

« BREATHING AND MOVEMENT »

The encounters and the main ideas that led to the making of this DVD

The Encounters

At first, I thought I would call this DVD « the diaphragm, soul of the belly »¹ ... From reading Boris Dolto quoting Groddeck, I'd always had the intuition that the diaphragm could be a source of incredible power. Then I met Guy Cornut who showed me the x-rays of the diaphragm in movement that he had taken with his wife Annie Trolliet². The diaphragm was revealed in its most intimate being. These images inspired me to make this DVD.

« The dynamics of the diaphragm exposed »³

In these images, the diaphragm appears « like a flying carpet orchestrating aerial ventilation or becoming the solid dome that compresses the organs. »⁴ « This moving frontier between two worlds: breathing and organs »⁵ undulates like a jellyfish in water. When we breath in, the center of the diaphragm goes down in the direction of the lower ribs; these then open laterally while drawn towards the center of the dome. When exhaling, the process is reversed.

In the x-rays, we witness a surprising spectacle, the diaphragm adjusting to the sounds emitted and to the intensity applied...

We see the movements of the spine, belly, and ribs and their participation in breathing associated with singing. The singer lengthens her thoracic-lumbar spine on the in-breath; on the exhale, the spine returns to its initial curves with its natural lordosis; the ribs stay open ...

Having witnessed these movements, I had to widen my field of investigation: yes, the diaphragm regulates the play of thoracic and abdominal pressures, from where it gets its power, but it also affected by the orchestration of other elements that come into play.

Philippe Campignon had already done a detailed analysis of the structural elements of breathing in his book « Respir-Actions »⁶. He presents them to us one-by-one in their entire splendor in this film. For example :

- « the spine as it prepares to receive the contraction of the diaphragm »
- the spiral action of ribs or « primordial movement»
- the suspension of the diaphragm between cervical and lumbar vertebrae

All these movements, what a disconcerting complexity linked to breathing! They seem to operate in opposing directions: to breath we need to increase or decrease the volume of the rib cage. Philippe clarifies, « when my diaphragm goes down, my spine lengthens while my ribs twist. It's quite complicated but it's important to realize that if I'm in my diaphragm, it goes down, but if I'm in my spine, I feel something lengthening up. Then when my diaphragm rises, that is, the phrenic center rises, the rib cage goes down. It's important to place oneself either in the dynamics of the ribs or in the dynamics of the diaphragm. »

And that's what interested me in making this film, to show the complexity of breath movement and the diversity in different artistic pieces on how breathing is used. There are in fact a thousand and one ways to breathe; they all contribute to an in-depth transformation of the movement.

Thus the title « Breathing and Movement»

Breathing in all its dynamics

For this process, I interviewed musicians and dancers on their use of breath when teaching or performing. I looked for choreographies where the power of breath is evident.

The dynamics of breathing seemed to me to be particularly visible in the dances of the pioneers such as Malkovsky, Humphrey and Graham as well as in Baroque dance. These dances are in fact close to the source of physiological movement. The dynamics of breathing is also apparent in contemporary works where choreographers have questioned « extreme state », such as Emio Greco, Chaignaud/Bengolea (state of vacuum), Kitsou Dubois (state of weightlessness).

A big jump from the past to present! François Chaignaud fills this gap « by rummaging through the history of art looking for basic principles »⁷ and dancing Malkovsky's pieces today.

After seeing the x-ray images of the singers diaphragm, we would expect to be presented with examples of singing. But it would then have been necessary to speak of « resonators ». This is a world in itself that would be the subject of another film.

However, we have a glimpse into wind instruments thanks to the participation of Xavier Rchet, a performer and a teacher always open to new approaches. I brought Xavier and Philippe Campignon together to exchange their perspectives for the purpose of this film.

Finally, when speaking of breath, what also comes to mind is the martial arts based on the use of « energy ». The complexity of the term « energy » is such that I choose not to include this field in the film. (cf see the DVD « ancestral approaches » REM collection).

Paula Ortiz and I edited various examples of breathing put together as the pages of a book one would turn one by one to discover the intimacy of each breath. Each one implies a transformation of matter presenting a unique state of being in the world. This is what « Analysis of the Body in Danced Movement » is about (AFCMD/Analyse du Corps dans le Mouvement Dansé).

The main ideas

1 - Breathing movement: between reflex and control

A learned gesture becomes expressive if controlled breathing remains connected to reflex breathing.

