

A Note About Performance of Preparatory Exercises and Bartenieff Fundamentals

Obviously, you will not absorb or experience all the exercise factors on your first attempt. Go through the motions. Each time, you will add some awareness to the experience and eventually you will not need the book guidelines or the illustrations and anatomical drawings except as a check list. Take the time to explore your experience by trying to focus on different aspects with each repetition.

We frequently observe in teaching choreotics that beginning students, who have been taught body movement mainly by imitation with emphasis on body parts and muscular tension, have difficulty with spatial exploration, that is, spatial intent. This is manifested, for instance, when they are given a task such as reaching and exploring the areas around the body with the arms, particularly in back of the body. They may go into awkward contortions of flexions, extensions, adductions, exclaiming, "I cannot get there, I am stuck." Sometimes the teacher must manipulate the rotary element and direct the arm into a new direction so the student can find a releasing action into the back area. The amazement is always great when these "new" spatial options, usually the rotary elements, are experienced after the students had tried "so hard" with only muscle-joint focus (flexion-extension) without success.

The lower unit — so crucial to weight shift and centering the whole body at any moment — always affects the upper unit and vice versa. The basic exercises, therefore, always stress the diagonal connections between lower and upper units and the changing shapes of the whole spine from base of skull to coccyx in the sequences within progressions from low on the floor to walking through the hands and up.

What is important is to reawaken your awareness of muscles and joints that are not used, used inadequately or misused so that you can extend your movement possibilities in both energy and expressiveness.

Most of the six basic exercises on the floor are simple lifting and lowering, flexing and extending of limbs or segments of limbs or trunk. Concentration is on articulation and internal physiological changes. To get the "feel" of these functional actions, they are performed with minimum Effort and space — that is, primarily Effort Flow and Shape Flow changes. However, as the exercises become more complex, Effort and spatial shaping factors begin to crystallize and become increasingly important for adequate performance of the actions.

Preparatory Exercise A

Flexion-Extension; Abduction-Adduction; Internal-External Rotation

These muscle actions all have to do with changing the angles of joints, that is, diminishing or increasing angles. They are defined for every joint in the body in its own plane range. All movements of the legs and arms are combinations of joint movements offering wide ranges of movement possibility. The exercise below will help you experience their distinctions. Flexion-extension moves in the sagittal (forward-backward) plane; abduction-adduction moves in the vertical (frontal) plane going away from or toward the vertical midline; internal-external rotation moves in the horizontal plane.

- 1. Stand with arms hanging down in a neutral position.
- 2. Raise an arm forward and swing it backward. You are flexing at the shoulder and possibly the elbow when going forward and extending when going backward. The movement is in the sagittal plane and is controlled at the shoulder joint.
- 3. Swing your arm from side flat across your front to side. You are moving in the vertical cycle, again with shoulder joint control. Abducting at the side; adducting on the across.
- 4. From position No. 1, rotate the arm toward the body and away from the body. Watch the circle your hand is tracing in — a horizontal cycle around a vertical axis. The internal-external rotation range is the smallest of the three ranges in terms of its path in space, but not necessarily in terms of its contribution to movement at the joint.

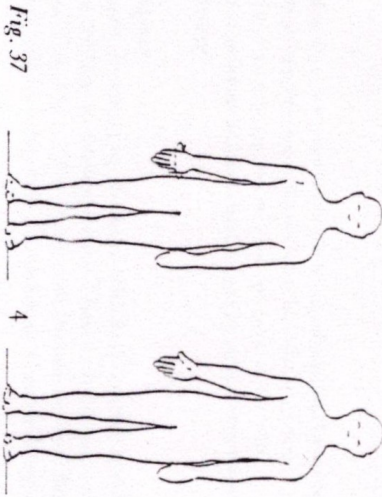
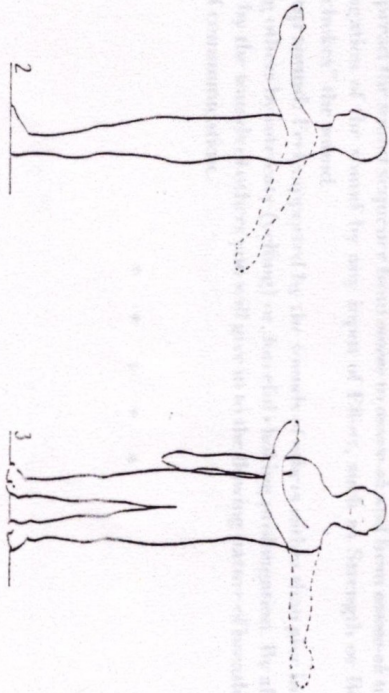


Fig. 37

Preparatory Exercise B BREATH

The Use of Vowels in Control of Breath (Inner Space)

Effort and Shape Flow has been discussed as part of a growing and shrinking process which accompanies the two phases of breathing: in (full, growing) and out (empty, shrinking). This growing-shrinking process—inwardly felt and outwardly visible—also heightens awareness of the center of the body around which the process revolves.

Movement rides on the flow of the breath. Frequently, students in their overconscientiousness about breathing or negation of breath will tend to hold the breath at one part of the phase—either on the “in” or the “out.” By doing this, they forego the many subtle inner shape changes in the cavities (mouth, chest, abdomen) of the body and fine gradations of changes that occur in different configurations of limbs, trunk, head. They also forego many subtleties in phrasing. “Taking a deep breath,” with focus only on the goal of fullness in inhaling inhibits movement if the total body process is neglected. Depth and rate of breath adapt in rhythmic spatial patterns according to the scope and intensity of our actions, emphasizing at one time the lower cavity, at another, upper cavities, or the whole “inner” space of both which also includes mouth and nose, where the stream of air entering and leaving is further shaped.

In the “in” and “out” phases, we experience greater convexity or concavity of the torso in different degrees toward extending or rounding—flexing of the trunk. These more or less subtle changes in the inner cavities—even when they are hardly visible outwardly—play a major part in maintaining and varying uprightness; they regulate changes in the musculature, and inflationary or deflationary inside pressures in the front and along the spine between pelvis and base of the skull.

Making sounds, when lying or sitting or standing, reinforces the awareness of the stream or breath supporting the straightening or rounding of the different segments of the spine in all positions and levels. A number of Hindu and Buddhist (particularly, Tantric Buddhist) meditation and inner concentration traditions involve inner and outer body shape changes by using definite vowels and sequences of vowels for support of different inner spaces—abdomen, chest, mouth. These sounds cause reverberations in different segments.

For example, starting at the lowest segment of the spine, the sound *oooooo*, as in “you,” maintains the deepest descension of the diaphragm, reverberating into the pelvis—lower abdomen (pubic region).

The sound *oh*, extended as in “oh,” reverberates around the navel and the corresponding segment of the spine.

The sound *aah*, extended as in “yoga,” reverberates around and opens up the lateral portions of the lower ribs.

The sound *eeh*, extended as at the very end of “say,” reverberates in the upper middle portion of the sternum and corresponding ribs without raising the shoulders.

The sound *iih*, extended as in “meeting,” reverberates at the base of the skull and in front of the throat unless a tight chin muscle prevents this.

The pitches have individual variations.

The sequence and frequency of practice of these breath vowel exercises should be varied according to the tension-relaxation state of the student. It is often desirable to start on the floor where the awareness of tension-relaxation of the lumbar spine and the abdomen can be most easily perceived. Starting with the *oooooo* and going to the *oh* and the *aah* may take quite a while and needs practice in conjunction with the lower unit exercises. You can then go to the *aah* for the lower ribs. Then practice the three sounds as a sequence *oooooo-oh-aah*, sitting on the floor in either lotus or the asymmetrical

sitting position with both knees to one side, practicing on either side.

The next step is practicing—first separately, then in sequence—the sound *eeh* and the sequence *oooooo-oh-aah-eeh*. Do the same for the sound *iih* separately and in the whole sequence *oooooo-oh-aah-eeh-iih*.

As you experience increasing ease in maintaining uprightness, with your head “floating” on the top of the noncompressed spine, the whole practice should then switch to only practice while sitting and, instead of making these sound sequences, concentrate silently on “shaping” each sound without making it audible.

Several other factors that should guide graded practice of these sequences are:

- 1. Initiating the sound:** When first practicing the sound *oooooo*, try to avoid localizing the production of the sound in your mouth and throat. That localization often arises from tensions in the upper neck, throat muscles, upper shoulders and, especially, the chin “pushing” downward. Instead of forcing the initiation of the sound from such localized areas, start with a gentle humming of “m-in-m-m” and gradually let it slide into a *oooooo*, evoking the image of the inside of a bell.
- 2. Maintaining the sound:** Here, again, do not force. With the *oooooo*, imagine your whole inner space as the inside of a resounding bell, letting the sound travel from the bottom of the spine upward—unhindered and unforced—as a process of flowing, shaping of the lowest, deepest part of your inner space. Essentially, you open yourself to the flow of sound—breath through that image of inner shaping of the inside of a bell, allowing this shape to spread in all three dimensions. You can then spread the sound sequence from *oooooo* to *oooooo-oh* and from *oooooo-oh* to *aah*. Do not force the prolongation of the sound by any input of Effort, such as Strength or Bound Flow which actually “chokes” the sound.
- 3. In group sound:** Feel supported by the sounds of others rather than give in to the temptation of outdoing others by intensity (yelling) or, for effort, choking prolongation. By allowing yourself to be carried by the sounds of others you will give in to the flowing nature of breath—sound and share a feeling of communication.

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Preparatory Exercise C ROCK AND ROLL

Purpose

To introduce with a rhythmic foot movement (up and down flexion and extension from the ankle), the connections to the tilting forward and backward of the pelvis*: a) the connection of the pelvic area to the heel (grounding), and b) the connection of the two main muscles regulating flexion and extension actions (the iliopsoas in flexion from the groin, and the hamstrings in extension from the sit bones, ischium).

Action

Lie flat on the floor, legs and arms extended, the arms resting at the side of the body. Bend your feet downward toward the floor initiating from the ankle, which retracts the heels and tilts the pelvis slightly forward (iliopsoas action). Reverse the action from the ankle to bring the feet up. This stretches the heels and tilts the pelvis slightly backward (hamstring action). Repeat the two foot actions which reverberate into the pelvic area and produce a rhythmic rocking of pelvis and feet.

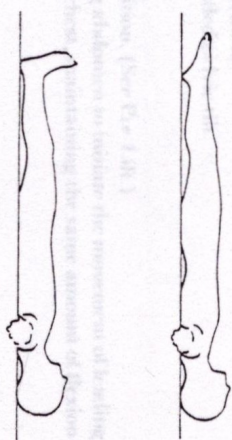


Fig. 38

Experience

It is important that the foot movement is always initiated from the ankle, not the toes, and that no tension occurs in lumbar extensor muscles and surface abdominals, particularly the rectus abdominis. Otherwise the connection between heel and pelvic floor cannot be experienced. The hamstrings and iliopsoas actions are always relating to each other. As one is active, the other becomes passive and vice versa. It is as if they play with each other.

Function

The complex interaction of these areas in all lower unit movements will be clarified through the description of the six basic exercises and is involved at some level in all movements.

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* *Tilt forward has the lower pelvic floor forward, tilt backward has the lower pelvic floor back.*

Exercise No. 1A THIGH LIFT: Pre-Lift

Purpose

To raise the thigh with maximum efficiency, i.e., using iliopsoas muscle, without using extraneous muscles. The iliopsoas is the key to pure hip movement. To become aware of "pure" joint and segmental movement.

Action

Lie on your back, legs extended, arms to the side and palms on the floor. Breathe. On the exhalation, let the abdomen become empty and hollow as you simultaneously slide the heel to bring the knee up. Heel aims exactly towards the ischium. Whole foot is now in contact with the floor. Rest. Leading with heel, slide the leg out to the starting position. Rest. Repeat with other leg. Then alternate.

