line and circle represent the spine and head. M1 is used to indicate a unified movement of the assembled upper and lower body, or to indicate dynamic compensations (DC). When DC's are indicated, the symbol for the anatomical center is added.

Motor 2: pelvis, abdomen
The egg shape is one of the most commonly occurring fractals in nature, as many substructures of our bodies bear witness. M2 is the largest of the axial masses, making it a common origin for energy generation and harvesting. The motion of the hip joints, sacroiliac joints, and the joints of the lumbar spine can influence each other directly, especially in support related movements.

Motor 3: torso, shoulder girdle
In this combination, the upside down triangle represents the shoulder girdle and the trapezius muscle.The downwards facing point indicates the intersection of the trapezius with the psoas, the primary division or nexus of the human body, or Anatomical Center. As above, the use of M3 will indicate a movement that involves all of these areas, i.e. when the Anatomical Center is used to administrate movements for the torso, the shoulder girdle moves at the same time.

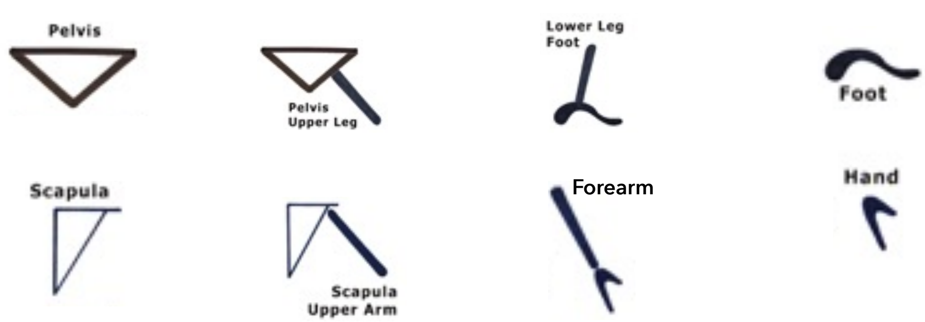
Motor 4: head, neck
The line that sprouts from the bottom of the circle and doubles back over the top represents the neck and the hair. The neck is the manager of tilting and swinging movements for this aggregate.

Motor 5: legs, feet
The arms and legs allow more isolated movement, and so the appearance of these aggregate symbols do not mean that the leg or arm is held in a position, however they will imply that the entire area is influenced. Holding the angular relationships of aggregate BPs can be indicated by using the symbols for isometric muscular contractions (see pg.?).

Motor 6: scapulae, arms, hands
The scapula can be used to motor the rest of the arm or vice versa, independently of the torso.

Motor 6a: arms, hands
The arm can be used as a motor independently of the scapula

Some of the aggregate motors subdivide into representative sections of the body:



In order to cut down on notation time, and to preserve some of the intuitive understanding of posture and use, the BP can be turned or altered in a few variations to indicate spatial disposition, or relative states of flexion/extension.

Here, the right foot is oriented with its dorsal side towards the ground, imposing constraints on how the rest of the body can be situated.

The direction the toe-side of the symbol is pointing indicates whether it is the right or left foot. The way we know which side the aggregate symbols represent is by looking at the more proximal aspects of the drawing.

For example:

Here the knee points right, representing the right lower leg presenting its anterior side towards the floor. The ankle is plantar flexed.

Here, the same symbol combines with the upper leg line and indicates that the right knee is bent to 30 degrees or more.
.

Here the right knee is elevated and bent.

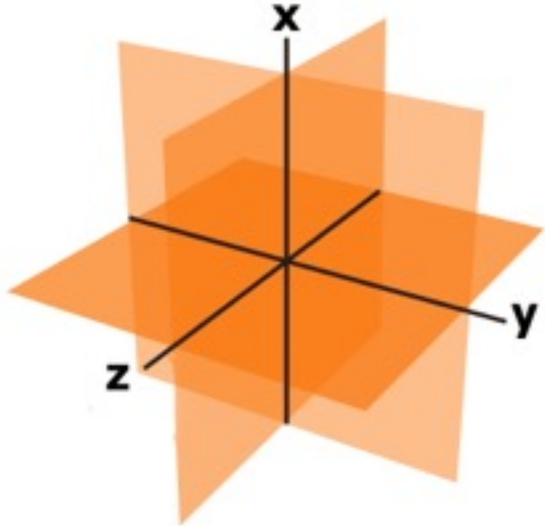
Here, the right foot is elevated, the ankle is plantar flexed.

Here, the right hand presents its palmar side towards the floor.

The right hand is oriented towards the ground and the wrist is extended.
the medial forearm is oriented towards the ground, implying internal rotation of the elbow. Larger aggregate symbols allow us to describe events that imply effects to this whole sector.

These two symbols describe the right arm in elevation, with the palms facing medially, implying external shoulder and elbow rotation and flexion.

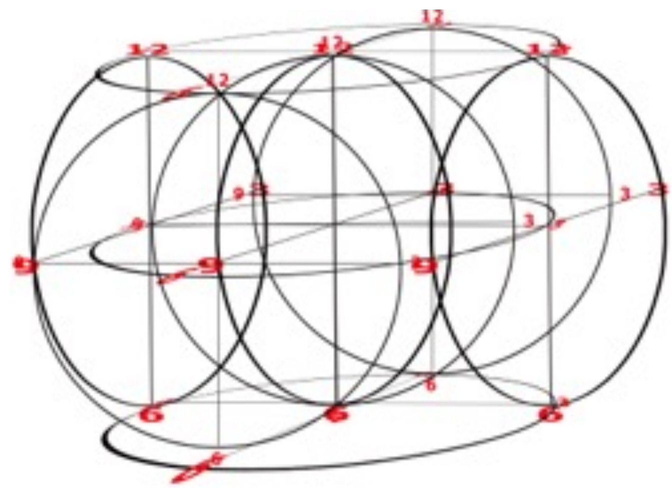
See the BP table on pg. 7 for an overview of these options.



The fundamental, starting- tool for orientation and direction in the HMA is the cartesian grid, or matrix of three planes and corresponding axes, which is also used for orientation in anatomical nomenclature, or in geometry for describing volumes and in physics for describing vectors.

Space: Orientation, Vectors

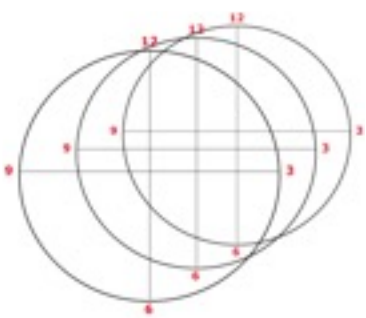
Why consider directions carefully?
Different directions bring us into distinctly different situations. Some of those situations might or might not be desired. The appraisal of our surroundings and the ability to predict the outcome of a directional choice is one of the most basic ways to create a respectful social ambience, and claim true physical autonomy. Awareness of the directions we took allows us to evaluate our choices, perhaps understanding how we hurt or help ourselves and others. Awareness will allow us to relay the failure or success of our experience, adding to common knowledge. Knowing which choices had a desired result, we could build on them, lowering the risks implicit in learning as we gradually expand our skill-set.



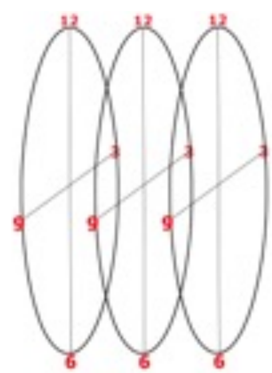
KINESPHERE

The Nine-Clock Matrix

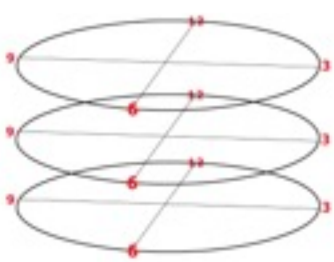
The HMA coordinates for the kinesphere use the clock face and the hours as references for destination or trajectory. Each number represents a potential trajectory.



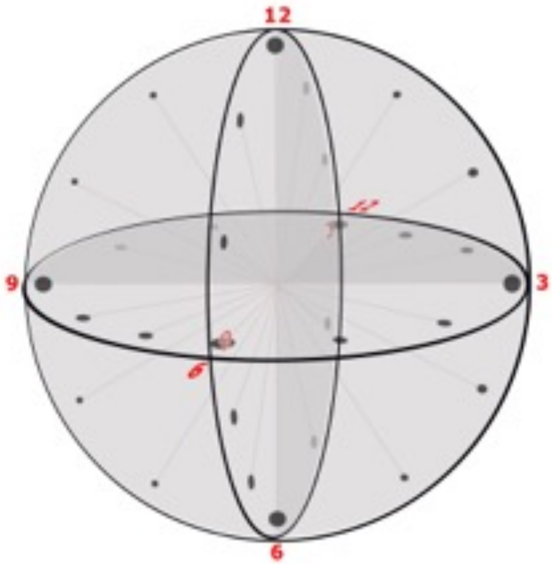
On all three frontal planes (anterior, coronal and posterior), the hours run from 12:00 on the superior vertical axis, lateral right over 3:00 and lateral left to 6:00, and lateral left over 9:00, lateral right to 12:00.



On all three sagittal planes (lateral left, median and lateral right), the hours run from 12:00 on the superior vertical axis, anterior-inferior over 3:00 and posterior-inferior to 6:00, posterior-superior to 9:00, and anterior-superior to 12:00.



On all three transverse planes (superior, caudal and inferior), the hours run from 12:00 on the anterior sagittal axis, lateral right/posterior over 3:00 lateral left/posterior to 6:00, anterolateral left over 9:00 and anterolateral right to 12:00.

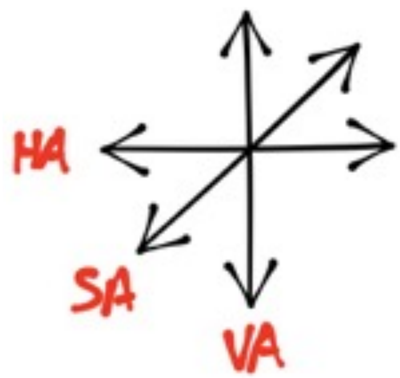


Cardinal Planes

The cardinal planes bisect the body; the cardinal frontal or coronal plane separates front from back, the cardinal or caudal transverse plane separates superior from inferior, the cardinal or median sagittal plane separates right from left.

VECTOR ARROWS

In the HMA, movements or rotations are described by using circles or BPs with protruding axis arrows, or pierced by axis arrows, or circumscribed by trajectory arrows, as described in the next section.



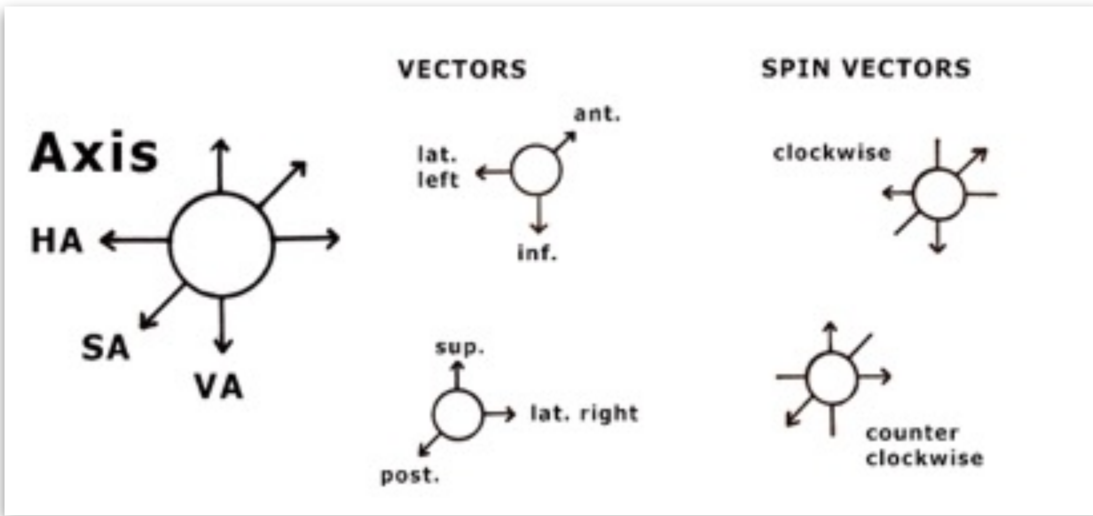
Axes are tipped with arrows on both ends when there is no vector, and tipped with an arrow on one end when there is a vector or when there is a vectorial spin.