Guy Cornut explains it like this: « *there are many reflexes linked to organizing our breathing. If you try to replace the automatic response with controlled breathing, it becomes artificial. We must keep in mind that after emptying the lungs there is a need to fill them up again. To combine what one wants to do for artistic reasons and what nature's reflex wants us to do for vital respiratory reasons is a subtle process to be learned. It has more to do with sensation than volition.* »

François Chaignaud⁸ explains: « *I've noticed in the movements that I've really understood or assimilated, like in « La Mer » or « Byldo » (Malkovsky choreographies), the breathing is very anchored in the movements and the stored breath really allows me to be grounded and find the necessary power. On the other hand, in the movements where I have difficulty, it's often related to a more chaotic breathing, a less integrated one. All works well when it becomes automatic. It starts with the imagination that precedes the gesture or the significance of each gesture or the relation to the music or even the fluidity of the spine and the mobility of the support. All of these essential elements help put into place this very particular breathing.* »

Instead of « breathe », we « allow breath », « let breath in », « watch our breathing ». Breathing and movement become intertwined; we no longer know if breathing is the support for movement or if movement is the support for breathing.

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A fine balance worthy of a tightrope walker! Tuning one's breath to one's movement is to give it life and illuminate its presence. This is how gesture takes on the glow of humanity.

2 – Clarifying the different points of view in order to show the subtle coordinations that create different body states

The different points of view bring forth new horizons. All the points of view deserve to be studied; each one is its own world of matter, space, rhythm and emotion.

2-1- Thus, depending on the point of view, breathing in is considered an active phase or to the contrary, a passive phase.

Some examples from the DVD:

In the dynamic breathing described by Philippe Campignon, the in-breath is the active phase that implies a muscular contraction of the diaphragm and the lengthening of the spine, while the exhale is the passive phase: the stretched elements return to their former relaxed position.

The dance of Malkovsky, based on the ebb and flow of nature, explores this same point of view, this same coordination:

Suzanne Bodak ⁹ « *for Malko, everything breaths in and breaths out. He imitated the octopus, the inspiration of all undulating movement. We allow the spine to undulate, we don't make it undulate.* »

François Chaignaud ¹⁰ « *In the Byldo dance, the inhale is an incredible source of power. After 3 minutes of dancing with this insistent breathing, it's like having been caught in a wave; it generates an incredibly deep power. Breathing in is storing up air. Breathing out is letting go but unlike recent release techniques, this is like a heaven-sent release, you release without collapsing... It's a very controlled release but very gratifying because you control everything anticipated by this release. It's as if you made the frame in which you then place the release.* »

Xavier Rchet, on the other hand, sees breathing out as the active phase and breathing in as the reactive reflex phase. After having emptied the lungs on the exhale, the inhale seems to happen by itself. « *If you go all the way, compressing to empty out the air, then let the rib cage open naturally, you can increase your pulmonary capacity.* » The floating ribs lift, thus opening all the pulmonary alveoli which are particularly numerous in the back.

Same point of view with Graham:

Christophe Jeannot, « *after the contraction comes the release. In the contraction, you are exhaling deeply, almost suffocating, to then fill up with air again on the release.* » In the contraction, there is a « kneading of the deepest muscles in the pelvis, a massage both powerful and sensitive, an internal caress. »¹¹

What happens to the movement quality?

With Malkovsky, the diaphragm massages the intestines like a piston by increasing the abdominal pressure. With Graham, creating a sucking up decreases the pressure.

Christophe Jeannot describes the moment of landing after a jump in contraction:

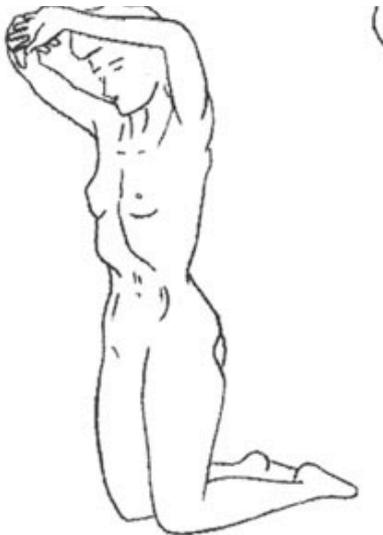
« *It's really the idea that you lift up to hold back, so as not to smash into the floor. There's a feeling of lift. In this extreme movement you have to really go for the lift because right away there is the release to start over.* »

Martha Graham used to say, « my dancers never fall just to fall. They fall to get up. »¹²

Without applying it to all of the Graham contractions, I would like to mention the research done by Marcel Caufriez in the 1980's for therapeutic ends, the hypopressure abdominal gymnastics called « lifting up the diaphragm ». It makes me think of the contraction Christophe calls « *the hybrid contraction, the one I prefer, where you feel a suspension* ».