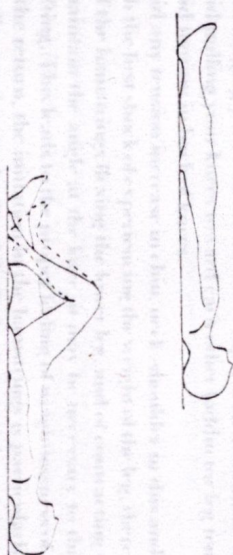


Fig. 39

Experience

From start of action, feel continuous folding of inguinal area in front. Feel continuous lengthening of lower back by relaxing lumbar muscles, so lower back sinks into floor. Continuous heel to ischium to sacrum-coccyx connection. On return, feel ischium to heel connection by activating hamstrings from the ischium, not from the knee-lower leg.

Effort and Space

The two phases of pulling up the knee with heel contact and lowering it toward the floor require no more than folding-unfolding Shape Flow and fluctuations in Free/Bound Effort Flow. In the pulling up, Free Flow Effort increases slightly toward Bound; in lowering, the Flow increases toward Free and ends Neutral. No stress on Time or Weight or Space Effort elements.

Notes

Avoid tension around the sternum (chest bone) and inside of thighs. If you have tension on inside of thigh, it is because you are tending to adduct (pulling leg toward midline of body) and have thus lost the straight aim of the heel toward ischium.

As you slide leg up, don't bulge the abdomen (i.e., keep abdomen hollow). If you are bulging the abdomen, it is because you are overusing the superficial abdominals.

Don't shorten the lower back by contracting or "holding" the lumbar muscles in contraction.

Function

Initiation for walking and leg raising.

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Exercise No. 1B

THIGH LIFT: Lift

Purpose

To raise the thigh through iliopsoas initiation and deep folding of the inguinal area which causes a "pure" thigh flexion movement.

To become aware of the graded pelvic tilt.

Action

Lie back in "knees-up" position. (See Pre-Lift.)

Exhale and begin hollowing abdomen to initiate the movement of leading with the top of the knee to lift the thigh toward the chest, maintaining the same amount of flexion in the knee.

Return to starting position.



Fig. 39

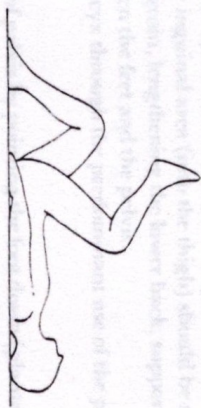


Fig. 40

Experience

As pelvis starts moving with the anterior superior spine going into a backward arc, a deep fold occurs in the inguinal area. Lumbar extensor muscles begin to lengthen (i.e., tension diminishes in them).

The gluteal extensor muscles (buttock muscles) gradually relax so the whole sacrum settles on floor. This allows the iliopsoas to function. This whole process will be experienced as changing tensions around the big trochanters.

On return, feel the action initiating from around the ischium (by the hamstrings), and the reversal of the angle of the inguinal region — both supported by coccyx and lower sacrum.

Anchoring the rest of the body occurs in the opposite leg from ischium to heel and in the utmost with across the back and front of the chest.

Weight of upper body is cradled by the scapula.

Effort and Space

The same is true in 1B as in 1A. Essentially slight Shape Flow. Effort Flow changes occur in the hip-knee segment to the chest in phase one. In phase two, lowering the thigh and bringing the foot to the exact place on the floor introduces a short lived use of Space Effort, slightly Bound Flow with Directness.

Notes

Avoid bulging your abdomen (excess superficial abdominal tension).

Avoid pulling your knees toward each other (adductor leg tension).

Avoid tension in back of knees.

Avoid any tension increase in chin, neck, shoulder in this and following exercises.

With the first shock of experiencing the weight of the leg, there is a tendency to brace it by contraction of the hamstrings flexing the lower leg, and of contracting the lumbar muscles. To avoid this and maintain the angle at the knee, it may be necessary to think of the lower part of the leg slightly lifting. This leads to the proper feeling of weightlessness of the leg.

On the return, the initiation in the hamstrings is particularly important to maintain the weightless feeling on the way back, while the heel aims at the original starting place.

Function

For creeping, walking, running and marching, and climbing stairs.

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Exercise No. 2

PELVIC FORWARD SHIFT

Purpose

To mobilize the weight by means of pelvic shift and use of the pelvic floor.
To prepare for forward and backward weight transference and level change.

Action

Lie on back in "knees up" position, hands and arms comfortably at sides.
Exhale and hollow abdomen to initiate following action.

Preparatory rock and roll.

Raise pelvis and shift the center of weight forward toward the feet and up in the air, so that you seem to be standing on your feet.

Reverse the movement.



Fig. 41



Experience

Feel the front of the hip area opening (inguinal area flattens) by pressing into heels and supporting the movement from the coccyx and hamstrings. The space between the anterior superior spine and about an inch below the inguinal area (into the thigh) should be straight throughout the lift.

On reversal, sink into the groin, lengthening the lower back, supported by the coccyx.

Feel the connection between the feet and the pelvis.

Feel the support of the coccyx through the predominant use of the pelvic floor.

Effort and Space

Preparatory rock and roll of pelvis by pointing the foot down (plantar flexion) and alternating it with raising the foot by a stretch from the heel (dorsiflexion) is accompanied by Effort Flow changes:
Free to Bound in both cases.

Raising the pelvis and opening the inguinal area elicits spatial intent: aiming forward and up in the raising and some Weight Effort (reduced Strength) and some Time Effort (reduced Suddenness).

The lowering of the pelvis in the second phase is done with Shape Flow (folding) and Free Effort Flow going into Neutral (near passivity) in reaching the floor.

Notes

Avoid using arms and hands as support.
Avoid overuse of buttock muscles. It is an indication of insufficient coccyx support and bypassing of pelvic floor muscle use.

Function

To prepare for standing from sitting or lying.

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Exercise No. 3

PELVIC LATERAL SHIFT

Purpose

To shift the weight laterally without any twist, by using the area of lowest components of the pelvic-hip action. The latter is known as the "pelvic floor" (roughly between pubic bones, ischium and coccyx).

To establish the predominance of the pelvic floor muscles in lateral weight shifts and the fusion of the pelvic floor muscles with extensors of the hip in forward weight shifts in forward progression.

To establish the predominance of the pelvic floor muscles as rotators (internal and external) of the thigh—legs with abduction and adduction of the thigh—legs.

Action

Lie on back in "knees up" position.

Exhale and hollow abdomen to initiate the following action.

After preparatory rock and roll, let it take you into slightly lifting the pelvis, initiating with support from coccyx.

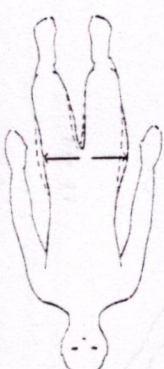
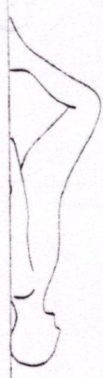
Shift pelvis to right on an absolutely straight path and gently lower into floor.

Rest a moment.

Left pelvis is again initiating with support from the coccyx.

Shift it back to midline and lower into sacrum onto floor which brings you back to starting position.

Repeat to the other side.



VIEW FROM ABOVE

Fig. 42

Experience

The exhalation will carry you through the whole movement until the rest, when you inhale. On lift, lead with coccyx while lengthening back. On the shift, experience the shifting tensions from above and below the trochanters on a straight right-left axis, that is, without hiking the hip up. The big trochanters are the axes for the shift. Maintain the support from the coccyx and ischium (hamstrings). What is experienced as movement of the pelvic floor is probably a complex interplay of abductor and adductor muscles with the hamstrings, parts of iliopsoas, and the posterior external rotators. This experience cannot be finely detailed in the use of individual muscles. Even electromyography has not yet made explicit differentiations. Therefore, it is especially important to localize the bony landmarks as guides to the activity.

Effort and Space

Just a Shape Flow. Effort Flow action with slight folding-unfolding of the pelvis through flexion of the feet in both directions with fluctuations of either Free or Bound Flow. The slight lift of the pelvis is a Shape Flow unfolding lifting of the pelvis with no spatial intent. In the shift from side to side, clear spatial intent causes the directional, one-dimensional displacement of the pelvis initiated from the greater trochanter. This is accompanied by Effort Flow fluctuations and reduced Strength. Lowering the pelvis at the side is a Shape Flow folding action with Effort Flow going from Free/Bound to Neutral Flow with readiness for change. Lifting again and shifting as earlier with the corresponding directional path has the same accompanying Effort Flow changes.

Notes

The horizontal axis should only be felt through the greater trochanters. If the axis is felt above the upper rim of the pelvis, you are bypassing the pelvic floor muscles and the hip abductors. Avoid initiating the movement from anything above the pelvic rim. The most common error is hiking the hip (with the quadratus lumborum, a pelvic abductor), which causes a slight twist at the waist as a substitute for the pure lateral shift along the horizontal axis of the greater trochanters. Avoid all unnecessary upper body and leg tension.

Function

In normal walking: for the fusion of lateral weight shift and forward progression, and for steering it by the rotary element of the legs. In side stepping: lateral weight shift.

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Exercise No. 4
BODY HALF (VERTICAL)

Purpose

To become aware of the vertical midline of the body which separates right and left sides. Simultaneous use of right (or left) arm and leg in vertical plane. Preparation for right-left asymmetry. Preparation for alternating use of right and left sides of whole body.

Action

Lie on back in "X" position. Exhale as you lead simultaneously with the right elbow and right knee drawing toward each other on the floor, shortening right side of trunk as in a side bend. Head tilts to side. Reverse the action by retracting the original path, leading with the fingers and toes. Repeat exercise on the left.

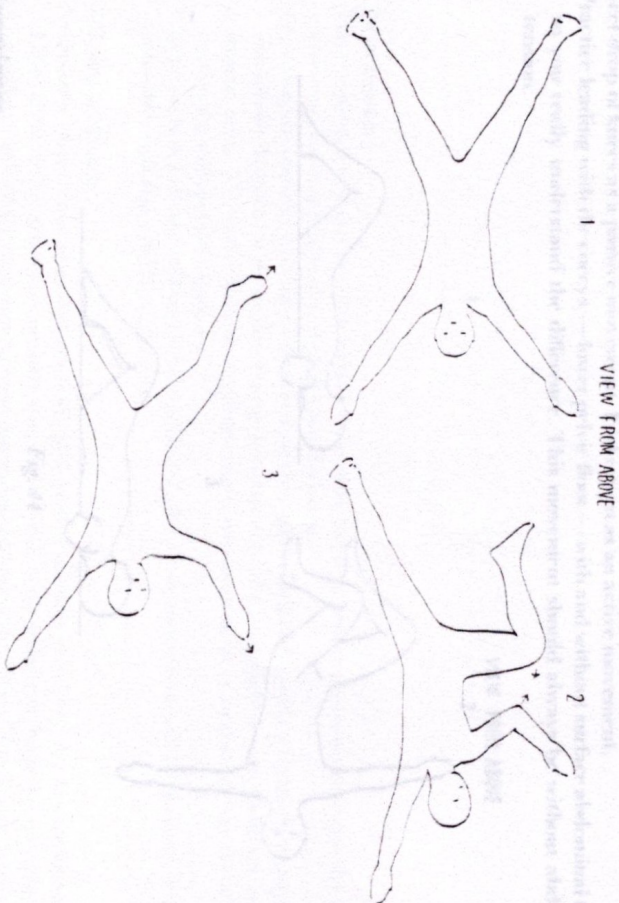


Fig. 43

Experience
Changes in four areas of support.
The continuing connection from knees to torso.
Shifting feet. Feet diagonal path of the right hip and the left shoulder.
Shifting exhalation inhalation, feel the arching of torso over lumbar, head connection to prepare for reversal of action.
Returning feet the whole back lengthening with every section as you sink into ground (grounded weight).