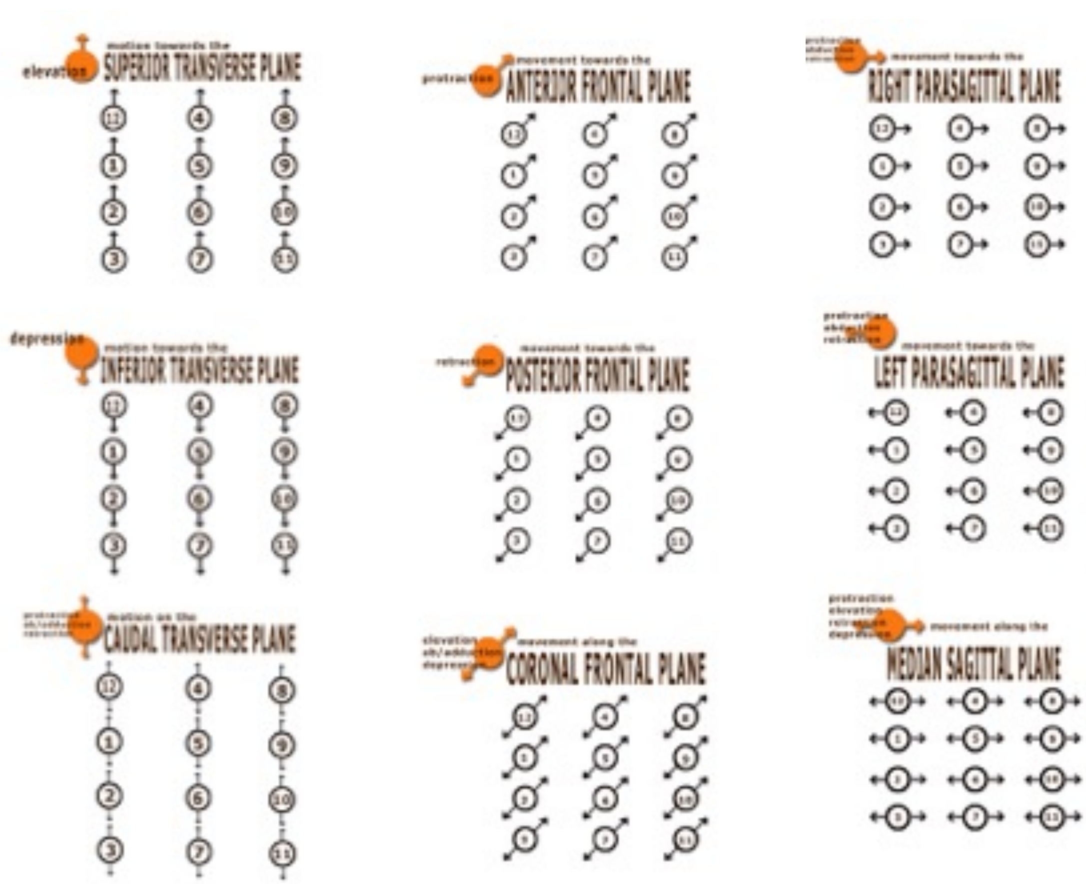
Vector-arrows (V-arrows) protrude from an event node circle or body part symbol, and represent translational motion. In the case of the figure to the left, posterior motion along the cardinal sagittal axis.

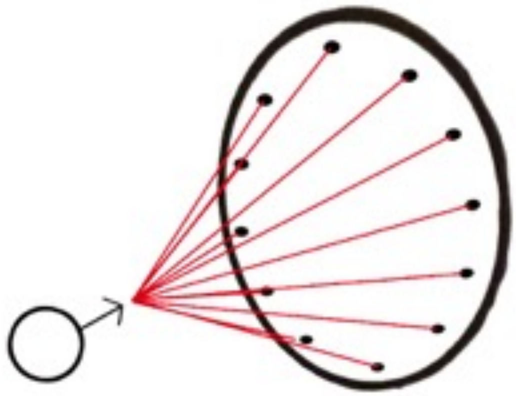
Spin-arrows (S-arrows) pierce the event node circle or body part symbol, and represent the rotation of objects in angular motion. In the case of the figure to the left, a counter-clock turn on the caudal transverse plane, and around the cardinal vertical axis.

Curved Trajectory arrows describe yaw, pitch, roll and orbiting movements. The figure to the right represents an inferior to superior, leftwards roll or up/swing from right over left.

VECTOR ARROW
VARIATIONS







V-Arrows represent one of the three axes; vertical, horizontal or sagittal. Each axis intersects with one of the planes at 90 degrees. Therefore, each V-Arrow points at a corresponding para-sagittal, para-frontal or para-transverse plane.

When an hour number appears in the event node circle, or at the tip of the arrow, it means that movement is towards the hour on the clock face that intersects at 90 degrees with the V-Arrow in question:

Anterior Sagittal Vector (sagittal axis)
points at the anterior frontal plane
Posterior Sagittal Vector (sagittal axis)
points at the posterior frontal plane
Lateral Right Horizontal Vector (horizontal axis)
points at the lateral right para-sagittal plane
Lateral Left Horizontal Vector
points at the lateral left para-sagittal plane
…etc.

In the HMA, a circle represents an event, a plane or a location on the body.
When the circle is accompanied by one or more arrows, it is either describing motion in specific directions, or it is describing what part of the body is being used as support, how it is moving or where it is going. Placing an hour number in the circle or at the tip of the arrow means that the motion is towards the hour on the plane the vector arrow is pointing at, or the plane the V-arrow would intersect with at 90 degrees. Here left, the symbol represents a motion towards 3:00 on the anterior frontal plane. What part of the body is not indicated by the symbol. This leaves the interpretation of the symbol open.

Body parts can also be used to indicate which location is leading the movement towards that destination. Here right, the symbol represents the scapula leading a motion to the right. If we are to move the lateral edge of the scapula directly to the right, the entire body must compensate and facilitate. We can therefore assume the presence of many other implicit movements

Spin vector arrows represent rotation
around the indicated axis and on the corresponding plane

The circle or BP represents a motion center or location that is rotating.
Placing an hour in the circle or at the tip of the arrow means that the rotation goes from 12:00 as far as that hour on the plane that intersects the axis of the S-arrow at 90 degrees. Here left, the symbol represents a clockwise, 90 degree rotation around the vertical axis, and on the transverse plane.

Combined or Diverse Destinations and Trajectories in One Event Description
If there is a combination of arrows with the same degree of rotation or deviation, the destination hour can be placed in the circle. The hour can also appear at the point if the destination or degree is different for each arrow. Here, an object is rotating 90 degrees on the transverse plane, and moving towards 3:00 on the anterior frontal plane.

Reminder - Context determines the starting point or orientation for a movement. If there is no indication of a specific posture at the beginning of the timeline, Neutral Stance is the default start. Every symbol or group of symbols thereafter provides the orientation / context for the next. The relative "front" or facing is the reset standard in the HMA. The amount of "starting points" depends on individual perception of a movement or series of movements, in other words, when fewer movements are being considered, it can offer more precision to have more orientation re-sets, whereas if more movements are put together in a phrase, it might be easier to maintain one orienting coordinate.

To show movement on or towards a plane or along an axis, a single arrow will protrude from the circle to show direction.

For example:


Protraction - towards the anterior F.P., along the anterior S.A. or on the median S.P.


Retraction - on the median S.P. towards the posterior F.P., along the posterior S.A.


Abduction - or towards the right S.P. along the right H.A. and on the coronal F.P.


Abduction - or towards the left S.P. along the left S.A. and on the left coronal F.P.


Elevation - towards the superior T.P., along the V.A.


Depression - towards the inferior T.P. Along the V.A.

**Please visit the codex symbol sheet on page 12 for an overview of vector arrow variants.*

Spin is represented by piercing the circle with the spin vector arrow (S-arrow).

When S-arrows appear alone, they indicate rotations around the axis described by the shaft of the arrow, and on the corresponding plane at 90 degrees.

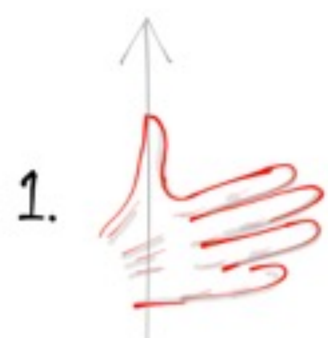
For example:


Counter clockwise rotation around the vertical axis, on the transverse plane.


Clockwise rotation around the vertical axis, on the transverse plane


Clockwise rotation around the horizontal axis, on the frontal plane.


Counterclockwise rotation around the horizontal axis, on the frontal plane.



The vector spin direction is discovered using the "right hand thumb rule".
Starting with an open right hand, the thumb points in the direction indicated by the arrow.
The fingers close into a fist in the direction of the spin.

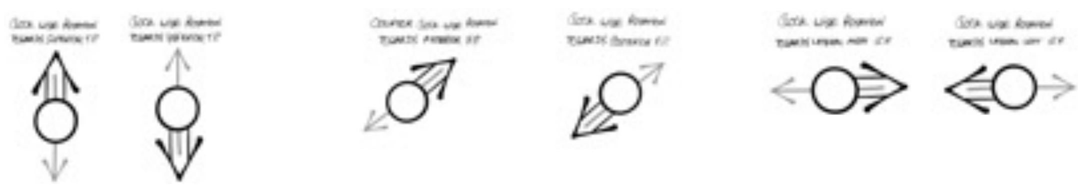
We can combine S-arrows and V- arrows to describe more complicated trajectories.

Each arrow contributes its own axis and plane to the event description:

This symbol describes a mass or part of the body that is rotating clockwise around the horizontal axis, while it is protracting or moving anteriorly at the same time.

Here, a mass or body part that is rotating counterclockwise on the vertical axis while it is retracting or moving posteriorly.

For the rotations and vectors where the arrow heads are pointing in the same direction, we suggest this graphic solution, so that you can tell the difference between the arrows if you don't have the color option:



Adding Trajectory-arrows to V-arrows, we can describe curved deviations from a given vector, helical, or spiral motion:

A Trajectory-arrow around a circle indicates movement on the frontal plane by default. Here, the arrow represents an inferior to superior, left to right arc on the frontal plane.The number 7 indicates the point on the clock where the movement began.

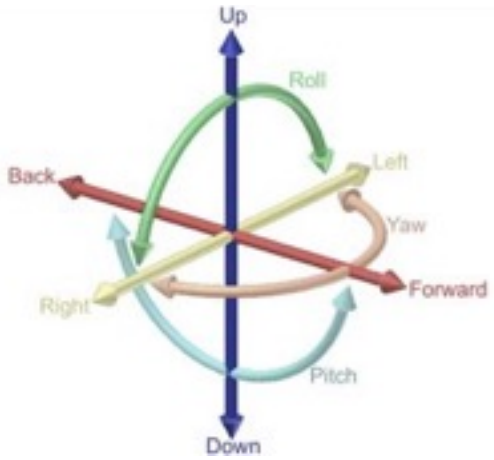
The vector arrow indicates protraction,T-arrow as above.Together they indicate a protracting, elevating over-curve motion that starts out around 7:00 to the left and goes up and towards the median sagittal plane.

The S-arrow indicates a clockwise rotation on the transverse plane around the vertical axis,while the T-arrow indicates a superior to inferior, right side arc. Together, these arrows indicate the beginning of a descending, clockwise spiral that begins and ends close to the mid-line.

The circle and two vector arrows protruding to the sides represents the median sagittal plane. In this case the T-arrow will conform to the indicated plane.This symbol therefore represents an under-curve, posterior to anterior motion on the median sagittal plane.