« In the hypo pressure techniques, you are principally using the contraction of the serratus anterior muscle during the apnea on an exhaled breath. This false inhale causes an important expansion of the rib

cage and a dynamic and phasic relaxation of the thoracic diaphragm which then creates a drop in the intra-abdominal pressure, whence the term 'hypo pressure'. The « neuro-divergences », solicited by the reduction in the postural tonicity of the diaphragm, provoke a reflex contraction of the muscles of the abdominal wall and the perineum. » (cf drawing)¹³ The contraction also has an effect on the self-lengthening of the spine.



What is happening to the spine and its coordination with the diaphragm in these 2 examples? At first, it seems contradictory: with Malko, you lengthen the lordosis of the spine on the inhale and on the exhale with Graham. However, it is not contradictory in the dynamics of a movement.

Philippe Campignon explains it to Xavier in these terms: « while watching you just now, I saw that at the end of your breath you push the ground away. It's pretty contradictory, because generally when there's no air left, people hunch over and crumple. You, at that moment, wake up; you wake up the axis of your spine. You speak of an expansion in the rib cage, which could seem contradictory because you're exhaling. Well, that's the subtlety. In fact, you're already preparing for the inhale. You put everything in place so the inhale won't be too brutal. » We are in the phase of anticipation.

With Graham, the inhale phase, or release, is prepared during the exhale by the extreme lengthening of the spine. « So much energy for such a small movement. Such a concentrated intensity. I perceive it at the base of the coccyx; it climbs up the vertebrae creating space between each one, enlivens the nape of the neck, and supports the direction continuing upward vertically in the form of an extremely stretched out curve. A bow drawn to the limit of rupture. »¹⁴

The exhale thus creates the momentum for the inhale. The phases of breathing in and breathing out interconnect to become dance.

This abdominal emptying, as if sucking up one's intestines, can also magnify the sensation of lightness and balance sought in classical ballet. However, there is a risk of getting stuck in this lift and blocking the breath. Groundedness is then lost and so is the dynamics of the steps. The momentum from breathing is no longer there.

The expression « sucking up » or « lifting » is used both by Malko and by Graham. But for one, it's lifting with an inhale, for the other, it's a lifting on the exhale. For Malko, the impetus comes from the foot « pushing » through the floor with more or less intensity. Suzanne Bodak adds, « the quality of the support must coincide with the power you want to give to your gesture. » The descending diaphragm encounters the resistance from the ground and massages in depth the organs of digestion. With Graham, the impulse starts in the pelvic diaphragm that supports the genital organs of the inner pelvis; the vagina and the uterus become a central axis. The (breathing) diaphragm rises by relaxing.

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2-2 « The Diaphragm, Soul of the Belly » or Ally of Verticality?

Another point of view: the diaphragm is seen less as the soul of the belly but is felt more for its capacity to relieve us from the heaviness of gravity.

Philippe Campignon, « *we have a parachute, the diaphragm, with its dome and muscular fibers but especially its crura which I'm representing here with my forearms. With every breath I do the following: I lengthen, then with every inhale, the dome of my diaphragm becomes a fixed point. When I exhale, I can count on my diaphragm to keep me from falling. We call it an anti-gravity system. It's made up of the diaphragm and the transversus. In order to work, the crura of the diaphragm have to stay in a vertical position. Thanks to the transversus which surrounds the whole abdomen, I can keep my verticality lengthening with every inhale.* »

- Baroque dance with Béatrice Massin: « The 'Baroque' body is a vertical one, placed between heaven and earth, making the connection between the two. The dancer-king, as king and representative of God on Earth, was meant to represent this vertical relationship between man and the universe.¹⁵

The verticality of the Baroque body is not a rigid one. It's a verticality that brings alive the breath in the music and the fullness and fluidity of the movements in space. The Baroque body in fact illustrates the swirls of the music. Making this calligraphy a part of a body's texture is the work to which Béatrice Massin dedicates herself. In July of 2012, she invited me to participate in a workshop organized at the CND (National Center for Dance, in France) entitled « Baroque Dance, a Particular Stance ». We worked together to make palpable the Baroque art of connecting earth and heaven. The movie shows a part of our exchange on the last day of the workshop.