Experience

Feel vertical midline of the body. Stay as flat as possible, in the vertical plane with minimal twisting. The flatness is more important than the degree of the side bend. The flatter you are the more you activate the pure side movement without deviating forward or back.

Upper body and lower body activate simultaneously as they swing to the side to facilitate getting elbow and knee together with maximal lateral flatness.

Opposite side is anchored by slightly rotating the proximal joints (hip) outward (external).

Reversal feels like opening the space as the upper and lower parts of body go away from each other, spreading and lengthening.

When the effort is made to confine a movement so absolutely strictly to one plane, the movement expresses an unnatural quality because it is inherent in human body movement to function in two or three dimensions, not one.

People easily distinguish upper and lower initiation. However, they have much less awareness of the midline division of the body separating one side from the other. Therefore, they cannot easily distinguish right (upper-lower) initiation from left (upper-lower) initiation.

In this exercise, it is not so important that you fulfill each part to its utmost as that you have a clear sense, during the process, about which side of your body is operating. For example, although you may have trouble staying altogether flat on the floor, you should stay as flat as possible so your focus is on the side contraction which will prevent your getting into the sagittal plane.

Effort and Space

The flatness of the body and the precision of the simultaneous use of head, right upper and right lower body depends on the clarity of the spatial intent with which elbow goes downward and knee goes upward alongside the body in an Effort Flow pattern of increased Boundness (avoiding use of Strength Effort).

In the reversal, the spatial intent of the fingers is upward and the spatial intent of the foot is downward to restore the original position on the floor. Effort Flow becomes increasingly free ending in almost Neutral as body reassumes starting position.

Notes

Do not initiate by central contraction; initiation is simultaneous from elbows and knees.

Avoid letting either the arm or leg lead. Upper and lower should move together.

Be sure to keep in the vertical plane; avoid letting the leg deviate toward forward or backward. Try to maintain contact with the floor in thigh and leg.

Function

Preparation for:

First walking patterns of the young child.

Vertical turning, as in ballet.

Chain turns or barrel turns in acrobatics or log rolling.

Passé and side bending dance movements.

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**Exercise No. 5A
KNEE DROP**

Purpose

To establish a clear twist of the lower unit against the upper unit

To establish the predominance (unilateral use) of pelvic floor (rotators) with abduction and adduction.

To establish heel to coccyx connection.

Action

Lie on back in "knees up" position, arms out to side, palms down, with feet in full contact with floor.

Feet are in line with ischia

Feet tilt to right side, changing support to outer rim of right foot and heel and inner rim of left foot and heel as knees lower to same side.

Rest a moment.

Exhale, hollowing the abdomen. Leading with coccyx, return knees to starting position, and regain stance of the feet.

Feel drop of knees as a passive movement. Feel return as an active movement.

Practice leading with the coccyx — lower pelvic floor — with and without surface abdominal tension so you really understand the difference. This movement should always be without abdominal tension.

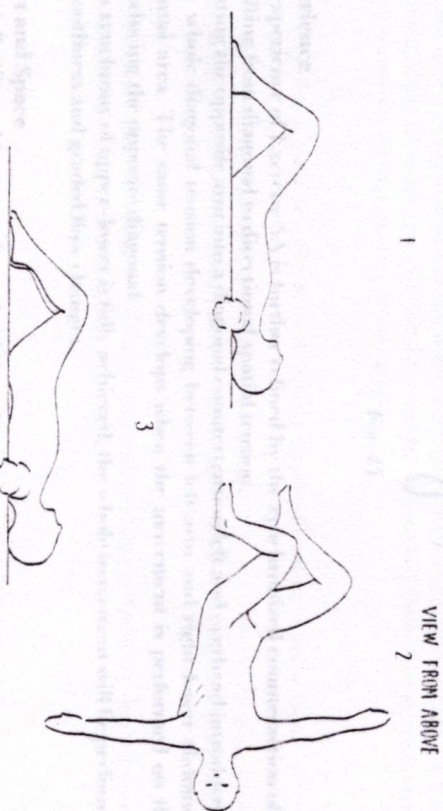


Fig. 44

Experience

Changes in foot area of support.

The continuing connection from knees to ischium during the knee drop.

During rest, feel diagonal pull of the right hip and the left shoulder.

During exhalation—hollowing, feel the activation of coccyx—trochanter-heel connection to prepare for reversal of action.

Returning, feel the whole back lengthening with coccyx—sacrum as you sink into groin (inguinal region).

Effort and Space

The dropping of the thighs—lower legs, initiated from the knees, is essentially a Shape Flow action in which the right thigh unfolds (out) and the left folds (in). Effort Flow becomes increasingly Free and finally Neutral as the weight of the thighs becomes "heavy."

Reversal of action: The thighs reverse then Shape Flow action, returning to starting position. Effort elements are minimized because the main attention is on the succession of body parts.

The diagonal pull between right hip and left shoulder described here is at first experienced more in its contralateral body limb relationship than as a spatial pull, though it prepares for more complex spatial and Effort combinations.

Notes

Avoid abdominal tension.

Avoid increased tension in tensor fascia lata and front of thigh, i.e., around anterior superior spine.

In the reversal of the action, the initiation from sacrum–coccyx is crucial. Initiation from knee and front of thigh (right rectus femoris and sartorius) prevents the proper function of the iliopsoas and the interplay of right and left greater trochanters and of right and left hamstrings from the ischia.

With such *improper* input, there would be a disturbance of walking patterns; for instance, the lower leg would initiate thrust forward, leading the walk.

When feet return to starting position, be sure it is a result of pelvic–heel action.

Function

Preparation for contralateral use of limbs in normal walking.

Preparation for twisting and spiraling.

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Exercise No. 5B

ALTERNATING KNEE DROP AND ARMS

Purpose

To further emphasize the diagonal that occurs in 5A.

To establish awareness of the arm relationship to the knee drop by practicing drops to alternate sides.

Action

Lie on back in "knees up" position with feet in full contact with the floor as in Exercise 5A. The arms are spread horizontally with palms down and with full support on both scapulae.

On the first knee drop to the right, allow its effect to spread into the left shoulder, extending arm up overhead and to the left, as a diagonal counterpull to the right lower body. The right arm stays straight spread to the right.

As you start changing the knee drop to the left, first pull the knees up to center with support from sacrum–coccyx as you simultaneously begin to move the left arm toward the straight side—left and the right arm toward the diagonal high–right, leading with the finger tips.

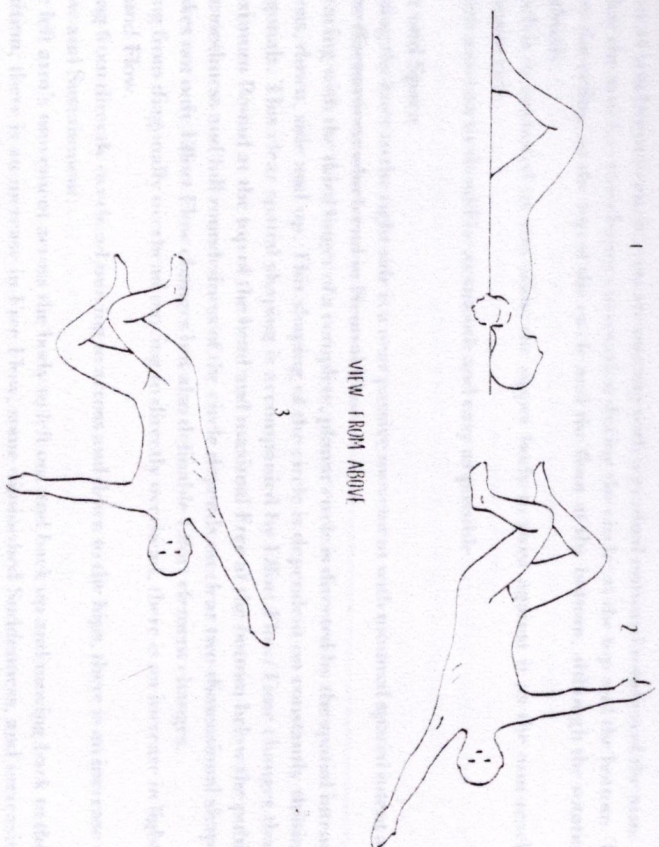


Fig. 45

Experience

The experience of Exercise 5A is further refined by the synchronized counteraction of the two arms shifting from diagonal to directional spatial tension.

Adjusting the opposite arm into a diagonal counter-tension left and overhead introduces awareness of the whole diagonal tension developing between left arm and right lower abdomen and pelvic frontal area. The same tension develops when the movement is performed on the other side, producing the opposite diagonal.

When synchrony of upper–lower is fully achieved, the whole movement will be performed with great smoothness and graded flow changes.

Effort and Space

Essentially Shape Flow (one through folding, the other unfolding) in *lower body* with fluctuations of Effort Flow. Effort Flow increasingly Free to Neutral, while weight of thighs becomes heavy.

A peripheral spatial tension from the arm movement balances the Effort Flow and heaviness of body weight. There is minimal use of other Effort elements.

Function

See Exercise No. 5A.

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Exercise No. 6A ARM CIRCLES

Purpose

To establish scapulo-humeral rhythm of arm-shoulder-scapula and the control of rotation (internal and external) in the arms from shoulder joint.
To establish a clear diagonal connection between the right upper and left lower or between left upper and right lower parts of the body (obliques of the abdomen in the front, and the latissimus in the back) for contralaterality.

Action

Lie on back in "knees up" position, arms horizontally spread.
Do the knee drop to the right and rest.
Allow the left arm to extend itself into the diagonal caused by the oblique pull from the right hip.
Left arm, palm up, moves in a large counter-clockwise circle, i.e., overhead and around.
Allow the eyes to follow the hand, with a slight head movement.
When hand has returned to starting position, rest.
Reverse the direction of the circling.
Rest.
Use the "knee drop" exercise in 5B as a transition to repeat exercise on other side.
If you hold a piece of chalk, it will draw a circle on the floor and over your two hips.

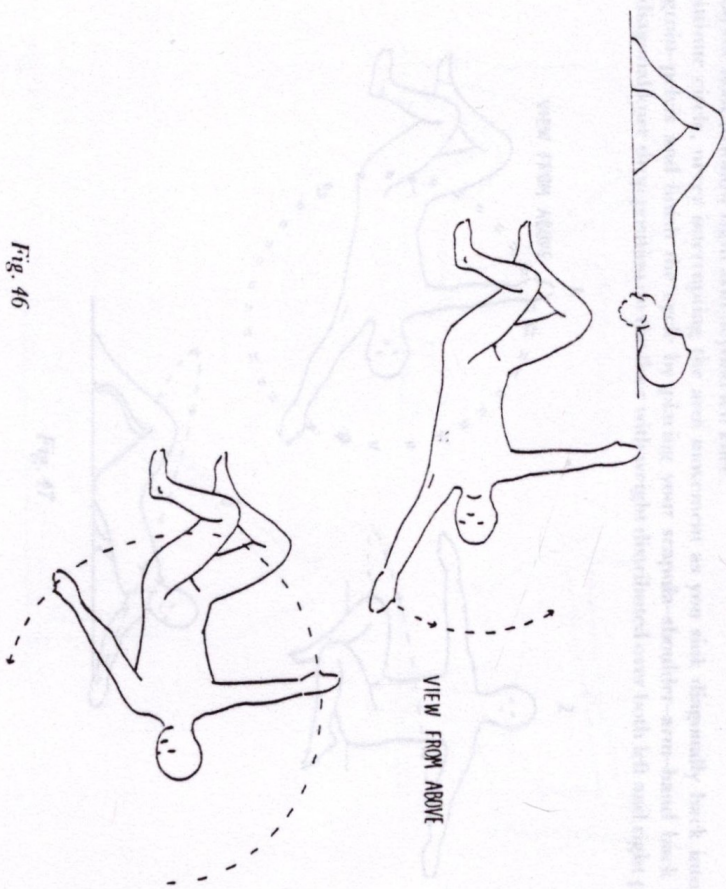


Fig. 46

Experience

As soon as you begin to circle, you are moving with a gradual outward rotation of the arm. Feel that the arm has two changes in rotation during the circle: at the top and the bottom. The palm faces the ceiling at the top of the circle and the floor at the bottom, although the rotation occurs gradually.