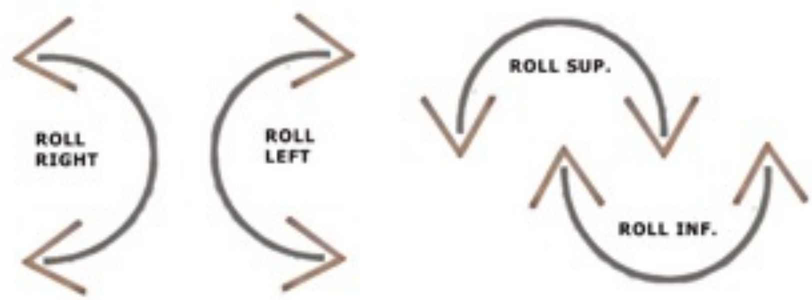
As above, the V and S arrows combine to describe a clockwise rotation during protraction.The T-arrow describes a right to left under curve, adding this swing to the other vectors, meaning that the object is swinging from right to left, cutting across the sagittal plane as it protracts and turns clockwise relative to the transverse plane.

- see the next page for T-Arrow variations

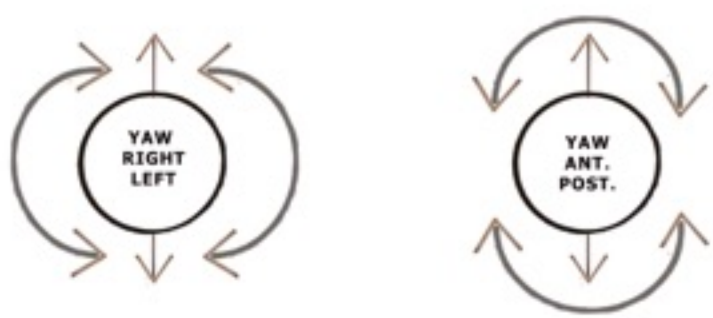


TRAJECTORY ARROW
VARIATIONS

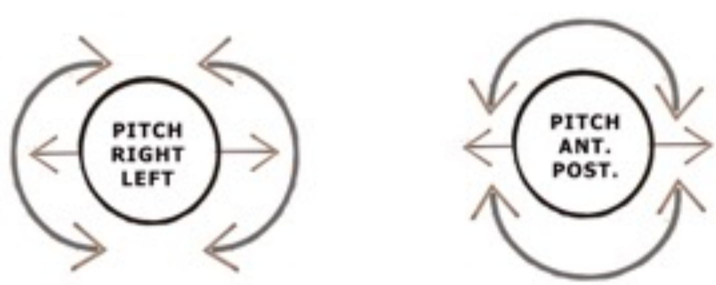
ROLL - rotation on the coronal frontal plane



YAW - rotation on the caudal transverse plane



PITCH - rotation on the median sagittal plane



Building Event Descriptions with BP Symbols and Arrows

The BP can be used as event descriptions. This can be especially useful for describing or implying the motion of an entire sector of the body with fewer symbols, cutting down on writing time. The moment the event begins, as well as its location, is represented by the intersection point of the arrow and the BP symbol.

For example:
The crossover point of the S-arrow and the symbol for the pelvis represents a counter-clockwise vertical axis turn of the pelvis. Of course, this rotation entrains the entire lumbar spine into the same direction, the left leg into external rotation, and the right leg into internal rotation. If the rotation of the pelvis is quick, the torso will lag, but second the direction, the arms will swing in the opposite direction and the head will remain in its orientation.

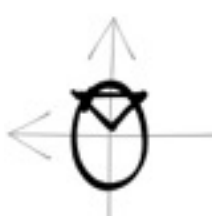
The pelvis anteverts while depressing (lowering). Assuming that neutral stance (high sphere 4, LB) was the departure point, this symbol implies that hips, knees and ankles are flexing, while the lumbar is extending.

The crossover point between the clockwise horizontal axis vector spin and the right thigh represents both the moment when this sagittal plane motion occurs, and the location of the rotational axis. Placing the rotational axis of the thigh here implies the simultaneous motion of the pelvis down and back, and the knee forwards and up.The entire body will have adjusted to allow this, including compensatory spinal motions, torso anteversion, and flexing the support leg if we are using our feet for support.

The anterior, sagittal vector, attached to the BP for the right foot at the toe-side of the symbol indicates that the right foot is being protracted with the toes in the lead. Depending on the context, this will likely mean that the spine will organize towards the support side, while the hip, knee and ankle of the protracting foot will extend.

The head rotates clockwise while protracting. In order for the head to change its position in space, the entire body has to collaborate. At least one step in the direction of the protracted vector, spinal compensation and axial body anteversion to the support fort side, clockwise V.A. rotation of the atlas-axis joint.

Right scapula is elevating, elevation of the scapula includes some anteversion and some adduction. The sterno- clavicular joint is rotating clockwise and distally around the S.A.



The bust anteverts as it rotates counterclockwise.This movement will have passive effects on the arms, cause the AC, mid lumbar and hips to flex and depending on how far the turn goes, could imply a whole body rotation on the V.A.

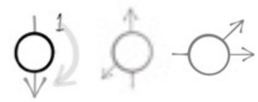
Exercise #1 - PLAYING WITH WHAT YOU KNOW

The ingenious aspect of language is not merely its capacity for precision and accuracy, but in its capacity for varying degrees of interpretable vagueness: metaphor, inference, allusion and ambiguity. The freedom to infer represents an equal freedom to interpret, invent, to add or subtract to the description. We can lose our fear of a language when we are allowed to play with it, to see it as a way to create context for creativity and creative sharing. So let's play with what we know so far.

Try building a score from the BP's you remember, for example:
REMEMBER, colors don't matter

your turn:

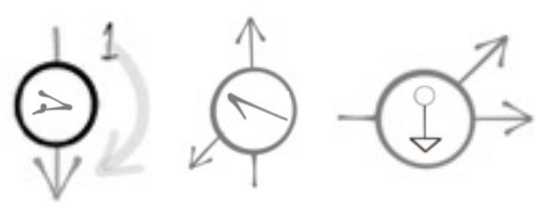
Try building a score or interpretable timeline from the directional symbols you remember, for example:



your turn:

Now combine the BPs and directional indicators, i.e:

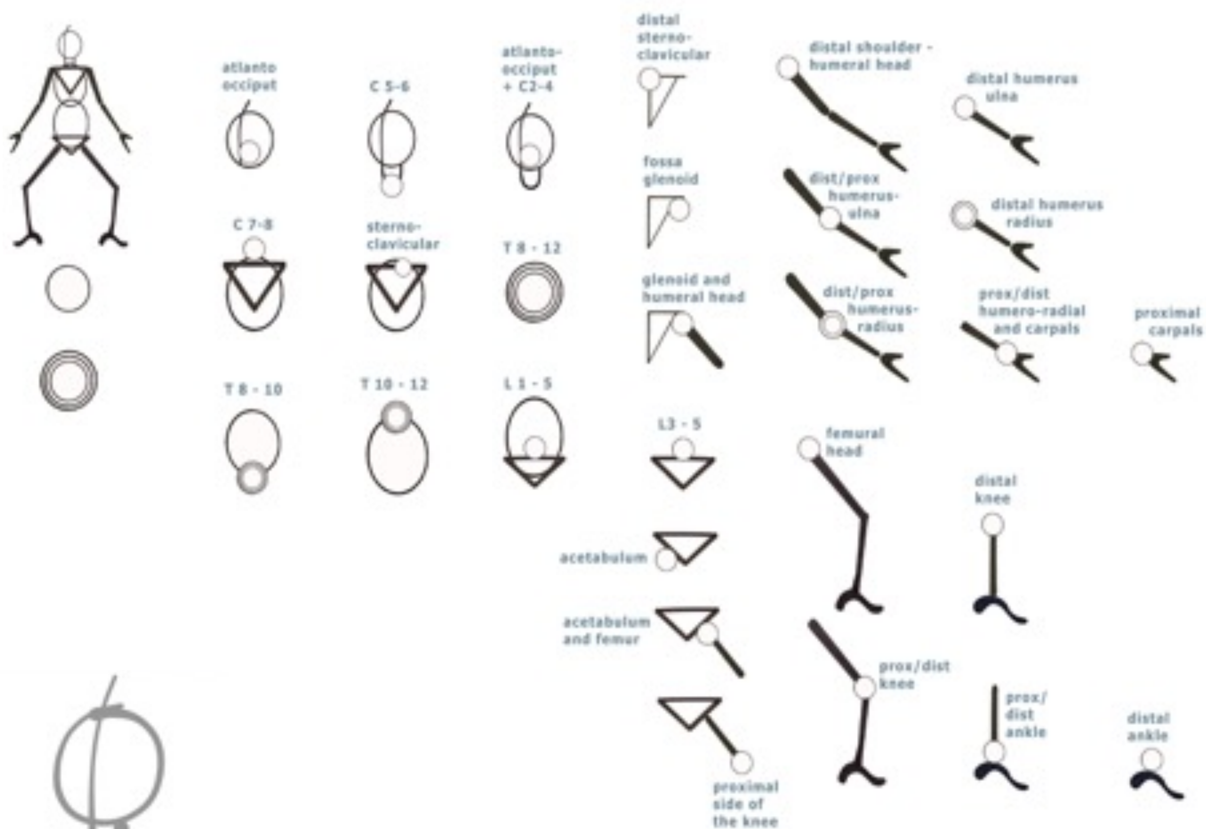
(remember that you can also use only BPs and arrows)



your turn:

Once you have made your score, work it out as you imagined or as it comes to you, then share it with at least three people to work out in their own way and compare versions.

MOTION CENTERS – Joints and Joint Complexes (MC)



Writing Distal and Proximal Motion - Locating Center

Like the musical note, which indicates the beginning and type of sound to be played, the HMA's "event nodes" indicate the beginning of movement processes and describe the kind of event. The empty or shaded circle represents the staging area for the event description, while the body-part symbols (BP) are used to indicate the location of the event on the body. Depending on where the circles are positioned on the BP, they can represent landing pads, loading zones, motion centers, or muscular activity. Depending on how the circles are filled or accompanied by other symbols, they can simultaneously indicate anatomical movements and motion in the kinesphere, as well as forces, planes, timing and trajectory.

Distal (farther) and Proximal (closer) are location terms we use to express which body part is moving first or last. The definition of both distal and proximal BP or movements requires the choice of a most proximal point. The center of gravity is not suitable as the most proximal point, because it migrates as we change our volume. The AS community has agreed on the solar plexus, or are between T-8 and T12 as the most proximal point, because it represents the mechanical division of upper and lower body, the organ hub, and the intersection of muscular chains connecting the upper limbs to the lower limbs. The farther from Anatomical Center a body part is, the more distal, and the closer it is, the more proximal. We have the choice to move nearer or farther BPs first or afterwards in a movement sequence. These choices imply several predictable related consequences, which means that the following notation can be a quick way to indicate a raft of assumed adjunct events that do not have to be written out.

Notating the Distal and/or Proximal initiation of Movements

At least three elements are combined to indicate joint motions:

A Circle (event node) - in this case representing the joint
A Spin-Arrow - representing the kind of rotation (adduction, abduction, flexion, extension, axial rotation, etc.)
A Body Part symbol - representing a location on the body, and/or a disposition (see BP table for protocols)

If we are describing a distally initiated right elbow flexion, the symbol would look like this

If we are describing a proximally initiated right elbow flexion, the symbol would look like this (left):

The S-Arrow does not change for the simultaneous proximal and distal initiated movements either, but now the BP includes the entire joint, or both proximal and distal sides:

NOTE: We suggest that when you write these symbols out, that you start with the circle, and end with the BP

The possibility of distal and/or proximal joint use allows us sophisticated management options, as well as providing us with a fine-grade lens for examining and understanding the kinds of effects these choices might have on the location where movement is principally managed and the location's neighboring structures. In order to make these distinctions, a point must be assumed to be the most proximal point. The AS Lexicon cites the area described by the solar plexus, or the 8th through the 12th dorsal vertebrae, as the most logical upper/lower body intersection or mechanical, anatomical center, i.e. most proximal point.This point or area is therefore designated anatomical center (AC), symbolized here left.