In Baroque dance, demi-point does not have the same amplitude as in classical ballet; in fact, it's actually a quarter relevé. The impulse is given by the plié, a « releasing of the knee » that is cushioned through the arch of the foot. The foot reacts like a spring and the body is lifted through the middle of the foot. This softness of the foot is only possible if the body is in a supple balance over the foot, in a breath between heaven and earth. For this, the spine needs its curves and its points of anchoring which are the sacrum and T8¹⁶. I worked with the students on a coordination described by Philippe Campignon to establish « dynamic breathing ». On the in-breath, there is an automatic lengthening of the spine through grounded feet while the lower belly contracts. On the exhale, you let go of the sternum by relaxing the lower belly. The diaphragm can then ground itself through its crurae and « reach for the sky » through the endothoracic fascia. Acting like a parachute, it supports the movements of the relevé. As Béatrice describes it, the dome of the diaphragm gives volume and space to verticality. The suspension necessary in Baroque's ternary rhythm is felt with a surprising freedom.

- Emio Greco's dance, with Bertha Bermudez « *in the work with Emio, there are a lot of rebounds; there are a lot of situations where we just let go. The diaphragm acts as a real ally; it is almost the initiation of the movement. Sometimes, to continue, especially after a lot of release work, we can't just fall down. So the diaphragm acts on its own, giving us the possibility to recover, to continue, to find the way to go further.* »

With Emio Greco, the diaphragm as parachute on the exhale helps prevent the body from falling and also guarantees the continuity of the movements, their interlacing. It forms, de-forms and re-forms according to the currents running through it. The inhale questions every millimeter of the body in a suspended stretch while the exhale « lets the release travel throughout the body ». The exchanges of gas on a cellular level chemically transform the body tissue. The bones become cartilaginous; the density of matter is softened. Jellyfish or parachute... the diaphragm choreographs a dance of fluttering inhales suspended in time and space.

« *Breathing is central, especially when we think of the whole body as being breathed. Sometimes we feel the whole body like a lung. In a movement phrase, the breathing becomes sound. We can really feel the air coming through the skin.* » To make sound on the inhale engages the descent of the diaphragm. If there were only movement at the top of the rib cage brought on by the arm movement, there wouldn't be the advantage of lengthening the pulmonary tissue, but only the muscular tissue.

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« The body can fill with air; there is so much space to be filled with air: the shoulders, the chest, it all becomes a livable space. The sternum is a place of passage between one shoulder and the other, between one side and the other, between up and down. We need to have skin but it's important also to forget its texture as well as that of the bones. With breathing, we can imagine a different body. » The movement is transmitted with a fluid density that runs through the articulations

3 – The intimacy of breathing and an opening of possibilities

Breathing is an intimate act and should not be rushed. To question it, to find new possibilities, one must find the entrance but also try a side door.

The coordinations discussed above depend on specific but « natural » breath, according to each choreographer. This can be applied to all of us. What we find natural is linked to our posture, as Philippe Campignon humoristically demonstrates. To become aware of our own unique way of breathing allows us to communicate our own experience without imposing it on others.

3-1- Finding one's way is an opening toward other possibilities

*«When teaching, the clarity of the explanation, the suggestion of various possibilities allows us to find our own personal entry. I am as I am, it's not a question of « that's how it is », explains Xavier Rchet.¹⁷
« As a student, 2 very different methods were proposed to me. In the first, I was expected to continually push down, whether breathing in or out, the idea being to stay anchored into the ground. Personally, this approach blocked me. The second approach consisted of controlling the rise of the diaphragm so the only real action was to push air out. The air enters and then all we have to do is expel it; the air enters and we exhale it from the bottom up.*

The first approach is based on anchoring into the ground during the inhale and keeping this downward push as long as possible in order to slow down the rising of the diaphragm and get a powerful sound. The second is based on air going out and the freedom of the spines curves « to assure slack between the top and bottom of the chest ».