The pelvis is anchored as you allow the upper body to twist against it as the arm reaches to its opposite side.

The arm movement should be as smooth and easy as possible.

Effort and Space

Dropping the knee to the right side is a near passive movement with minimal spatial intent and Effort Flow fluctuations which end in Neutral Flow.

The tracing with the third finger of a complete, planar circle is directed by the spatial intent of going across, down, side and up. This shaping of the circle is dependent on constantly shifting spatial diagonals. This clear spiral shaping is accompanied by Effort Flow/Time changes that reach a maximum Bound at the top of the head and maximal Free at the bottom below the pubic region. The smoothness and full roundness of the circle depends on clear two-dimensional shaping. This evokes not only Effort Flow changes but also definable Effort element changes.

Starting from diagonally overhead moving to directly overhead, there is an increase in lightness and Bound Flow.

Starting from directly overhead moving to across and down to the hips, there is an increase in Bound Flow and Sustainment.

In the left arm's movement across the body to left out and back up and moving back to the starting position, there is an increase in Free Flow, some diminished Suddenness, and increasing Light/Sustainment in the last quarter of the cycle.

Notes

To avoid a jerky or sudden rotation, make sure to grade the rotation in the arm.

Do not lock the elbow.

Do not let the circle be lopsided or otherwise irregular.

Do not confine your attention to the shoulder-joint body action at the expense of the spatial shaping.

Function

Preparation for large circular movements of the arms and upper body for shaping motions in work, manipulation of tools or in expressive movement.

* * * * *

Exercise No. 6B DIAGONAL SITUP

Purpose

Same purpose as 6A plus its extension into using the momentum of 6A lift into a situp, taking the body weight into space.
To initiate from upper body with support from lower.

Action

Lie on back in "knees up" position, arms horizontally spread, palms down.
Do the knee drop to the right and rest.

Allow the left arm to extend itself into the diagonal caused by the oblique pull from the right hip.

Left arm, palm facing the ceiling, moves in a large counter-clockwise circle, i.e., overhead and around.

Allow the eyes to follow the hand, with a slight head movement.

When hand has returned to starting position, rest.

Reverse the direction of the circling.

Rest.

Use the "knee drop" exercise as a transition to repeat exercise on other side, starting with right arm which will have to go clockwise to go overhead and around.

Repeat circle, with gradual energy increase in reaching toward left knee until it gets you into a full sweeping trunk-arm circle that brings you into a twisted sitting position with the right hip slightly off the floor to follow right arm beyond left knee.

Continue circle, never interrupting the arm movement as you sink diagonally back into the left groin-pelvis and finish the cycle by placing your scapula-shoulder-arm-hand back into the diagonal knee drop position on the floor with weight distributed over both left and right pelvis.

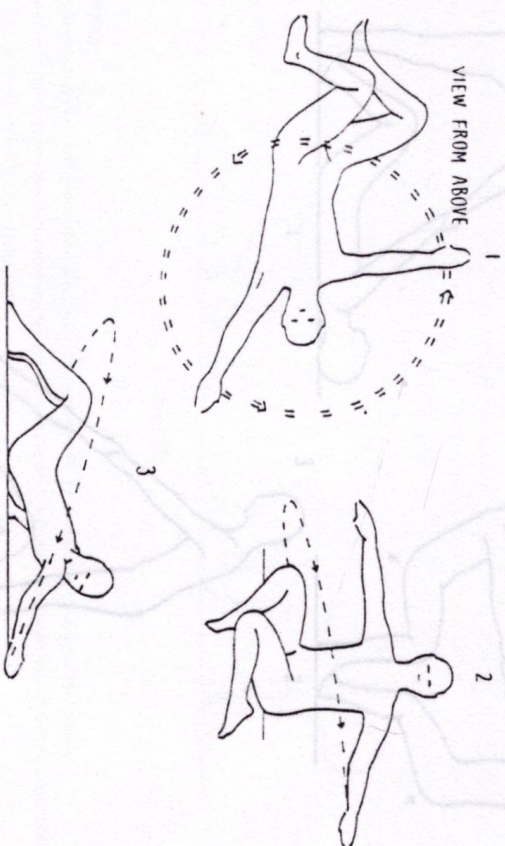


Fig. 47

Experience

As in Exercise No. 6A, watch carefully the changes in arm rotation which occur at top and bottom of circle.

Grade it carefully.

Watch the sweep of your circle, letting your head accompany the circle motion.

Experience the increasing drive of the circular arm sweeping, causing a shift of the weight in the lower body from right to left, which actually gets you up into sitting.

Finishing the circle lying down is again experienced as a smooth shift of weight in the lower body from left to right, spreading into the pelvis-lower back-thoracic spine-scapular arm.

Effort and Space

See previous exercise.

As you increase the sweep of the circle by enlarging the range of the spatial form including the whole upper body, Strength and Suddenness appear as accents: maximum Strength/Suddenness appearing when the arm-body sweeps across and when the arm is overhead reaching its maximum openness. When you do the whole circle, you will sit up at the maximal point of openness and lie down as you open into widening. Lying down is then accompanied by decrease in Effort accents and increase in Free/Bound flow fluctuations.

Notes

The continuous maintenance of the upper-lower connection is the key to the performance. The pelvis actually performs a circular shifting of the lower body weight.

Both the pelvic weight shift and the scapular-arm movement must be continued simultaneously without interrupting the spatial drive of the shaping movement making a large circle.

Function

To prepare for the performance of large spatial shapes in dance and work, as in using an ax to fell a tree.

* * * *

This closes the cycle of the six basic exercises which moved from initiation of movement in lower part of body to initiation of movement in upper part of body. The exercises that follow are examples of some of the additional Bartineff Fundamentals. They incorporate the six basic exercises into other actions.

Exercise No. 7

THE SEESAW, A PARTNER EXERCISE

Purpose

To experience initiation of movement from lower unit with upper unit following

To experience the interrelationship of breath and body weight.

To experience the active and passive aspects of body weight

To intercate the breath and weight rhythm between two people.

Action

Partner 1 lies on floor with knees flexed and feet together in full contact with floor.

Partner II, standing, faces Partner I. His feet enclose the feet of his partner

They reach for each other with straight arms, grasping each other's hands.

Partner II sits down with flexed knees and lies on his back, keeping the knees flexed while slowly letting his breath go out, with a tendency to give in to his passive weight.

This process raises Partner 1 from the floor into standing while breathing in, filling himself with air. He becomes lighter, buoyant, more active.

The arms stay extended all through this and there is no active pulling or pushing from either partner in the upper body.

This process is repeated with Partner I sitting-lying down and Partner II being raised into standing.

Continuing that process through a number of repetitions, with concentration on the rhythmic change between the passive, heavy phase and the active one in the lower body makes the breathing regulate its rhythm automatically.

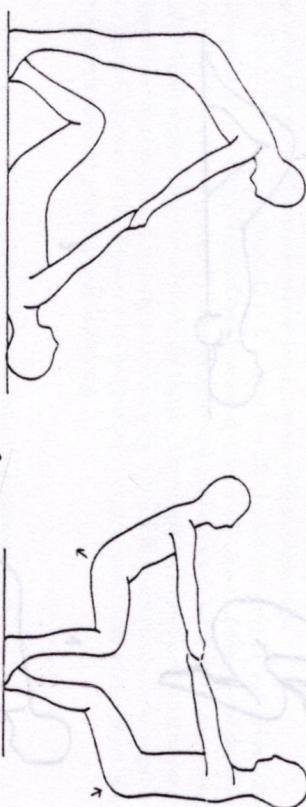


Fig. 48

Experience

be aware of breath, passive body weight changes and the changes between concave and convex body shape: passive body weight in the process of going from standing to lying while letting the breath out; active support of weight from the incoming breath in the process of going from lying to standing. In both phases, there should be no active pulling or pushing with the arms.

Effort and Space

this exercise deals with a gradual, graded tuning in to a partner's sitting and standing through the synchronized use of breath and body weight. Till this tuning in is finally achieved, one can observe jerky, athymthical Effort and Shape Flow changes, extremes of muscular tensions in either the upper body or other parts of the trunk. With concentration on the heavy (breath out) passive body weight and the full (breath in) active weight, gradually the Shape Flow of feeling and unfolding regulates itself together with thymthical changes in the Effort Flow. In this exercise there is no spatial intent.

Notes

Avoid any pushing and pulling in the arms.

Avoid any talking or laughing during the repetitions; give yourself over to the rhythm developing between the partners.

Function

This interaction of breath and passive-active alternations serves as a recuperative experience and should be tried also in states of fatigue after major exertions.

Exercise No. 8 PREPARATORY EXERCISE FOR CREEPING TO STANDING (EX. 9 & 10)

Purpose
To become aware of the importance of initiation from groin, trochanters, and lower sacrum—coccyx in any level changes.

Action
Start from lying on back on floor, legs together, arms at side.
Initiating from the groin—lower sacrum—trochanter, roll over to the side while flexing the whole body into a ball.
Initiating from trochanter—groin—lower sacrum, roll back to starting position.
Repeat several times.
Then, condense the sideward roll suddenly into a total shift of the body onto the knees and elbows.
The head faces the floor.
Straighten the arms directly underneath your shoulders to lift the pelvis. You are now ready to creep or crawl. Face should be facing forward.

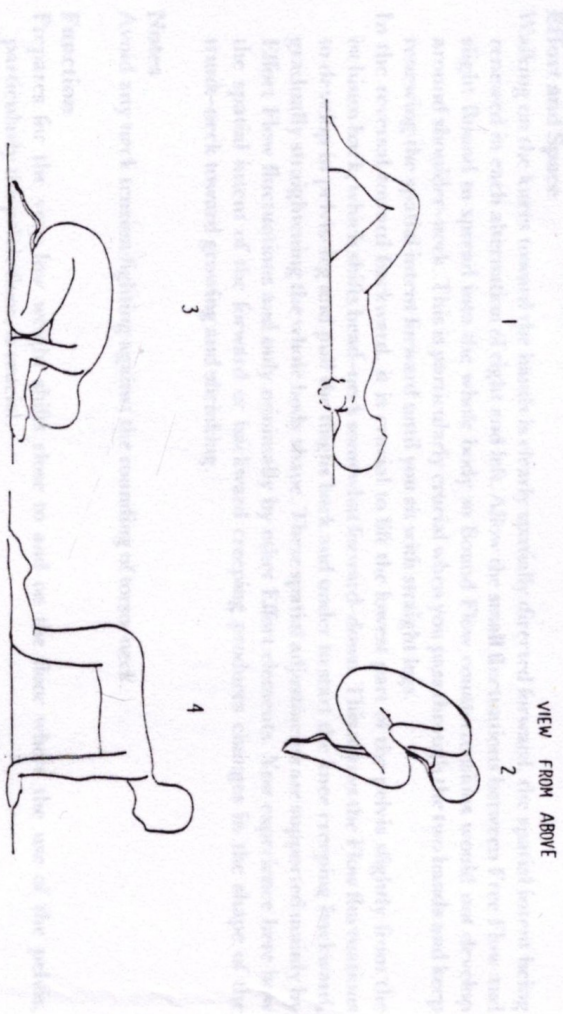


Fig. 49

Experience

Feel the fusion of the roll with the flexion. They should be occurring simultaneously. Awareness of the trochanter involvement strengthens the lateral component of the roll because of the lateral axis between the trochanters. On the condensation, the simultaneity is crucial. When the arms straighten, keep the neck and shoulders free of extraneous tension.