This symbol tells us that the activity is motored or driven by the lower body, and managed by the lower part of the AC:

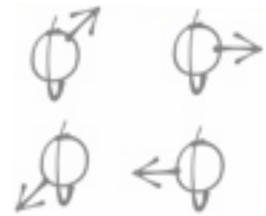
This symbol tells us that the activity is upper body driven and managed by the upper aspects of the AC (left):

And here we understand that the upper and lower body are simultaneously involved (left):

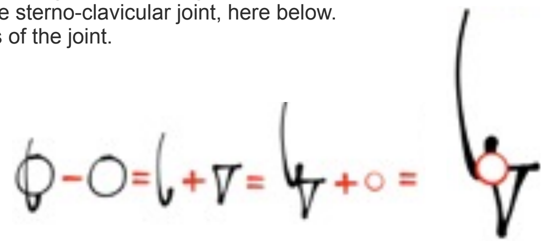
Here right, the crossover point of the head and trunk symbol represents the 6th/7th cervical vertebral segment, a biaxial motion center. The two BP together, plus an event circle positioned over the articulating area indicates simultaneous dist/proximal use of this joint.

Just the head and neck symbol with the marked motion center indicates distal use:

The meeting point of neck and head symbols indicates the antlanto-occipital condoyle, C-2 and C-3. This motion center is used distally by default. Simultaneous dist/pros motions can be indicated by using translation (protraction, retraction etc.) arrows on the head symbol, as indicated by the four symbols here right.



The curved line representing neck and hair, plus the right angle triangle representing the scapula indicate the combination of both proximal and distal sides of the sterno-clavicular joint, here below. The event node circle indicates simultaneous use of both sides of the joint.



We can describe one sided use of the joint by taking away one of the symbols, as in the symbol here to the right. By this point the reader will be able to understand if proximal, distal, or combined proximal-distal activity are indicated. In HMA terminology, Motion Centers are ”administration”, while Body Parts are “motoric”. In other words, the BP provide the energy for motion, either through their interaction with gravitational forces, or through their muscular engines.

Now that we understand the MC/BP combinations, let's look at a few examples.

Distal left hip flexion

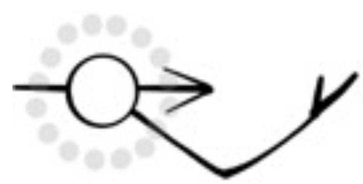
Proximal-Distal left knee flexion

Prox-dist plantar flexion of the left foot

Now we can begin to combine the elements you have seen so far to describe complex movements.

This symbol to the left
represents an under curve, distal swing of the right ankle as it protracts to the low right diagonal.

This symbol to the right represents a distal circumduction of the right shoulder around the horizontal axis:



This symbol to the left represents a distal circumduction of the right wrist, starting at 7 and climbing towards 12:00 while elevating:

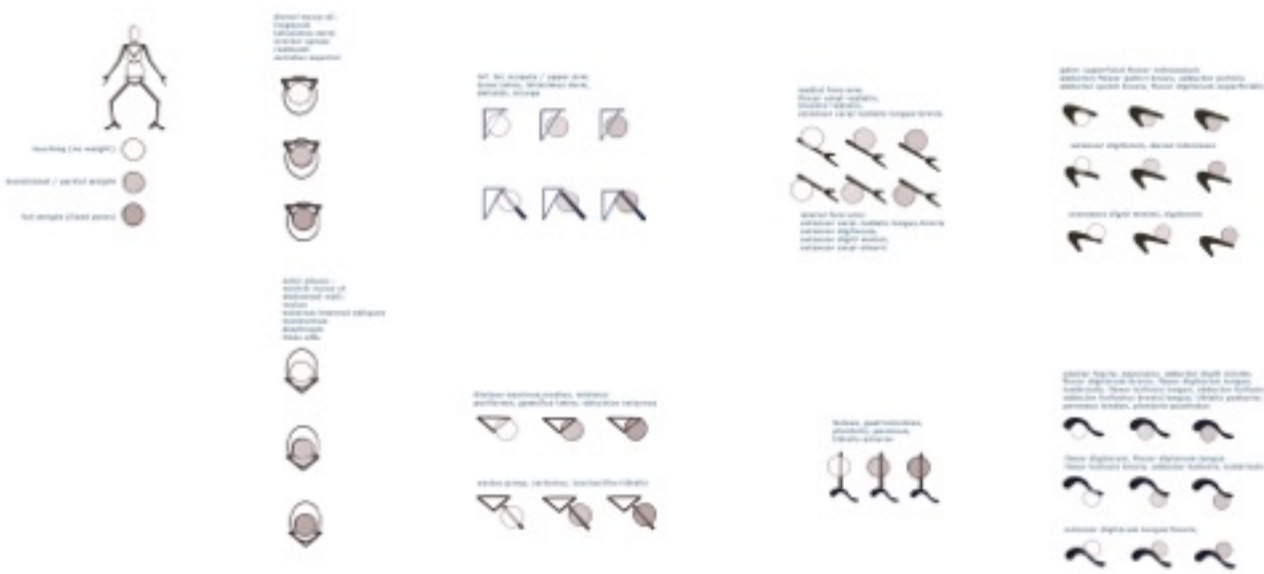
Writing Exercise:

Make your pick of Body Parts, Motion Centers and/or the clock and arrow system to document the movements involved in sitting down on a chair.

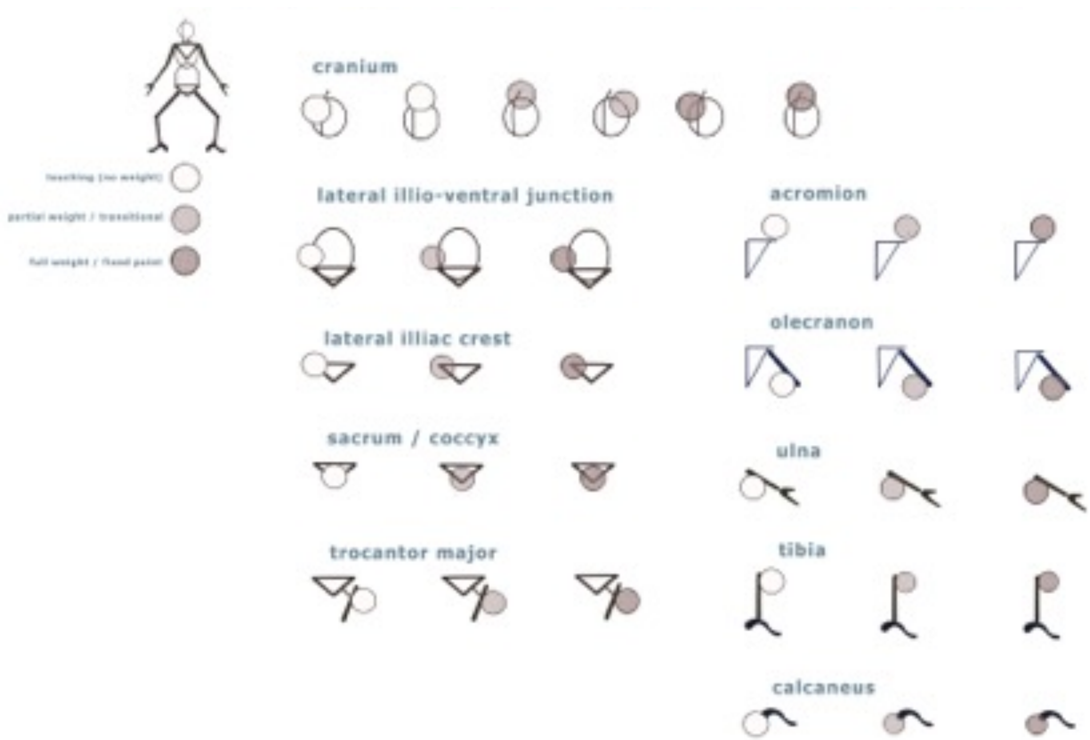
You can be as detailed or as general as you like:

SUPPORT

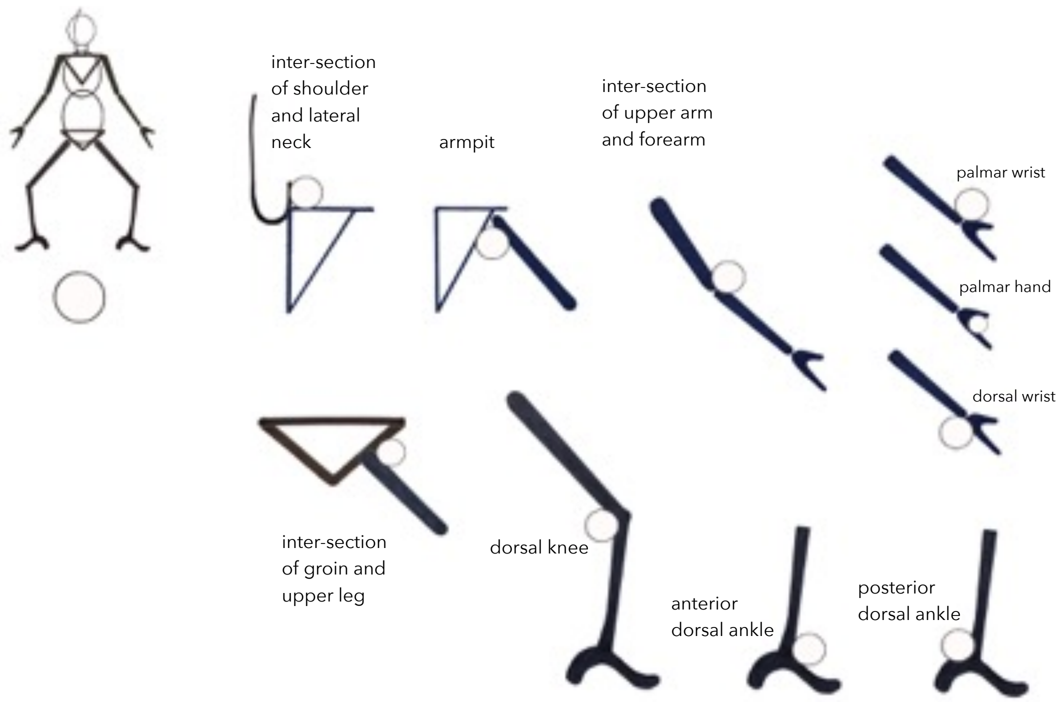
LANDING-LAUNCHING PADS



LOADING ZONES



DOCKING ZONES



When we move the event node circle to other locations on the BP symbols, they can also symbolize the areas of the body we typically use for different kinds of support: landing-launching pads (LP), loading zones (LZ), or docking zones (DZ).

Landing-Launching Pads are areas where layers of muscles protect the bones from impact, and also provide recoil for rebound or jump. Loading Zones are areas where larger bone structures are just under the skin, impractical areas for high impact landings and high energy take-off, but allow gradual loading or pivoting in low friction situations. Docking Zones are nooks and crannies where we can grapple or give support to external objects or people, for example the inner elbow or the inguinal area.

LANDING-LAUNCHING PAD ANATOMY

Starting with the axial body, the area from the middle to inferior scapula that is padded superficially by the proximal aspects of the m. teres twins, the upper m. latissimus and m. trapezius, m. rhomboids, and deeply by the m. subscapularis and the proximal, posterior aspect of the m. serratus anterior.

The area over the superior part of the AC. Lower m. trapezius, mid-latissimus muscle all three m. erector-spinae, m. serratus inferior. The inferior-anterior abdomen. External-internal oblique muscles: rectus abdominis and transverse abdominis.

The upper arm. Lateral, mid-muscle aspect of the m. biceps and m. brachialis, lateral proximal area of the m. triceps, distal aspect of the m. teres major.

Medial superior forearm. M. flexor digitorum profundus-superficialis, m. flexor carpi radialis, m. palmaris longus, m. flexor carpi ulnaris, supported and packed in by the distal biceps tendons and the pronator teres.

Lateral forearm.The lateral aspect of the m. flexor carpi ulnaris, m. anconeus the m. extensor digitorum, the m. extensor carpi ulnaris, the m. extensor digiti minimi.

 The whole palmar aspect of the hand, not including the hollow of the palmar arches.

 The lateral external edge of the palm.

 The knuckles (contested).

 The buttocks. M. Gluteus maximus, medius, supported by the deeper external rotators, m. gemellus twins, m. piriformis, m. quadratus femoris.

 The mid-lateral thigh. M. vastus lateralis, anterior edge of the fascial structure tractus iliotibialis, supported by the m. rectus femoris and the mid m. sartorius.