Effort and Space
The condensed rounding and rolling evokes extreme Flow changes between Free and Bound along with Sudden Time and Strong Weight. In the unrolling, these are smaller Flow fluctuations with more Sustainment and Neutral Weight.

Function
To prepare for changes of level from lying to creeping.

Exercise No. 9 LOWER UNIT SEQUENCE WALKING THROUGH HANDS FROM QUADRUPEL POSITION

Purpose
To establish the use of the lowest part of the pelvis—hip in lower level locomotion (squat, creep). To intensify training of iliopsoas and the rotators of the hip.

Action
Start from creeping position with straight arms underneath shoulder and full lower leg—knee support. Hands are stationary as knees walk toward them. Lower back muscles lengthen while the inguinal fold steadily increases.
Head gradually inclines forward facing the floor. It is part of the total rounding of the back from the base of the skull to the lowest part of pelvis—coccyx.
Knee—walk through hands and beyond until you are forced, by whatever means are available to you, without stopping forward motion, to land on your feet and walk your feet so the legs unfold and you sit down with straight legs.
Lower part of body stays as low as possible and upper part (neck, chin, shoulders) as mobile as possible as feet walk through the hands.

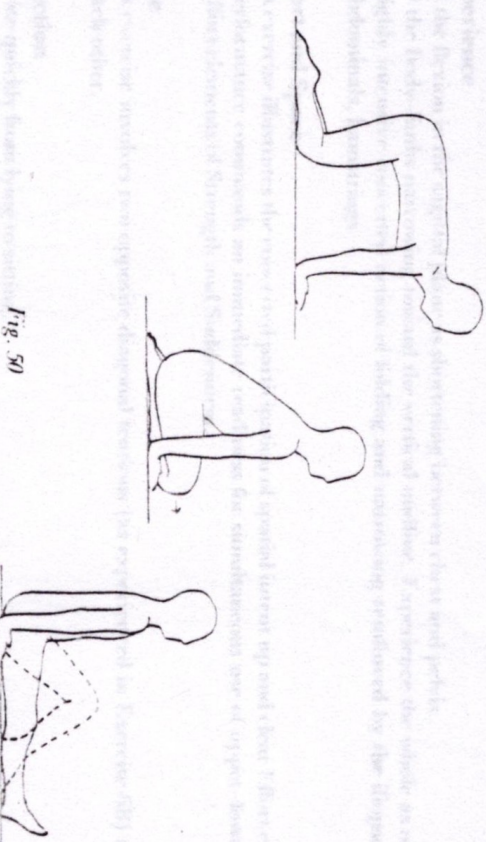


Fig. 50

Reversal

With arms, hands slightly in back of body for support on hands (fingers facing forward), pull up the knees, bringing the feet toward the ischium as closely as possible, and with that momentum, continue to lift the lower body immediately in a slightly forward-upward arc from the ischium-coccyx which causes the upper body to tilt slightly forward while you walk your feet back through your hands in a very deep squat. Continuing backward, you will get on your knees again, in the original creeping position, with the back neither rounded nor hyperextended.

Experience

As soon as you begin to walk, feel the lengthening in the lower back, curling the lowest part of the sacrum-coccyx increasingly under you without tension. This feeling of lengthening and rounding of the whole torso increases until you are through the hands, maintaining a low squat. As you continue to progress forward, offer no resistance in either head or shoulders or ankles-feet; you wriggle through. In the reversal, feel the backward pull of the pelvis initiated by a slight lift of the ischia and coccyx. This is possible only through pelvic floor participation.

Effort and Space

Walking on the knees toward the hands is clearly spatially directed forward, the spatial intent being renewed in each alternation of right and left. Allow the small fluctuations between Free Flow and slight Bound to spread into the whole body so Bound Flow counteractions would not develop around shoulder-neck. This is particularly crucial when you pass through the two hands and keep renewing the spatial intent forward until you sit with straight legs. In the reversal toward backward, it is crucial to lift the lowest part of the pelvis slightly from the ischium back, which shifts head-neck somewhat forward-down. This allows the Flow fluctuations to develop in pelvis-leg and pull the thighs back and under to start the knee creeping backward, gradually straightening the whole body shape. These spatial adjustments are supported mainly by Effort Flow fluctuations and only minimally by other Effort elements. You experience here how the spatial intent of the forward or backward creeping produces changes in the shape of the trunk-neck toward growing and shrinking.

Notes

Avoid any neck tension fighting against the rounding of torso-neck.

Function

Prepares for the very low weight shifts close to and on the floor where the use of the pelvis, particularly the pelvic floor, is crucial.

* * * * *

Exercise No. 10

CONDENSING TO SITTING FROM LYING

This relates to sequences of getting up from the floor (Exercise No. 6B and sequences 11A, 11B, 12). The difference is that this exercise is not a sequence but is instead, one condensed shaping action.

Purpose

To sit up from lying in one concerted action using straight and oblique muscles in front together with full hip flexion (iliopsoas) and immediate full contact with heel-ischium-coccyx. To get quickly to readiness for upper unit action.

Action

Lie on back on floor with arms and legs spread into a large X, palms facing ceiling. Exhale and condense your whole body-head-limbs forward into an all around folding to the center of the body; heels never leaving the floor.

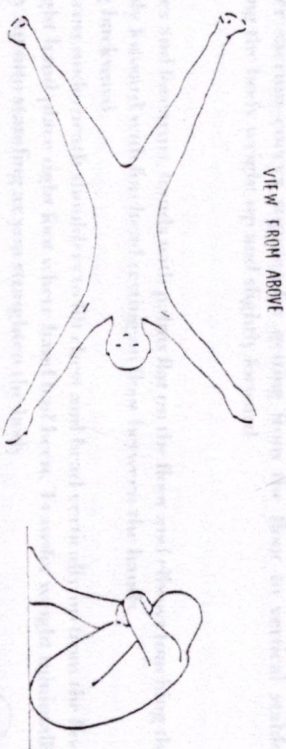


Fig. 51

Experience

Feel the flexion in the sagittal plane as shortening between chest and pelvis. Feel the body-limbs narrowing toward the vertical midline. Experience the whole as one action: a highly intensive concerted action of folding and narrowing reinforced by the iliopsoas, oblique abdominals, hamstrings.

Effort and Space

This exercise illustrates the concerted participation of spatial intent up and clear Effort elements. Its performance commands an immediate readiness for simultaneous use of upper-lower body and Effort elements of Strength and Suddenness.

Note

This exercise involves two opposite diagonal tensions (as experienced in Exercise 6B) neutralizing each other.

Function

To rise quickly from lying to sitting.

* * * * *

Exercise No. 11A

CREEPING TO STANDING LEVEL FOR LOCOMOTION

Purpose

To establish the use of the lowest part of pelvis in the transfer of body weight forward and up to move from creeping (flexion) level to standing-walking (extension) level.

Action

Start from creeping position with straight arms underneath shoulders and full support from knee-lower leg.
Initiating from groin, swing right leg forward with knee bent and initiating from sit bone, swing back into extension.
Repeat the swing forward and place right foot on the floor between both hands.
Swing leg going back to starting position.
After several repetitions of this sequence, alter the forward swing midway by releasing the right hand from the floor and replacing it with the right foot. Without stopping, with continuing support from the coccyx-sacrum, transfer the body weight forward onto that foot and rise to a stepping stance.

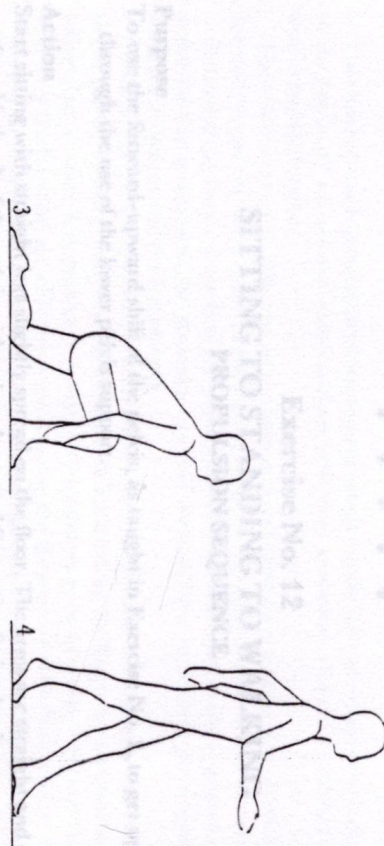
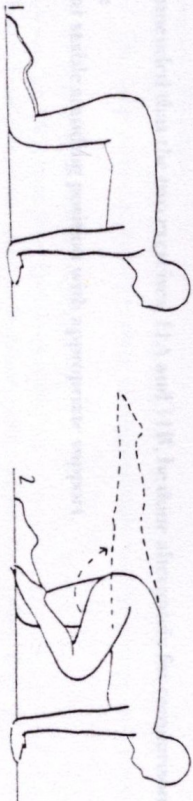


Fig. 52

Experience

In the creeping position there is no added tension in either the neck or the lumbar muscles. In the swinging action of the leg forward (flexion) and backward (extension) allow the pelvic-femoral rhythm to develop fully.
The placing of the foot between the hands causes a slight increase in the total rounding of the back from the base of skull to the coccyx. Do not fight or force the action but try to slip the foot smoothly into place.

In replacing the right hand with the right foot use the momentum of the forward-up swing to the fullest, continuing smoothly into the stepping stance that leads into the rising up and forward (sagittal plane) never losing the coccyx-sacrum connection.

Effort and Space

The easy swinging of the leg forward and backward with Shape Flow changes is followed by placing the foot forward with spatial intent as well as Effort Flow fluctuations with flexing Suddennesses.

Function

To increase the ease of getting up from the floor with readiness to go immediately into locomotion.

* * * *

Exercise No. 11B

CREEPING TO STABLE STANDING

Purpose

To use lower sacrum-coccyx support for getting from the floor to vertical stable standing by transferring the body weight up and slightly forward.

Action

Start on knees and forearms, hands with palms flat on the floor and elbows touching the knees. Head bent deeply forward with forehead resting on floor between the hands.
Lift right leg backward.
Straighten arms underneath shoulders to lift chest and head vertically up from the floor.
Releasing right hand place right foot where hand had been. Transfer weight minimally forward and maximally up into standing as you straighten the body.

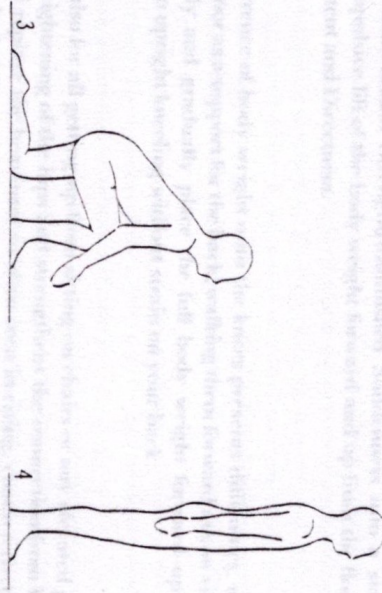
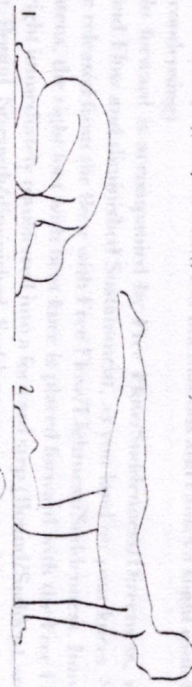


Fig. 53

Experience

The starting position brings upper and lower unit much closer together than in 11A, condensing it into an almost ball-like shape. In the unfolding, there is a greater emphasis on the vertical direction up than on transporting the body forward in the sagittal plane. Therefore, there is no readiness to locomote. You are simply standing.