 The lateral-anterior calf, m. tibialis anterior, m. peroneus, m. flexor digitorum longus, supported by the lateral edge of the m. soleus and m. gastrocnemius.

 Top lateral forefoot

 Palmar forefoot

 Entire plantar support area

LOAD VARIATION

 The LPs, LZs and DZs are empty circles if they are touching a support surface without serving as support.

 Or striped if they are transitional support or if there is a secondary use of another supportive LP, LZ or DZ.

 Or shaded if they are closed chain, fully loaded or serving as sole support.

 Partial striping or shading can indicate the entry direction or detail with more specificity the area in use

CLOSED CHAIN - OPEN CHAIN RELATIONSHIPS

When a Body Part is drawn without an Landing/Launching Pad or Loading or Docking Zone, it is assumed to be in an **open-chain relationship**. Open chain means that the support area in question is not load bearing, while closed chain means the area in question island bearing.

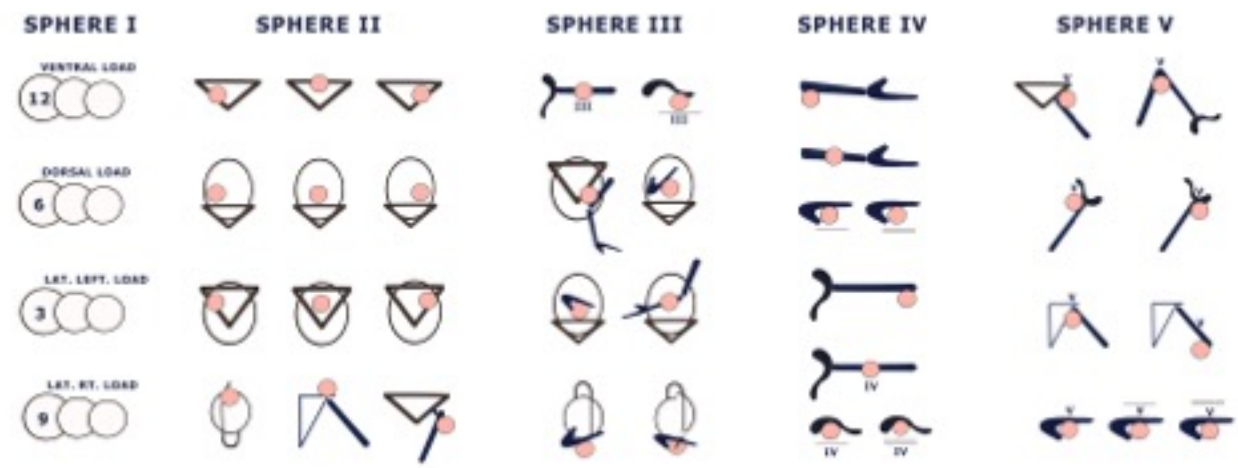
Here are some examples of events including the use of LPs:

 A ninety degree clockwise turn on the fully loaded left forefoot:

 partial or transitional loading of the right palmar surface

 Use of a fully loaded left plantar surface for support:

ACTIVITY SPHERES



Activity Spheres one through five are anatomically defined relationships to support. The Spheres offer criteria for describing the way the axial masses of the body are carried. The notation for the spheres can save writing time, especially for Sphere I and Spheres III to V.

Sphere I

Sphere I is defined by the use of two or more of the three axial motors for priority support.
So when we want to indicate a "sphere 1" support situation we don't need to draw the axial BPs.Three progressively smaller circles will now represent these masses. When we want to indicate the use of only two of these masses as priority support, we can shift the circles so that two of them are lower, for example:

Here the head and pelvis will be used as priority support, implying either a ventral or dorsal loading into these structures, as it is impractical to load the head from the side. For detail on the surface of the body we want to use as support, we can refer to the transverse clock, arranged at ninety degrees to our internal vertical axis. 12:00 is ventral, 6:00 is dorsal, etc. Ventral loading can be indicated by placing 11, 12 or 1 in the largest circle. Dorsal loading can be indicated by inserting 5, 6 or 7 in the largest circle.

Here the torso and lower body will be used as priority support. The 12 indicates a medial, ventral load.
For example, the lifted smaller circle indicates the use of torso and lower body as priority support, while the

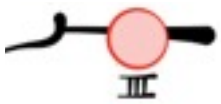
7 indicates that we are loading into the left dorsal side of the support system.

Sphere II

Sphere II will be defined as the use of one axial mass for priority support, i.e. :

Sphere III

Sphere III will be defined as the combination of a peripheral element (forearm, hand, lower leg, foot) with a part of the trunk, with the peripheral element sandwiched between the trunk and the floor.



This symbol indicates the fully weighted use of the anterior lower right leg LP as priority support in low sphere III, meaning that the lower leg will eventually be directly sandwiched between the floor and the right pelvis/thigh with no other intervening peripheral BP.

Low Sphere III: It is impractical to use the palmar side of the hand for priority anterior support therefore, this symbol implies that the dorsal side of the hand is on the floor, in the same location as the abdomen's LP, meaning that the hand is cupping this spot.

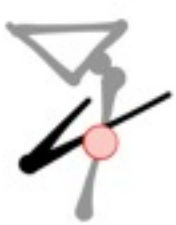
Low Sphere III: Right hand full load, dorsal relationship with the floor, while supporting the cranium through palmar contact.We can assume that whole body is turning upside down, with at least one secondary support, that the spine is neutrally compensating to the right.

Low Sphere III: Right hand palmar load, supporting the cranium dorsally. Rest as above. This support option will normally require a secondary support system; other hand, foot, etc.

Low Sphere III: Transitional or partial right hand, palmar load. Use of the palm as support in the anterior position at this location on the lower body is impractical, therefore this symbol indicates that the palmar side of the right hand is on the floor and the dorsal side supports the right side of lumbar. We assume that the hips, lumbar, thoracic and cervical spine will flex, that the spine will compensate towards the support hand.

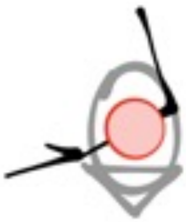
Low Sphere III: Fully weighted right hand with the dorsal side on the floor supports the right gluteus through its palmar side. We can assume that both hips will flex, that the left arm will flex along shoulder axis, and that the spine will compensate with flexion towards the support side.

Low Sphere III: Fully weighted palmar right hand supports gluteus through its dorsal side. Rest as above.



Low Sphere III: Fully weighted dorsal right hand supports lateral anterior right thigh. Assume flexed knees, flexed right hip. Neutral spinal compensation towards support. Neutral shoulder joint, slight elbow flexion. Likely use of lateral forearm, deltoid muscle, and palmar side of left hand as secondary support.

Low Sphere III: Fully weighted lateral right forearm supports lateral anterior thigh. Rest as above, probably more pronounced flexing in hips and spine.



Low Sphere III: Fully weighted right lateral forearm support. Lateral forearm is in contact with the floor. Use of the medial forearm for support at this location is impractical, therefore this symbol indicates that the medial forearm is in contact with the medial abdomen.We can assume that the hips, lumbar, thoracic and cervical spine will extend, that the spine will compensate towards the support side.

Low Sphere III: Fully weighted right medial forearm support. Medial forearm is in contact with the floor. Use of the medial forearm for ventral support at this location is impractical, therefore this symbol indicates that the arm is behind the back and the lateral forearm is in contact with medial lumbar. Assume support side spinal compensation with flexion, elbow flexion, internal shoulder rotation and abduction.Assume hip and knee flexion.

Here we are entering high sphere III, using the right fore-foot as fully weighted priority support. The use of the lower limb in high sphere III implies that the foot is dorsiflexing, lifting the whole body off the floor even as it rests on flexed and loaded thigh and calf.

High Sphere III: Right hand palmar load, right wrist extending, right elbow flexing to at least 90 degrees, right proximal, posterior elbow (LZ area), supports the lower middle thoracic. We assume that the whole body is nearly inverted, that the right shoulder is adducting and extending, that the torso is rotating clockwise towards the right arm.

High Sphere III: Fully weighted right palmar hand, right proximal dorsal elbow. It is impractical to use this LZ for dorsal support at this location, therefore this symbol represents dorsal proximal elbow support for the abdomen. Assume flexing lateral spinal compensation towards support system, right hip extension, left hip flexion, probable but non-obligatory use of left palmar hand as secondary support.

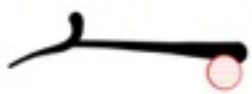
Sphere IV

Sphere IV will be defined by support through periphery (knees, elbows, hands, feet), and extending hip or shoulder joints. This means that the trunk is suspended.

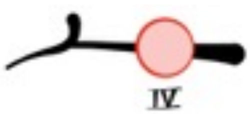
Low Sphere IV: Support through the distal elbow LZ. Assume elbow and shoulder joints to flex at 90 degrees. Unless both of these LZs are recruited for support roles, assume secondary knee, other palmar hand or plantar foot support.

Low Sphere IV: Support through lateral forearm LP. All other values are similar or identical to above.

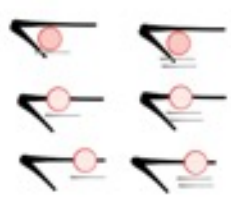
Low Sphere IV: Support through medial forearm. Elbow is both internally rotated and flexed. All other values as above.



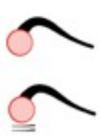
Low Sphere IV: Support through the distal knees and elbows. Optional ankle plantar-flexion.The use of one elbow or knee LZ as support will be accompanied by the appropriate spinal compensations, and arms are likely to be somewhat abducted to aid in balance. It is impractical to use the knee LZ for sphere three, therefore it is unnecessary to include the Roman numeral IV.



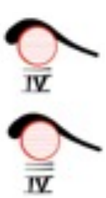
But when we want to indicate the difference between a sphere III and sphere IV use of the calf, we need to put in the roman numeral to differentiate. In a sphere III use of the calf, we can assume full ankle plantar-flexion.



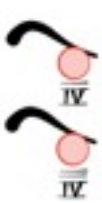
The exclusive use of the hands and feet for support occurs in mid or high S-IV. Mid S-IV means that knees or elbows will be flexed more than 90 degrees, and high S-IV will mean than knees or elbows will be flexed less than 90 degrees or fully extended. The top row of hands shows palmar load, mid S-IV and high S-IV. The middle row shows the loading of the lateral palmar edge of the hand, middle and high, while the last row shows knuckle support, mid and high.



We assume that exclusive use of the heel LZ usually requires some knee extension, unless you have a very limber calf. Therefore, unless specified, the upper symbol automatically communicates mid sphere IV, and adding two underlines, it indicates high S-IV.



In order to distinguish between S-III and S-IV use of the plantar LP, the Roman numeral is included in the event description.



In order to distinguish between S-III and S-IV use of the fore-foot plantar LP, the Roman numeral is included in the event description. All asymmetrical support situations are assumed to be accompanied by the appropriate spinal compensations and role divisions among the limbs, whether as potential receivers, or as kinetic energy generators.

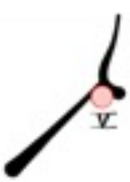
Sphere V

Sphere V will be defined as the suspension of the axial body through traction on peripheral BPs, rather than compression, as in spheres I through IV. Sphere V uses the DZs primarily.

This symbol describes a "close" S-V, where the support surface or object is being grappled with the groin area of the hip.This will mean that the supporting hip is flexed and the rest of the body will be dangling below the grapple point. Spinal compensations reverse in S-V. In this case, as the support is through the right side, the spine will compensate left, and so on.

This symbol describes "middle" S-V, where the support surface or object is being grappled with the posterior side of the knee joint area. Assume knee flexion from 90 to 120 degrees or more.

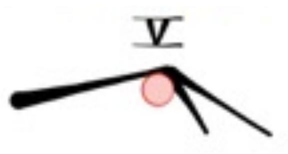
This symbol describes "far" S-V, where the support surface or object is being grappled through the anterior ankle joint area. Assume knee extension, small amount of hip flexion, concentric muscular contractions along the ventral side of the body.



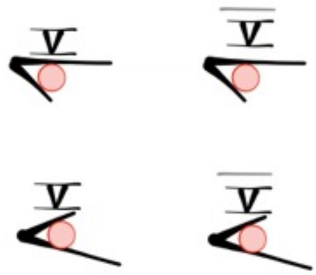
"Far" S-V, grappling with the posterior ankle. Assume knee flexion at 90degrees or more, assume hip extension.The position of the Roman numeral can be either above or below the event node, but not to left or right of it.The position left of the symbol is past tense, right is future.

"Close" S-V, grappling with the arm-pit. Assume scapular elevation for this side.

"Middle" S-V, grappling with the medial elbow joint. Scapular elevation and adduction, internal rotation of the shoulder, elbow flexion.



"Far" S-V, grappling with the medial wrist joint.



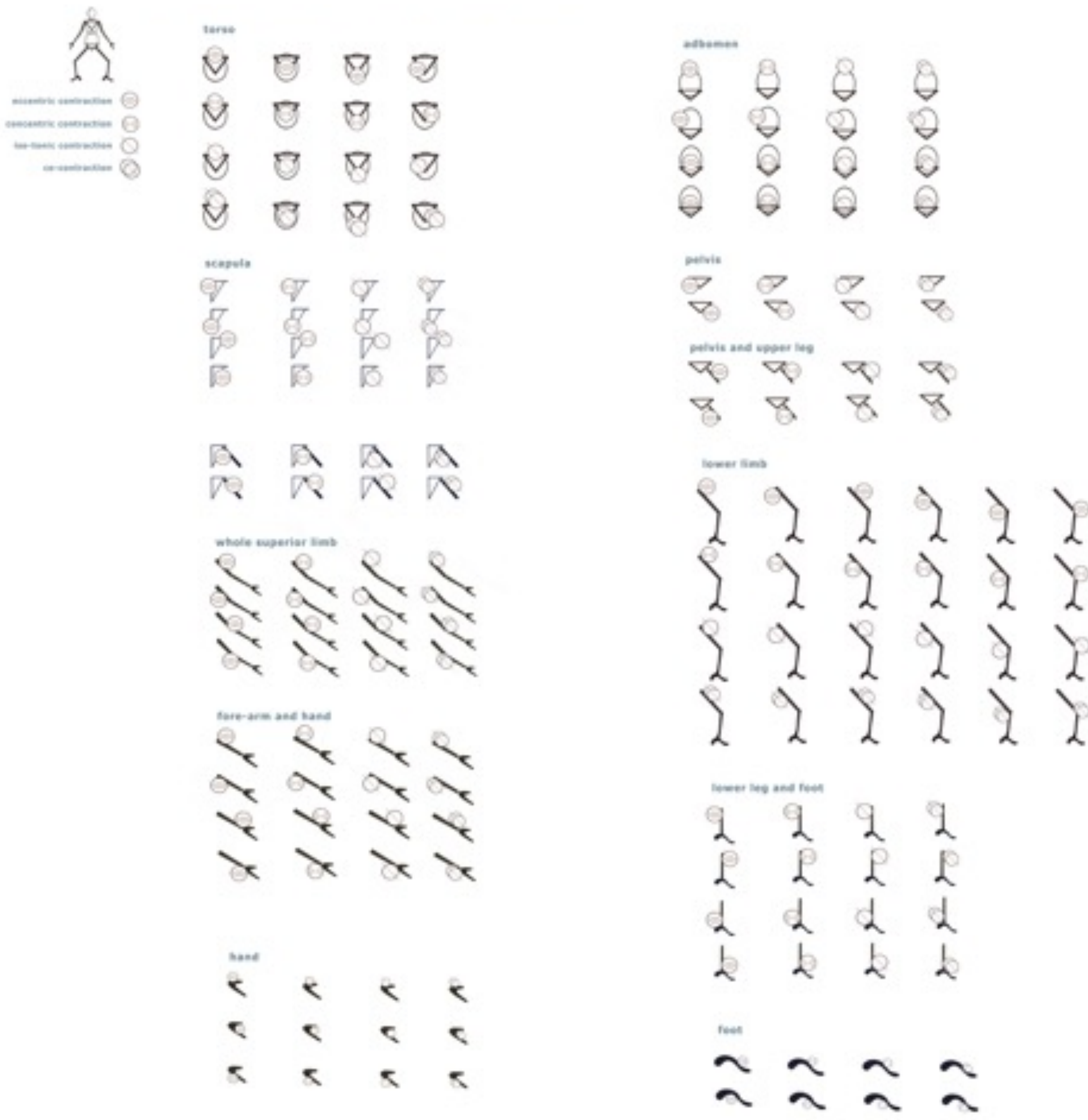
"Far" S-V, grappling with the palm. Assume flexed fingers. Here the "over-lines" can be used to indicate whether the elbow is fully flexed (no lines), half flexed (one line), or fully extended (two lines).When grappling with the thumb down or oriented away from the body, we can assume that the triceps are recruited, when the thumb is oriented towards the body or up, we can assume that the biceps are recruited.

Writing Exercise:

1. Make a score using only Sphere I and IV indicators:

2. Setting up two timelines stacked over each other, make a score for two people using only Sphere V indicators

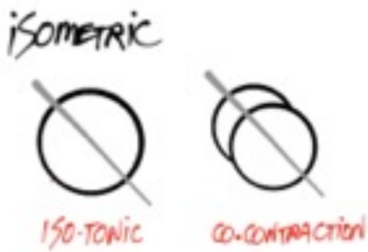
Muscular Contractions



The muscles offer a complex range of responses to various stimuli, and can also be recruited or relaxed voluntarily regardless of more or less automatic responses to environmental demand or structural suggestion. Specificity as to where and which kind of contraction is taking place allows a more detailed, causal understanding of how and why we can aggregate the BPs into larger objects, how we lose, gain, loosen or tighten tensegrity, or how we manage transitions among the activity spheres.

When a muscle elongates as it tries to shorten, this is called an ecentric contraction. Ecentric contractions occur when we decelerate or land from a jump or step, or when we gradually lower ourselves down from a grip, or lower an object to the floor, or as we lean out from a pole, or away from another person we are holding hands with, or as we catch a thrown object. Ecentric contractions, in our observation, are associated with automatic responses to changes in postural and environmental context.

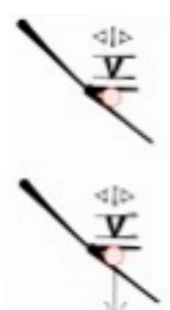
When a muscle shortens as it contracts, this is called a concentric contraction. Concentric contractions occur when we lift our limbs or objects with no preparatory swing, when we pull the pubic bone towards the sternum or coccyx towards the skull, or pull ourselves up towards a grapple, or towards an object.They also occur when we change direction suddenly.



Isometric contractions occur when a muscle contracts but doesn't change its length.There are two situations where they can occur. One is where we are pushing against an object but not changing our distance from it. In this case a group of muscles on one side of the limb in use will be recruited to counteract compression.This is called isotonic contraction.The second one which can occur as a willful contraction of both agonist and antagonist muscles.
This is called co-contraction.

Ecentric contractions (E-C) can be considered a default response that provides for buffered transitions among the various spheres, converting planes and axes, providing safe passage from one trajectory or posture to another. Potentially, an appropriate partnership between E-C and the other kinds of contractions can help us conserve energy, by allowing for graded ramps onto incoming surfaces, or surfaces we are approaching. Concentric contractions (C-C), isotonic contractions (IT-C) or co-contractions (Co-C) however, represent either ulterior managerial choices, or impositions on structurally suggested responses. We can indicate a specific status or status change through the use of these symbols.

Here both BP symbols represent far S-V, the right hand in elevation, fingers oriented sky-ward. Stacked together with the symbol for C-C, would mean that we are pulling the rest of the body towards the grapple point, gradually flexing the elbow. The first event description here has the thumb pointing away from the body, implying internal rotation of the radius and a focus on tricep to dorsal support accented muscle use.The second event description turns the thumb towards the body, implying external rotation of the radius and a focus on bicep to dorsal muscle use.

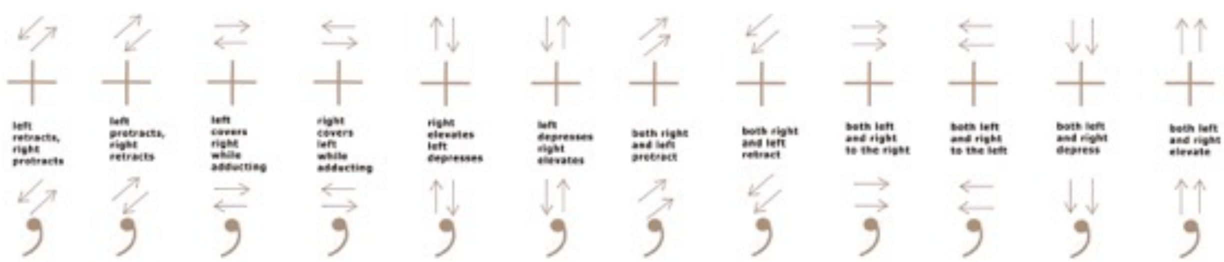


Here both BP symbols represent "close" S-V, right hand oriented horizontally.The first symbol would indicate the use of the hand as a grapple on a stable object or counterweight with the thumb away from the body, palmar surface towards the ground, therefore elbow rotated internally and in full flexion. It should be noted that full elbow flexion in this situation is more difficult when in traction. Since gravity always pulls us down, we only have options for S-V in the horizontal and from high to low, so this first symbol could be interpreted as having started near a transversely located grapple point and we are gradually leaning out and away. Since there are no vector arrows on the event node, we can assume that the location of the node is a fixed point, meaning that movement occurs in relation to that location.We could also assume that because the symbol indicates lateral rather than vertical traction, that we are using another support at ground level, i.e. feet, knees, buttock, etc. Context with other symbols will tell with more precision what ulterior support system is in use.The second symbol could also be read as a gradual leaning away from a grapple point, especially since there is no vector indicated on the node. If we add a vector arrow, as in the second variation of the second symbol here left, we could be lowering an object or a partner.

Here the co-contraction symbol overlays the right shoulder joint, implying that the angular relationship between the scapula and the upper arm will not change even if there are other movements involving these BPs. Using the co-contraction symbol insures a more specific understanding of aggregation, meaning we can know with more precision which BP are being combined into blocks, and understand approximately which muscles are being recruited.
Here the aggregated right leg is starting to be fully weighted on the plantar fore-foot, while the knee is held in stasis through an isotonic contraction, implying that the anterior thigh muscles are matching the pull of gravity. The forefoot LLP is informed by an S-arrow, in this case a full 360 degree clockwise turn around the VA and on the TP. A 360 degree pivot in this context will entrain the whole body into the spin, with many assumed compensatory movements.

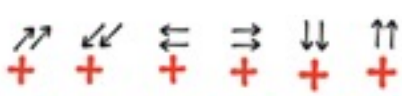
NOTATING SYMMETRY

MOVEMENTS REPRODUCED BY BOTH SIDES OF THE BODY IN THE SAME EVENT CONTEXT

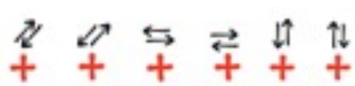


The plus-minus and arrow tool allows us to cut down on notation time, by indicating the various kinds of symmetry

Use of the other side of the body in the same process at the same time

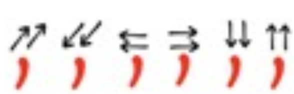


Use of the other side of the body in the same process in the same direction at the same time

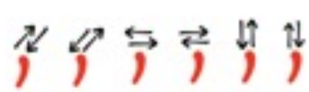


Use of the other side of the body in the same process but in the opposite direction at the same time

Use of the other side in the same process in alternating time. Also means “and then…” when placed to the right of a symbol.