Effort and Space

From folded body shape your spatial intents shift with accompanying Effort shifts. Right leg is lifted backward with Bound/Free Flow fluctuation, accompanied by some diminished Strength with clear backward spatial intent.

Straightening of arms heightens spatial intent of pressing into the floor with Free Flow becoming Direct with some diminished Strength.

Flow fluctuations accompany the release of the hands and the placement of the right foot. The spatial intent of the foot is forward and is accompanied by Effort fluctuations of Free/Bound with Sudden Neutral Time.

Transfer of weight forward with Bound Flow; the vertical lift adds increasing Strength.

Note:

It is recommended that the two exercises, 11A and 11B, be done alternately for comparison.

Function:

To arrive at stable standing position with appropriate support.

* * * * *

Exercise No. 12

SITTING TO STANDING TO WALKING PROPULSION SEQUENCE

Purpose

To use the forward-upward shift of the pelvis, as taught in Exercise No. 2, to get up from the floor through the use of the lower pelvis support.

Action

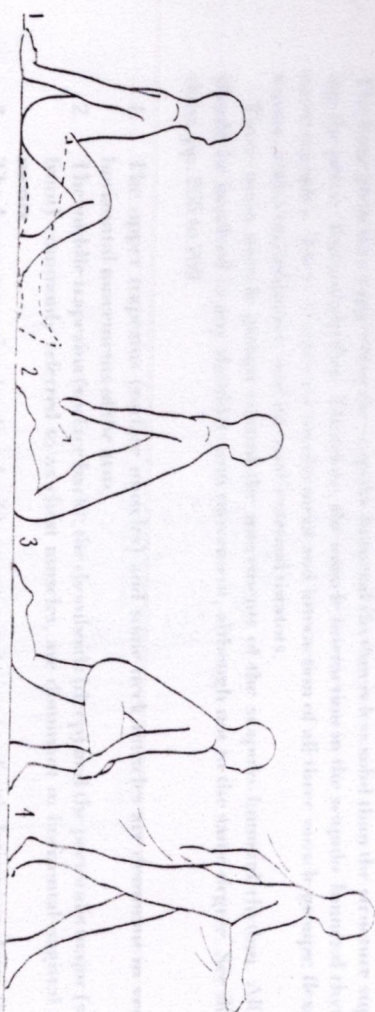
Start sitting with straight legs slightly spread on the floor. The arms are straight and slightly spread, placed in back of the pelvis with palms down and finger tips facing back.

Pull both knees up while exhaling with a maximum hollowing of the abdomen (to allow the iliopectors to function) until the feet are flat on the floor. This rounds the back from the base of the skull to the coccyx and lets the lumbar muscles lengthen.

Initiating from the lower pelvis (with maximal support from the sacrum coccyx, and flattening the inguinal region) transfer the weight forward and slightly up on to the feet and continue advancing on to the knees. Release the hands as you get upright on your knees.

Place right foot (with knee bent) forward on the floor. Transfer weight forward and up, rising into stepping forward, fully flattening the inguinal region and continually supporting from the lowest part of the pelvis as the body-leg straightens forward and up.

Fig. 51



Experience

The preparation for the shift — using hollowed abdomen and releasing the lumbar muscles — is crucial for the transference of weight onto the feet forward and up. This fully straightens the inguinal region.

The spatial intent forward and up, initiated from the lower pelvis, is maintained throughout all the phases in order to make full use of the momentum which gets you off the floor.

As you get onto the knees when the arms are released, the body is for a moment slightly tilted forward. It is therefore important that the stepping with the right foot is immediately started and that the forward-up tension is spread into the upper body and head. This makes for the propulsion.

Effort and Space

The pulling up of both knees is performed with Flow fluctuations and causes a slight rounding of the back (Shape Flow condensing).

The transfer of weight forward is accompanied by Free Flow/Suddenness/Directness, which becomes slightly Bound Flow and diminished Sustainment, as you land on your knees. Simultaneously the arms are released from the floor with Free Flow/Lightness/Suddenness. Immediately, as the body straightens, the right foot with bent knee is placed forward with the Free Flow/Suddenness and the weight immediately transferred into a forward step (Bound/Sudden), straightening the body with Bound Strength/diminished Suddenness into a stable uprightness. This produces a propulsive lift of the body weight forward and up from the floor of Strength/Suddenness, Sustainment and Directness.

Note

If the full transference of body weight onto the knees presents difficulties, use the support of your hands on the floor as a support for the back, walking them forward as you aim to get on the knees so that you gently and gradually place the full body weight forward-up. This straightens the torso-head into upright kneeling without strain on your back.

Function

This is the basis also for all getting up from sitting on chairs or any elevated plane. It reinforces the immediate straightening of the hips and strengthens the connection from hip (sit bones) into the floor. It should replace the heaviness so often seen in rising, characterized by bending over and lifting the body by holding on to the thighs.

Summary Notes on Exercises and Anatomical Illustrations

In order to have the widest ranges of lift and spatial shaping available to the mover, he/she must have a clear sense of the "grounding" function in the lower unit and the manipulative possibilities of the upper unit. The former focuses on the "pelvic-femoral rhythm" and the latter on the "scapulo-humeral rhythm."

The pelvic-femoral rhythm is activated at some level in all movement and can be experienced simply by tilting the pelvis forward and back on the proximal joints (hip joints). (See Exercise "C," Preparatory Rock and Roll, p. 234.) The scapulo-humeral rhythm is activated in all arm movements and can be experienced simply by raising the arm up, to the side and down on the proximal joints (shoulder joints). (See Preparatory Exercise "A" and Exercise 6A, Arm Circles, p. 246.) Both relate to the breathing process. (See Exercise "B," Breath, p. 232.)

Within each rhythm, there is a symbiotic multi-muscle activity for most efficient use. Where the activity is initiated is crucial. In the Bartineff Fundamentals, these two rhythms are emphasized to point out often neglected components and show why it is important that they be restored to their appropriate participation.

Pelvic-Femoral Rhythm

The pelvic-femoral rhythm is created in the sequence of interplay of pelvic-hip and pelvic-thigh movement. The interaction is between three distinguishable muscle groups (see illustration, p. 271 ff):

1. above the pelvis—lower trunk (suprapelvic)
2. the sacrum and hip joint level (pelvis-hip joint)
3. the lowest level of sacrum—coccyx—ischium—pubic region (the "pelvic floor")*

This interaction is present in all movement involving the full potential of the ball and socket joints of the hip in all ranges and combinations of flexion—extension, abduction—adduction, and internal and external rotation.

There are three critical factors in the interaction of these three groups. One is initiation, the second is rotation and the third is the participation of the lowest component, the pelvic floor.

In the pelvic-femoral rhythm, the pelvic tilt and the femur work in finely graded collaboration. In order for this to happen, the posterior external rotators have to actively participate in conjunction with the iliopsoas and the hamstrings.

Of the six posterior external rotators, which are distributed over the whole lowest part of the back of the pelvis, some accompany the forward tilt initiated by the iliopsoas, which shortens causing the hamstrings to stretch in passive response. Other rotators accompany the backward tilt initiated at the ischia by the hamstrings which shorten, causing the iliopsoas to stretch in passive response.

When the iliopsoas is not used appropriately in the pelvic tilt, including thigh lifting (flexion), then the rectus abdominis and rectus femoris are over-used and the rhythm cannot be established.**

When the hamstrings are not appropriately incorporated into the pelvic-femoral rhythm by the activity of the rotators, their usefulness is reduced to that of simple extensors of the knees.

* Use of the term "pelvic floor" differs in the literature. It is here defined as the area bounded on the lower part by the sacrum and coccyx, the ischia, and the obturator foramen, and bounded in front by the pubic junction.

** In appropriate use, the rectus abdominis is used in trunk flexion, but always in balance with other abdominal muscles, such as the external oblique and internal oblique and the iliopsoas in its role as trunk flexor. The rectus femoris is used appropriately in thigh lift but as an accessory to the iliopsoas in its role as hip flexor.

Scapulo-Humeral Rhythm

The bone structure supporting the scapulo-humeral rhythm is less solid than the structure supporting the pelvic-femoral rhythm. Therefore, the muscle interaction in the scapulo-humeral rhythm is more complex. There is constant movement and interaction of all three muscle groups: flexor/extensor, abductor/adductor, and internal/external rotators.

Three main muscle groups control the movements of the scapulo-humeral rhythm. All three should be involved in any shoulder-arm movement, although not to the same degree. See illustrations, pp. 266 to 269.

1. The upper trapezius (surface muscles) and some neck muscles are dominant in vertical-horizontal movements of the arm.
2. The middle trapezius (surface back); the rhomboids (deep) and the pectoralis major (surface front) commonly referred to as chest muscles, are dominant in horizontal-sagittal movements.
3. The lower trapezius (surface back); serratus anterior (surface); latissimus dorsi (surface back) are dominant in sagittal-vertical movements.

Internal and external rotator groups of the scapulo-humeral rhythm are distributed over outer and inner surfaces of scapula. Here again, as in the pelvic-femoral rhythm, there is finely graded collaboration among the components. All participate but with shifting degrees of accommodations to the dominance of one at any given time.

Whether we interpret the many lower back and neck problems in our time as a still incomplete use of our verticability, or see them as deterioration through urban life and reduced physical activity, they are undoubtedly related to incomplete use of the scapulo-humeral and the pelvic-femoral interplay so widespread throughout the population, even among trained dancers and athletes.

The outstanding feature of that incomplete use of the scapular and shoulder joint potential is the weak use of the serratus anterior and lower trapezius, the lowest angle and lateral border of the scapula. As a result, one finds overuse of the upper component, causing neck-shoulder tension. This weakened use of the lower scapula component influences full uprightness, full use of neck-head, and full use of the reach space around. It also prevents making full use of the connections through the large muscle groups that connect the shoulder girdle with the lumbar-sacral region. Lack of these connections cuts off the supportive and balancing forces of body weight in upper unit activity.

The Rotary Factor

Anatomically, the structure of the spine—as central axis of the body and vertical axis of uprightness—has a built-in potential for each vertebrae to move clearly sagittally and laterally and, also, to rotate slightly. The spine extends from the base of the skull to the end of the coccyx.

The rotary possibilities of the spinal vertebrae tremendously increase the range and variety of trunk-limb movements in space. The proximal ball and socket joints at the shoulder and hip are the rotary links between trunk and limbs and give them the mobility for three-dimensional spatial shaping.

The rotary possibilities of the head are controlled by two joints that link the top of the spine to the base of the skull. The rotation of the head itself is a very small movement which can be increased only by including additional vertebrae of the neck.

The upper unit has a majority of internal rotators; the lower unit has a majority of external rotators. Internal rotators are more stabilizing and external more mobilizing. Thus, the bony structure the shoulder girdle is given stability by a preponderance of internal rotators and the more solid bony structure of the pelvis area is given more mobility by a preponderance of external rotators.

The rotary muscle groups — along with the flexion-extension and abductor-adductor groups — make diagonal spatial pathways possible and changes in rotation can therefore affect not only the function but also the expressive content of an action.

It is particularly in relation to the rotary element that spatial and anatomical aspects of movement enhance each other. All notions of "simple," straight directions or "simple" vectors are dispelled as the mover becomes sensitized to the rotary role.

Overstress on the sagittal or vertical cycles usually happens at the expense of the horizontal cycle. That is usually directly related to under-use of the rotary element and creates two-dimensional movement even when three-dimensional movement would be preferable. A turning, twisting quality is unavailable without the rotary-horizontal input. Some cultures — in India, Southeast Asia, China, Japan, the Pacific and Africa — seem to incorporate the horizontal with its rotary factor to a greater extent than many western cultures.