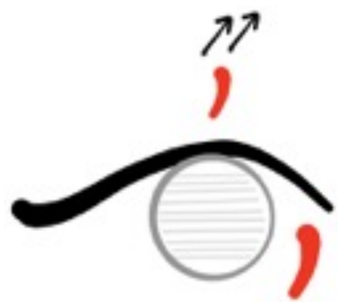
Use of the other side in the same process in alternating time, same direction

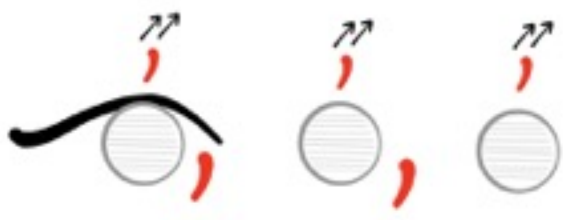


Use of the other side in the same process in alternating time, opposite direction

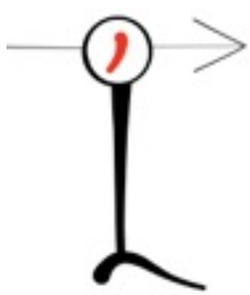
The plus/comma can be placed inside, above or below the event node, depending on whether you want or need to use the node for a kinesphere destination number, and commas after the node can be used to include further nodes as progressions of the initial event. The symbol to the left represents the whole plantar landing pads of both feet are being used as support at the same time.

Two steps starting with the left foot

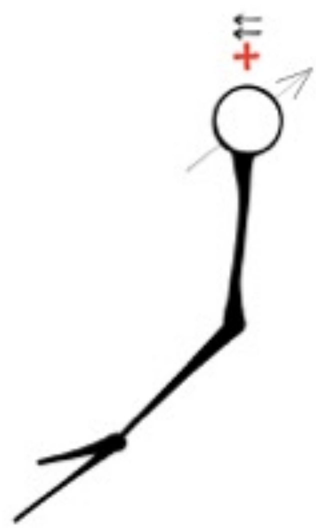




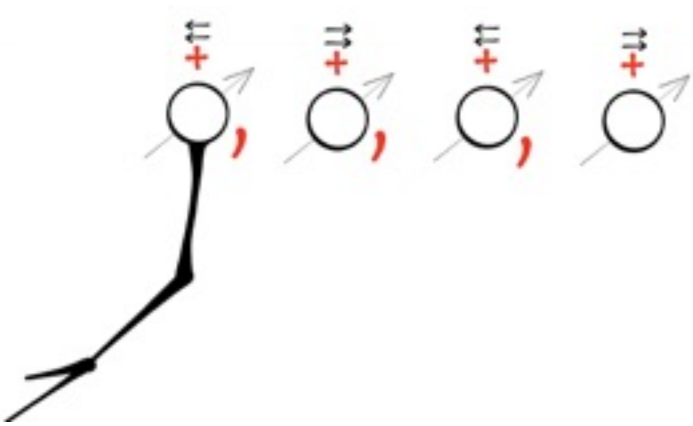
Six steps



First the right and then the left knee are distally extending



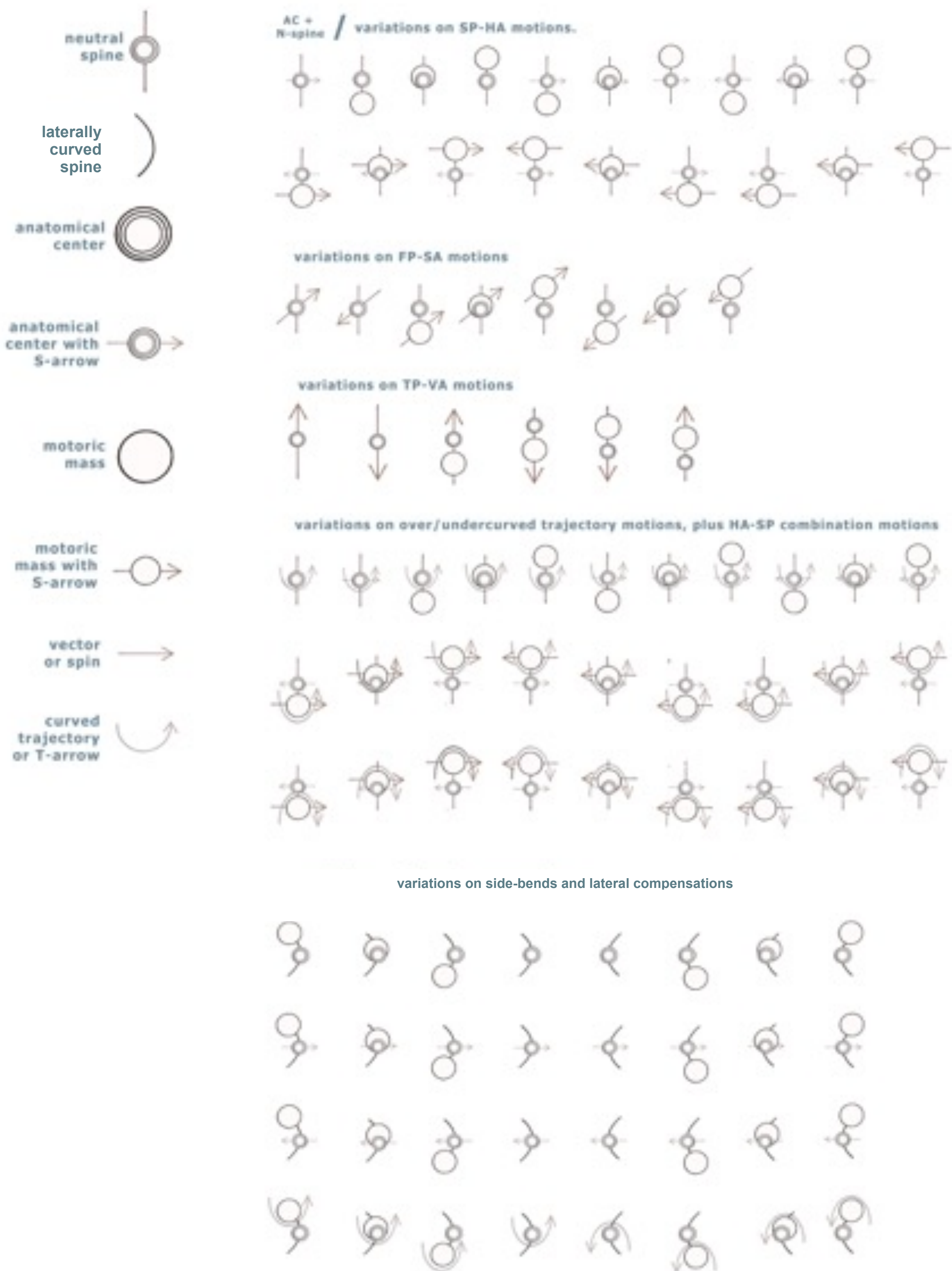
Both left and right arms are rotating distally from the shoulder joint around the sagittal axis, meaning that the right arm is adducting and the left is abducting.



Here the movement is reversing, and then repeating, meaning that both arms swing first to one side, then the other. The assumption is that the arms move on an anterior/inferior under curve to the trunk.The comma serves here to mean "after", or "the following".

SPINAL MECHANICS

compensations, undulations, lateral inclinations



The notation for the spine is one of the more potent and useful elements in the HMA, simplifying the record or description of a range of complex movements, from which a vast array of responses in the arms and legs can be deduced. The first aspect of spinal notation to define is the most proximal point. By defining this point we can describe what is happening where.

The HMA notation for the spine uses the symbol for the Anatomical Center, or the main mechanical or biological center of the human body is the area indicated by the solar plexus and the last four thoracic vertebrae, T-8 to T-12.This zone is where upper and lower extremities share myofascial connections, around which the organs are arrayed and also where the spine articulates with six degrees of freedom. Most locomotive spinal movements include side-bending (SB). The spine is side-bent when it is curved to one side, with the neck and head in counter rotation, and the lower and upper body in counter-rotation. When the SB arises through an initial, compensatory movement in one of the motoric masses, it is called a Lateral Compensation. Ultimately, LC's are a class of SB's. SB's or LC's can also be more dorsally flexed or extended, and then the are called either Lateral Flexions or Lateral Extensions.

Here we indicate a right side, lateral under-curve swing of the lower body. This results in the counter-rotation of the abdomen to the left, ultimately producing a side-bend to the right, or Lateral Compensation (LC).

Here we indicate a left side lateral, over-curve inclination of the upper body, resulting in the homo-lateral rotation of the upper body and ultimately an LC to the left.

Since its understood that and movement on the AC will effect the entire trunk, we can make a short form convention to describe an aggregate movement of the whole of the axial body from cranium to tail-bone. Therefore, this symbol represents the retroversion of the entire axial body, from pelvis to cranium. Retroversion is the term for a tilting motion that brings the upper part of a BP posteriorly, while bringing the lower part anteriorly. Anteversion brings the upper part forwards, and the lower part back. Both retro and anteversion of the axial body will be accompanied by compensatory flexions or extensions in peripheral areas depending on the nature of the sphere.

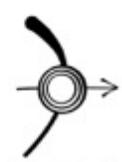
ante-version of the axial body:

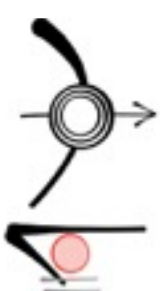
tilt to the right of the axial body:

tilt to the left of the axial body:

The neutral side bend (SB), can be indicated without additional V-arrows. This symbol to the left, for example, describes a neutral, left side SB.

Here to the right, we describe a left side SB that has added dorsal extension. Closed-chain use of the BPs for support tends to restrict the trunk in the half that is closest to the support. Therefore, if lower body support is indicated, the addition of an HA S-arrow will be assumed to include more movement in the upper body. Here we describe a left side SB that accentuates dorsal extension.



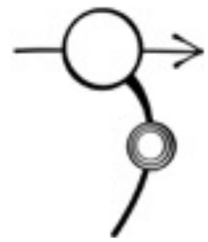


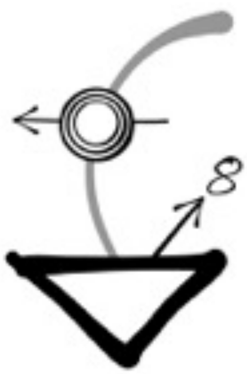
If upper body support is indicated, the horizontal axis Spin-arrow will be interpreted as including more movement in the lower body. For example, here we describe a developing, right hand supported high Sphere-IV, accompanied by a left side SB that accentuates lumbar extension. However, the right-side S-arrow will still indicate dorsal extension, while the left-side S-arrow will still indicate dorsal flexion.

NOTE: As demonstrated in this figure, the HMA allows you to stack event nodes over each other to represent events that happen simultaneously. The center of the node indicates the beginning of the event. Size indicates relative importance. Duration is indicated by either the interval between the one symbol and the next at the same height on the stack to the right, or by using the timing symbols (see pg. ?)

We can predict wether the spine will end up in flexion or extension by observing the direction the body parts take that begin compensations. We can use a large circle to be specific about which area of the axial body started the compensation. In this symbol to the left, the pelvis/abdomen anteverts, providing the initial energy for a left oriented LC that resolves in dorsiflexion.

Here we are indicating a head-neck initiated, left side, extension accented LC. Head/neck initiated LCs do not generally entail undulation, instead they are more often characterized by progressive re-composition of the spine through continuous, near-sequential folding.

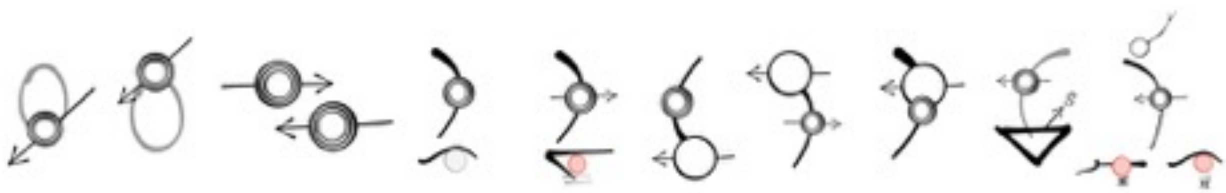




OTHER EXAMPLES
It is also useful to indicate the individual BP that began the process that resolved in that particular LC. This combination can provide quick short hand for very complex sequencing.

Here we describe how the pelvis began the right-side SB by being protracted towards 8:00 on the anterior FP. As the S-arrow indicates, the compensatory process results in dorsiflexion.

We could add on to this movement as follows:



Can you translate in words what is being described here?

Write out your translation… its a great exercise for provoking movement and body awareness!

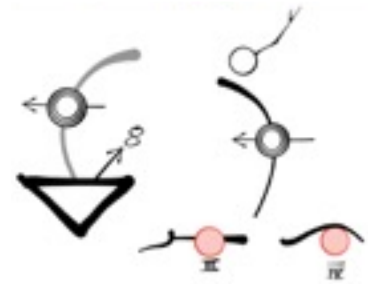
OR… make a recording of your translation and send it to me!

OR… make a video of your interpretation of this movement sequence and send it to me!

…. my email addy: portal1960@gmail.com

REMINDER: As listed in the defaults section on page three, if there is no previous symbol on the timeline, or there is no indication of support, Neutral Stance (NS) can be assumed as the context, unless the previous movement would not allow us to be in NS.

In this case, the first symbol has started from NS, followed by an entry into an S-III support situation on the right calf. Subsequently, a distal elevation of the right shoulder joint has begun the process resulting in a left oriented, dorsi-flexed LC. The axial body anteverts in undulatory sequence.The right arm is elevating above the 90 degree mark, implying shoulder axis flexion parameters. The shift in the spine precedes a change of weight to the left plantar foot taking us into high S-IV. Changing levels this abruptly implies near 90 degree anteversion of the trunk, and/or a near 90 degree, proximally driven flexion of both hips as the left knee extends and becomes weight-bearing. We can assume that these events accompany the change of support and sphere, so we don't need to write them out.

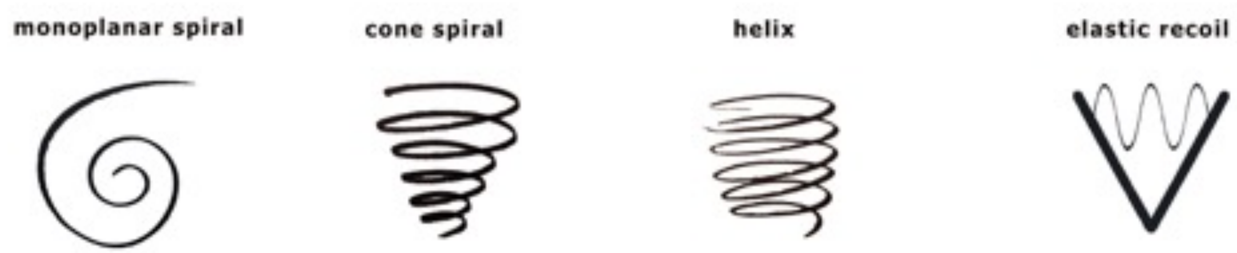


Writing **Exercise**:

Using LC and LP indicators, write an interpretable score. You can start stacking event nodes to represent events that happen at the same time:

Film yourself interpreting the score a few times, and then use as many indicators as you know so far to document your favorite one. Give your favorite interpretation to another HMA literate dancer to re-interpret.

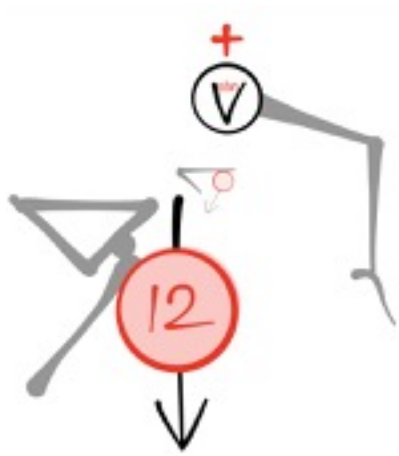
Processes and Complex Movements



These symbols allow short-hand descriptions of complex movements that involve most of the body. Many of the facilitative movements involved can be assumed to occur, and so need not be written out.

Elasticity is a term for the ability of an object to stretch and return, while plasticity describes the stress that deforms or even breaks an object. Recoil means: to coil after having uncoiled. Therefore, the symbol representing Elastic Recoil describes the physical principle of stretch and return. When moving in a human body, it is useful to include the pre-movements that are necessary to set up the body for recoiling in our understanding no description of this process. Let's go through the specifics of ER.

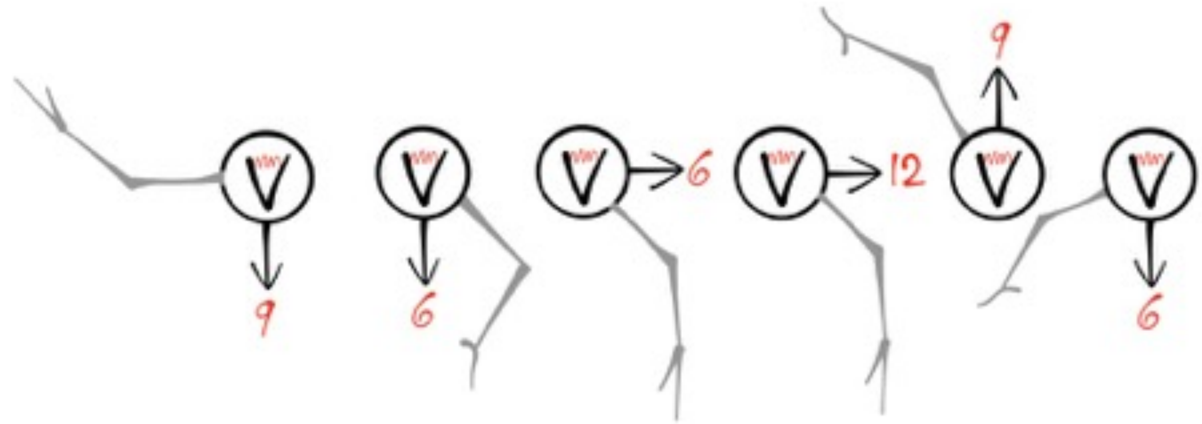
In order to recoil, we must first coil up. For example if we lift a bent leg while balancing on the other foot, we can now allow gravity to uncoil the leg from the hip, and then we can allow for the elastic return of the leg to a bent and raised position. The same process can apply in a turn. So, when we are using the recoil symbol, we can assume that the movements we are describing are pre-set by somewhat voluntary decisions, and then powered mainly by gravitational forces acting on specific materials: bone, muscle, nerve, organ and other kinds of fascia.



As in this example see to the left, we begin to balance on the right trochanter and will push off into a 360 degree, counter-clockwise turn. Using the trochanter for support forces us to use the legs transversely. As indicated by the ER symbol, the legs, which were drawn in towards the pelvis at the start of the turn, will be pulled out and around by centrifuge, and recoil back to a bent position. The right leg symbol is drawn from the hip to the foot, meaning that the recoil process was mostly distal to the pelvis, while the "plus" sign means that the left leg was involved in the same process at the same time. However, the ability to balance on the trochanter requires the asymmetrical disposition of the legs into receptive and propulsory postures, in this case the left hip more towards extension, and the right hip deeper into the flexion phase. The size of the event node circle indicating the 360 degree pivot on the trochanter can mean that this is the qualifying or most important event in the sequence, inside of, during or even because of which the other events take place.This code example does not include a description of the behavior of the spine, so we assume a priority side LC.The support point determines that the lower body is in a closed chain relationship, allowing us to assume that the upper body will move to establish the appropriate LC. There is also no indication of the activity of the arms, so we can assume that they behave in a manner that supports the conservation of energy for the turn. In other words, the arms can be assumed to behave in an asymmetrical manner that is consistent with walking mechanics.

As you see here in the short sequence above, the event node can be added onto in a few ways in order to augment its descriptive power. Inside, above and below the circle, and at the point or tail-ends of arrows. The only exception is the comma, but this borrowed symbol expresses a connection to what comes after with the same location or type the event. The HMA sublimates the integrated knowledge of the human body's likely responses to given conditions, and relies on the rigor of the user to have studied these probabilities.

Here is an interpretable score of ER events that only indicate the trigger activities and vectors.
Supports and subsequent responses can be interpreted, devised and/or assumed.

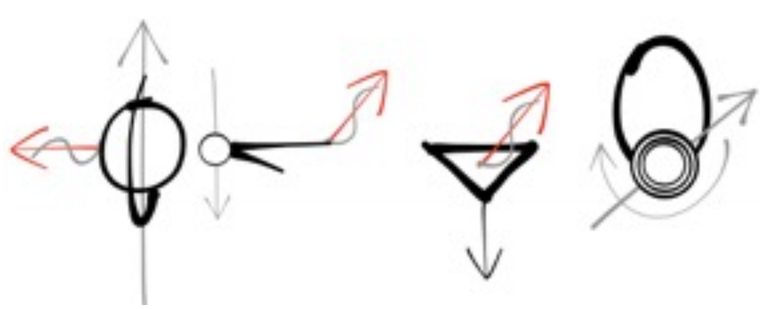


NOTE: *At this point, dear reader, you will have probably started to understand and feel comfortable with the logic of the HMA, what its scope and powers are, and how it is used. As long as minimal boundaries are observed for legibility's sake, there is a lot of room for creative arrangement or addition.*

Undulations are composed of two sequential compensations, which are mirror symmetrical in time. While code for spinal mechanics gives us the power to describe compensations with precision, if we use this code to describe undulations, it would be more time consuming than necessary, depending on the circumstances.We can now use the sine-wave symbol to give a general idea of the start and result of an undulation.

Vectored undulations, or wave-formed movements that move through space are easily indicated thus: The sine-wave symbol also indicates which side the wave started to, or whether it began moving up or down. Depending on where the undulations initiate, they will involve more or less of the body. Undulations that start at the center or in the lower body are termed digressive, and undulations that start in the head or hands are called progressive (Etienne Decroux). Here we indicate the beginning of a progressive, cranium-initiated,VA/FP oriented undulation that began to the left. Progressive undulations send Kinetic Energy back towards the feet, promoting forward motion, while digressive undulations send KE forwards towards the head, promoting retreating motion.

In the interpretable score below, we use the undulated vector as a theme.



TRANSLATION: The head rotates counter clockwise on the VA while moving left and undulating from the left ear, meaning that the cervical motion centers rotate more or less around the sagittal axis.The undulation starts inferiorly. The right hand, which is oriented palm down, rotates clockwise on the VA through the wrist while undulating from the fingertips anteriorly.The undulation starts inferiorly.The pelvis moves anteriorly and inferiorly while undulating from a middle point,implying HA rotations in the lumbar and hips, and flexion in the knees and ankles.The upper torso goes through a biaxial under curve swing starting right.

TO COME: TIMING, SURFACES, FORCES

Note to the reader:

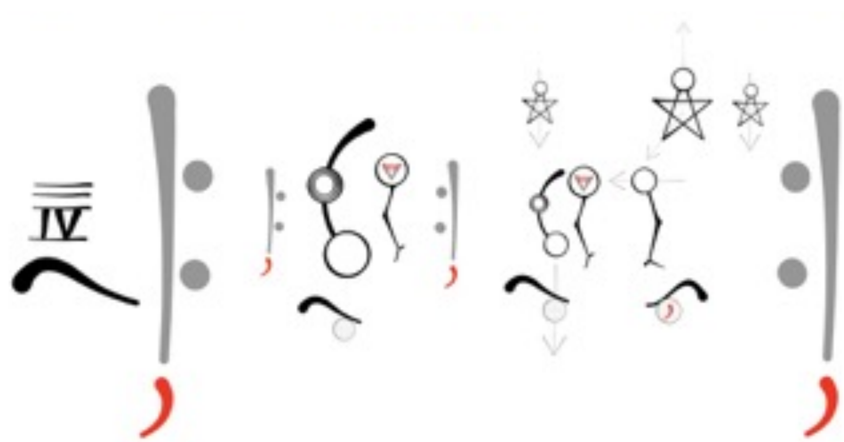
I am gradually working through the symbols set to provide a basic overview of rules and uses.

Please stay tuned for updates.

In the meantime, any comments on structure and format would be appreciated.

Your
Frey Faust

Phrase material from class, nomadic college at EarthDance, Northampton, Massachusetts, June 2015



Phrase in lower-limb-supported high sphere four:
Repeat symbol decorated with commas indicates that the material is alternately repeated using the other side of the body, so that the first passage: lateral compensation to the right while loading the right forefoot and releasing the left leg into a recoil from the hip repeats on the other side before returning to the right side, with the addition of an initial turn on the right foot, and a turning jump in the air from the left foot.