Bony Landmarks and Muscles

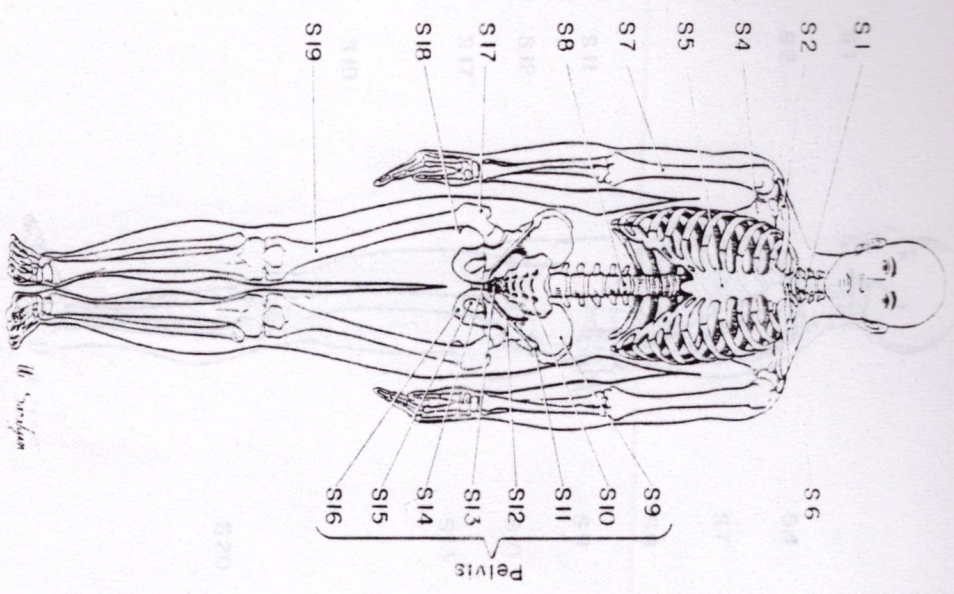
It would be helpful during the preparation and/or performance of the exercises to refer to the anatomical drawings and find the bony landmarks that can be ascertained by touch and visibly traced. Surrounding areas in relation to the most important muscle groups can be identified in such a way that muscle tensions can be felt or checked. Both the pelvic-femoral rhythm and the scapulo-humeral rhythm activate many more muscles than the major ones described here. In normal activity, muscles never operate in isolation. Selections have been emphasized in this book to make particular points; it is not possible here to include the total picture. A future volume will deal with these in greater depth and will include many more upper body exercises and variations on the basic themes of the Barrenieff Fundamentals. It will also include discussion of and exercises for particular movement problems and elaborations on the basic factors which are only generally discussed here.

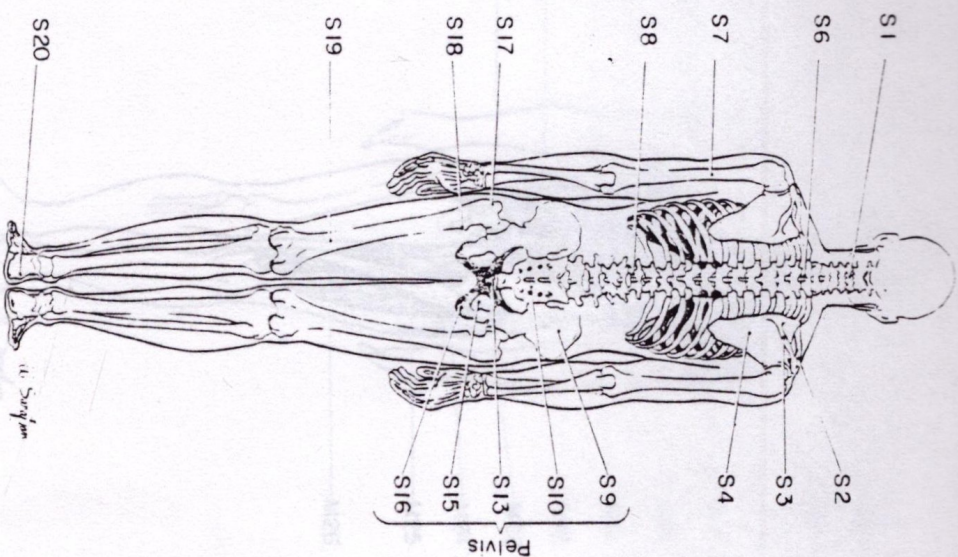
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Skeleton: Front View

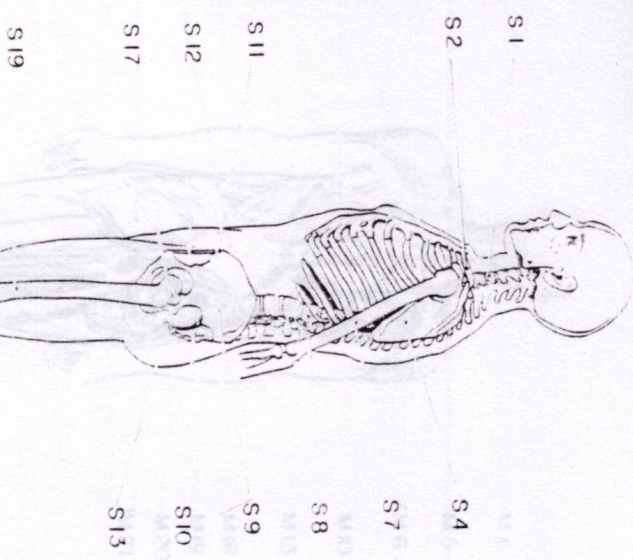
- S1 Neck (cervical spine)
- S2 Clavicle
- S3 Scapula
- S4 Sternum
- S5 First thoracic vertebra (begins thoracic spine)
- S6 First lumbar vertebra (begins lumbar spine)
- S7 Humerus
- S8 First lumbar vertebra (begins lumbar spine)
- S9 Ilium
- S10 Sacrum
- S11 Anterior superior spine
- S12 Inguinal ligament
- S13 Coccyx
- S14 Junction of pubic bone
- S15 Obturator foramen
- S16 Ischium
- S17 Greater trochanter
- S18 Lesser trochanter
- S19 Femur





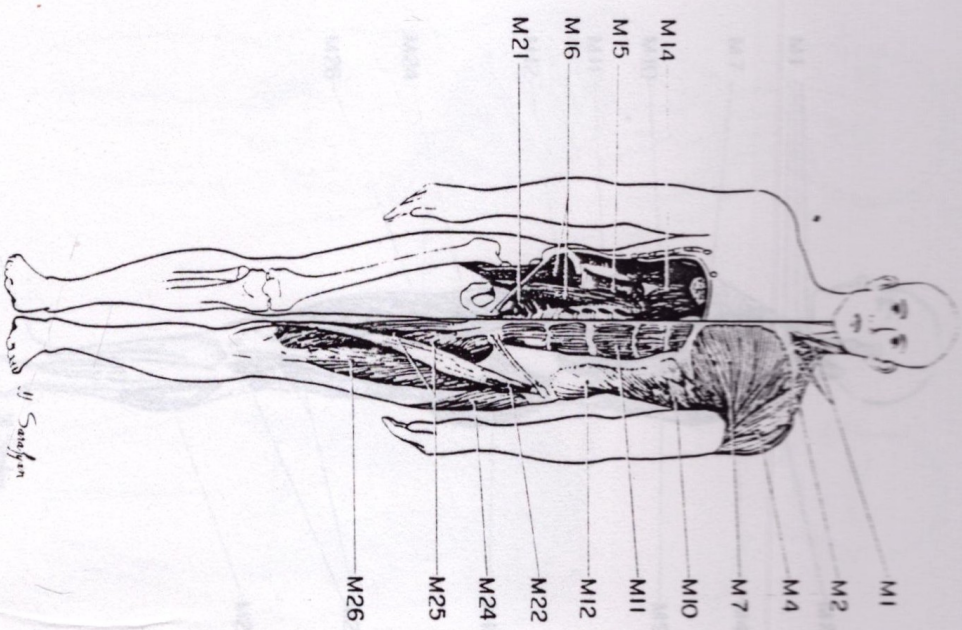
Skeleton: Back View

S1	Neck (cervical spine)	S10	Sacrum
S2	Clavicle	S13	Coccyx
S3	Spine of scapula	S15	Obturator foramen
S4	Scapula	S16	Ischium
S6	First thoracic vertebra (begins thoracic spine)	S17	Greater trochanter
S7	Humerus	S18	Lesser trochanter
S8	First lumbar vertebra (begins lumbar spine)	S19	Femur
S9	Ilium	S20	Heel



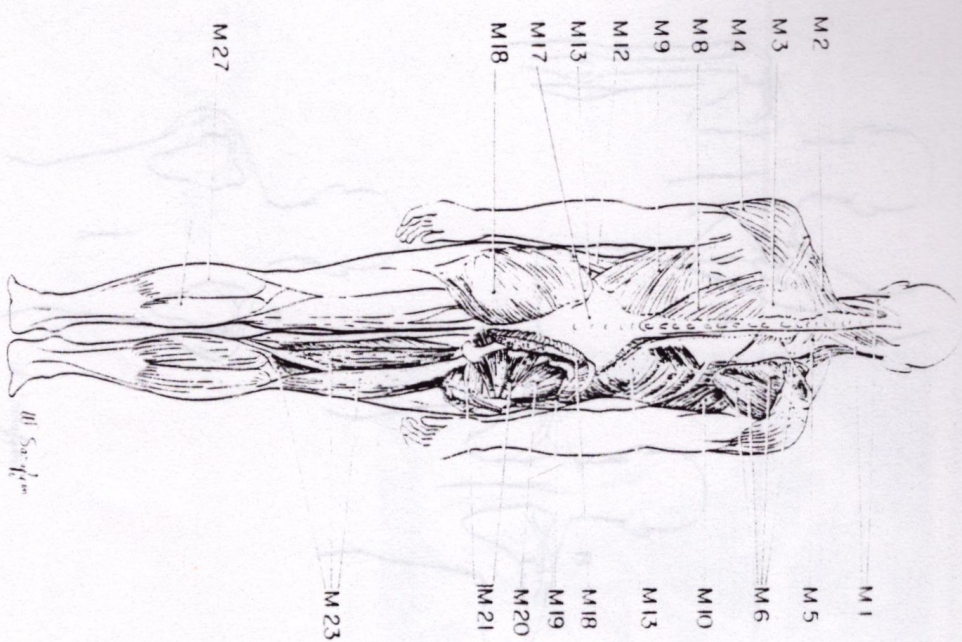
Skeleton: Side View

S1	Neck (cervical spine)	S11	Anterior superior spine
S2	Clavicle	S12	Inguinal ligament
S4	Scapula	S13	Coccyx
S7	Humerus	S17	Greater trochanter
S8	First lumbar vertebra (begins lumbar spine)	S19	Femur
S9	Ilium	S20	Heel
S10	Sacrum		



Muscles: Front View

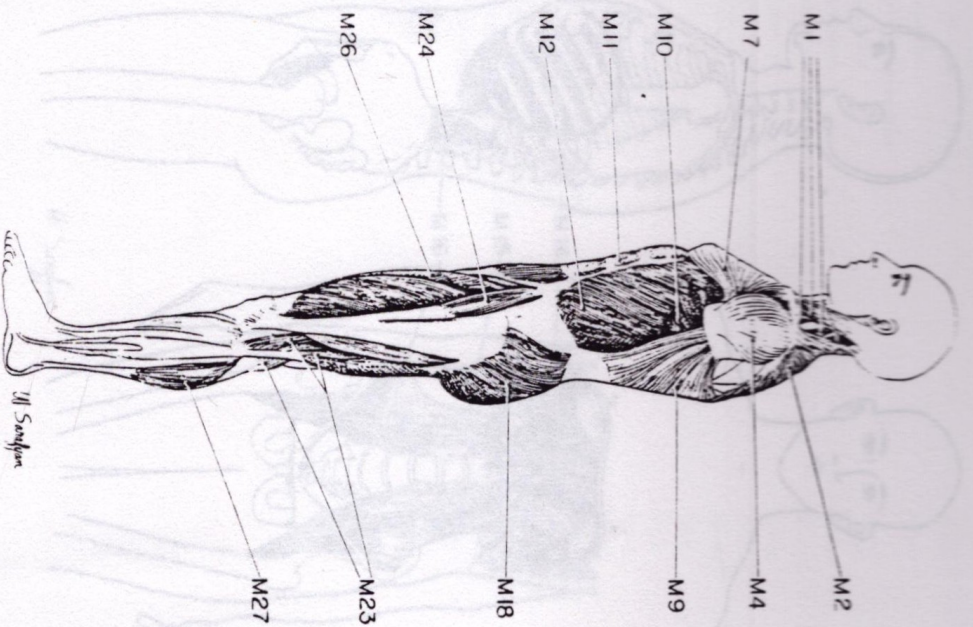
- | | |
|-----------------------|-----------------------------|
| M11 Neck muscles | M15 Quadratus lumborum |
| M12 Upper trapezius | M16 Iliopsoas (deep) |
| M14 Deltoid | M21 Posterior rotator group |
| M17 Pectoralis major | M22 Sartorius |
| M10 Serratus anterior | M24 Tensor fascia lata |
| M11 Rectus abdominus | M25 Adductor group |
| M12 External oblique | M26 Rectus femoris |
| M14 Diaphragm | |



Muscles: Back View

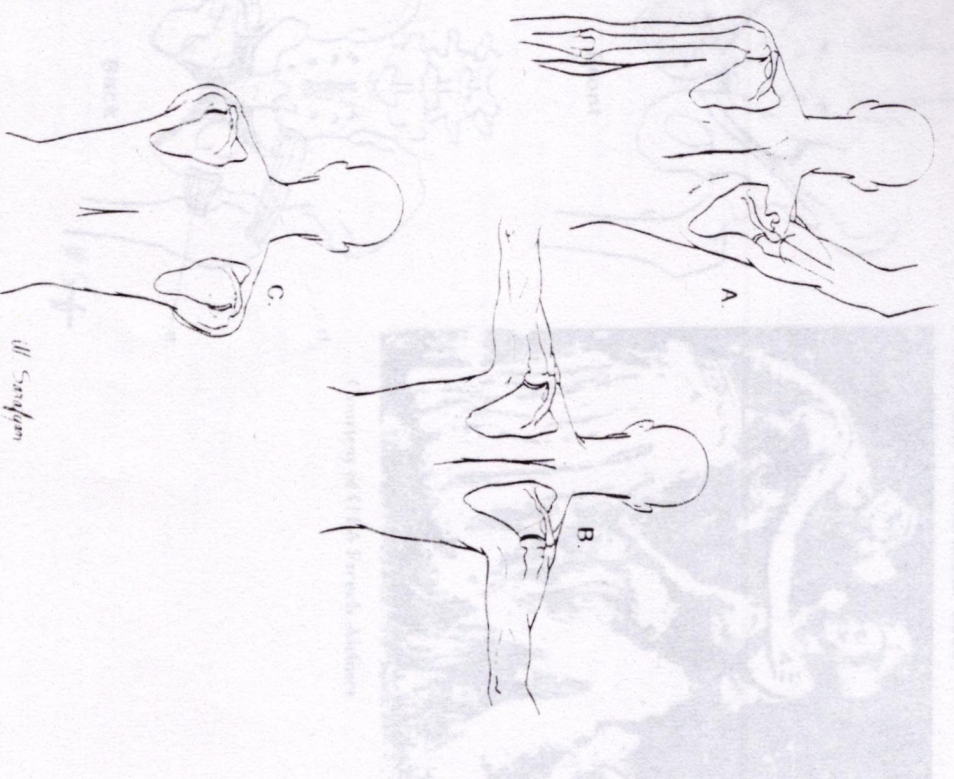
- | | |
|--|--|
| M11 Neck muscles | M12 External oblique |
| M12 Upper trapezius | M13 Internal oblique (deep) |
| M13 Middle trapezius | M17 Area covering lumbar extensor muscle group |
| M14 Deltoid | M18 Gluteus maximus |
| M15 Rhomboids (deep) | M19 Gluteus medius |
| M16 External rotator group of scapulo-humerus* | M20 Gluteus minimus |
| M18 Lower trapezius | M21 Posterior rotator group |
| M19 Latissimus dorsi | M23 Hamstrings |
| M10 Serratus anterior | M27 Calf muscles |

* The external rotator group and the internal rotator group (not shown) of the scapulo-humerus are distributed over the outer and inner surfaces of the scapula.



Muscles: Side View

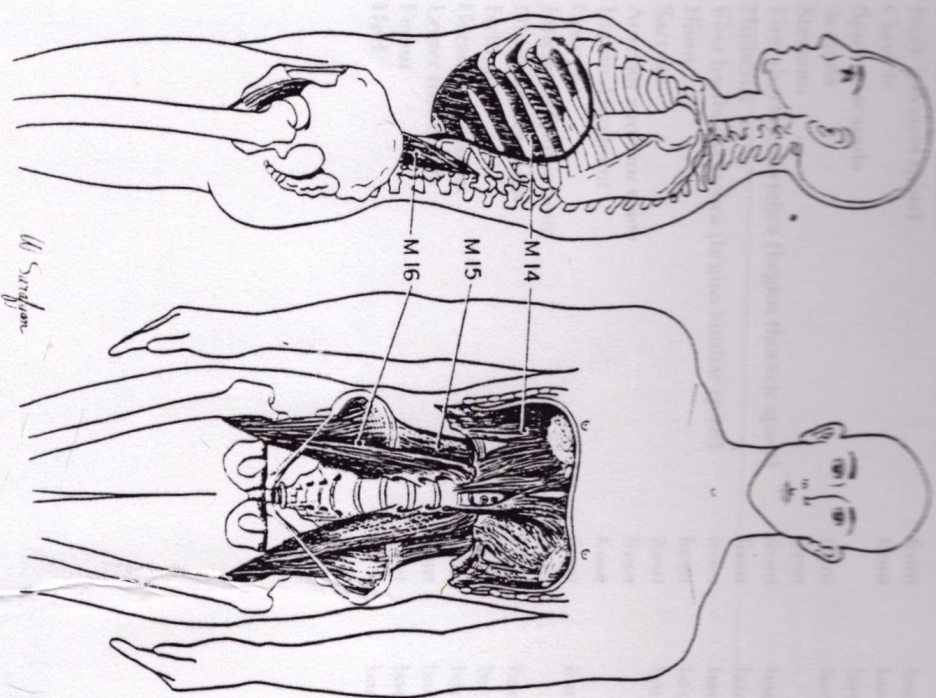
M1	Neck muscles	M12	External oblique
M2	Upper trapezius	M18	Gluteus maximus
M4	Deltoid	M23	Hamstrings
M7	Pectoralis major	M24	Tensor fascia lata
M9	Latissimus dorsi	M26	Rectus femoris
M10	Serratus anterior	M27	Calf muscles
M11	Rectus abdominis		



Scapulo-Humeral Rhythm Changes

A	Vertical-Horizontal Movement
B	Horizontal-Sagittal Movement
C	Sagittal-Vertical Movement

Figure 4.10 shows the scapulo-humeral rhythm. The scapulo-humeral rhythm is the relationship between the scapula and the humerus. The scapulo-humeral rhythm is the relationship between the scapula and the humerus. The scapulo-humeral rhythm is the relationship between the scapula and the humerus.



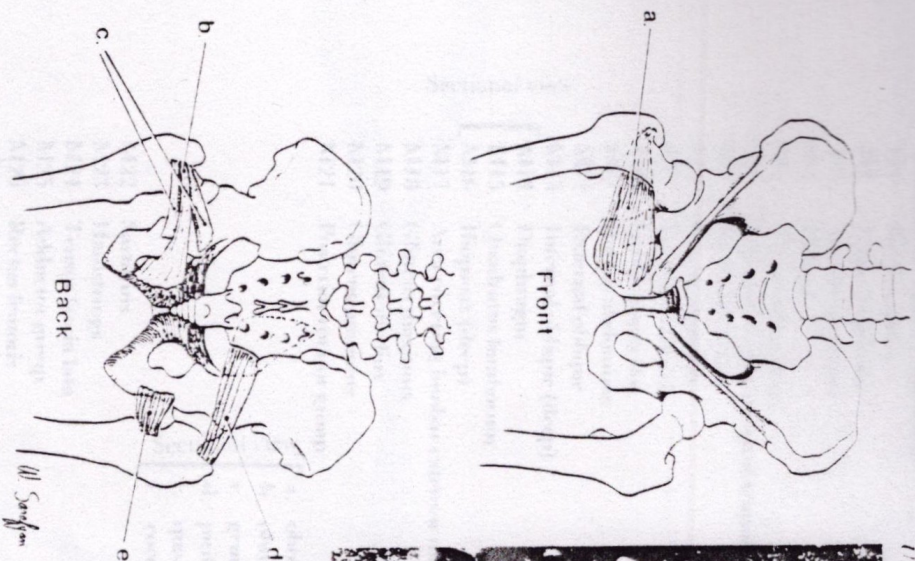
Central Inner Support: Iliopsoas with Diaphragm and Quadratus Lumborum

Side view: Diaphragm (M14) and Iliopsoas (M16)

Front view: Diaphragm, Quadratus Lumborum (M15) and Iliopsoas



Use of Posterior External Rotator Muscles



Neglected Factor in Pelvic-Femoral Rhythm Support: Posterior External Rotators*

Front view

a. obliatus externus

Back view

b. obliatus internus (left)

c. gemelli (left)

d. piriformis (right)

e. quadratus femoris (right)

* Five of the six rotators are shown. The sixth, *encygens*, is hidden by the others. One set of six is on each side of the body but, for clarity, only one set is illustrated.

S1	Neck (cervical spine)
S2	Clavicle
S3	Spine of scapula
S4	Scapula
S5	Sternum
S6	First thoracic vertebra (begins thoracic spine)
S7	Humerus
S8	First lumbar vertebra (begins lumbar spine)
S9	Ilium
S10	Sacrum
S11	Anterior superior spine
S12	Inguinal ligament
S13	Coccyx
S14	Junction of pubic bone
S15	Obturator foramen
S16	Ischium
S17	Greater trochanter
S18	Lesser trochanter
S19	Femur
S20	Heel

[illegible]

	Sectional view
N11	Neck muscles
N12	Upper trapezius
N13	Middle trapezius
N14	Deltoid
N15	Rhomboids (deep)
N16	External rotator group of scapulo-humerus*
N17	Pectoralis major
N18	Lower trapezius
N19	Latissimus dorsi
N110	Serratus anterior
N111	Rectus abdominis
N112	External oblique
N113	Internal oblique (deep)
N114	Diaphragm
N115	Quadratus lumborum
N116	Iliopsoas (deep)
N117	Area covering lumbar extensor muscle group
N118	Gluteus maximus
N119	Gluteus medius
N120	Gluteus minimus
N121	Posterior rotator group

[illegible]

Sectional view

Sectional view

				Sectional view			
				a.	obturator externus		
				b.	obturator internus		
				c.	gemelli		
				d.	piriformis		
				e.	quadratus femoris		
				f.	coccygeus (not shown)		
M22	Sartorius		front			back	
M23	Hamstrings		front			back	side
M24	Tensor fascia lata		front				side
M25	Adductor group		front				
M26	Rectus femoris		front				
M27	Calf muscles					back	side

* The external rotator group and the internal rotator group (not shown) of the scapulo-humerus are distributed over the outer and inner surfaces of the scapula.