Once the support is solid enough to produce a round and vibrant sound, Xavier Rchet uses both approaches in playing music: « I stay in contact with the abdominal mass to play the hard, flattened sounds you might hear with Bartok, Stravinsky or other contemporary composers (strength from the first approach); or I let go to play the fuller sounds that are about flexibility and physical vibration (the slack between the top and bottom of the chest in the second approach). »

Xavier quotes a Chinese proverb: « don't try to imitate your master rather search what he is looking for. » He explains it like this: « In teaching, it's dangerous to impose one way of breathing on students, by saying it is this way or that, without letting them find their own path. As Philippe explains, there are many ways of breathing, first of all because our bodies are different. Sometimes a learner forgets his own uniqueness and even the teacher may forget that we are all different. »

The paths of possibilities are numerous: AFCMD (Functional Anatomy of the Body in Danced Movement) likes to gather them, to name them, to make them available to teachers and experimenters like Xavier.

3-2 Indirect Strategies and Implementation of Constraints

The art of teaching is to « set the scene », with exercises that play on structural elements to indirectly influence a person's breathing and question one's postural habits.

Some examples from the DVD:

In the Feldenkrais class taught by Marie-France Rouyer, to free respiratory movement,¹⁸ we can point out certain strategies:

« *Watch what your breathing is doing... observe what your sternum is doing...* » We take the time to observe the movements created by breathing.

« *We're interested in organizing the subtle, initial movement but we don't need to get there immediately.* »

It's not the finish line but the process that we're interested in, the process put in place by the nervous system that responds to our input.

« *Take your time* » « *Look for what's easy for you, don't force* » Take the time to explore different possibilities; don't use force, find fluidity. (See the position of the hands, of the pelvis that differs from one student to another.)

« *Go back over what you did with the right arm and imagine doing the same with the left arm without actually doing it.* » An action is done on one side of the body but only imagined on the other.

« *Notice what has changed.* » Xavier feels new supports, which will now take time to integrate.

Constraints are used to find unexplored mobility. In the Feldenkrais lesson, the hand on the floor near the ear is in an unusual position while the foot is on the floor near the pelvis. We are looking for the mobility of the articulations in the chest between these two grounded areas.

Similar to this strategy is the one used by Noëlle Simonet¹⁹ in the warm-up for a Humphrey/Limon class: With the arm, we are looking to free the elastic force of the ribs when twisting. It's as if we played the piano with all our fingers to warm-up all the myofascial tissue of the arm. We imagine the little finger connected to the back of the rib cage and the thumb to the front, either with a suspension or a release. Like an accordion opening and closing, the ribs closing allows the pelvis to react to gravity while when opening, they create a suspension, such as the « primordial movement » described by Philippe Campignon.

Constraint by repetition/insistence

Bertha Bermudez says, « *In Emio's work, when you watch, you may think there's a lot of repetition of movements and of exercises. We like to say it's not repetition rather an exploration. If something is repeated, it's because time is needed to create the path or to release, so body tension really disappears. We need more than just a few seconds of time for physical memory or to get into a mental state that changes us. There's a real desire to become, to become another body, to become something imagined. It's a philosophy, a way of creating a whole being; as I said before, to be open to change, so the body communicates. We repeat to go beyond the known. Yes, that's what we're trying to do.* »

In conclusion...

An artist experimenting the frontiers of the physical world will ultimately explore the relationship of breathing and movement. Guy Cornut reminds us that « breathing is the fundamental act of life. » It brings to life the ebb and flow of each of our cells. When the choreographers Chaignaud and Bergolea go to the extreme by closing themselves in a latex bag slowly emptied of its air, they push our anxiety to the limit. The immobile bodies that seem not to breathe, close to death confront us. The first breath perceived is like a call for life.

When we watch the images of Kitsou Dubois, there is a feeling of peace. It's the peacefulness of the cells and the diaphragm in the « slack » phase, « instant where the alveoli are emptied before new air arrives; they open to breathe. It's a rapid relaxation »²⁰ close to the state of meditation. Kitsou Dubois calls it « the dilated body ». « *We're in dilation because we've put the greatest body surface into the volume of the water. We're in a time/space reference where time is not speed. We're not diving fast to resurface; we're in a moment that can last.* »

The power of the diaphragm is thus revealed in all its aspects, capable of giving us voice and gestures in a three-dimensional space close to infinity.

Odile Rouquet – June 2012
Translation from French Lila Greene
Thanks to Lila Greene and Linda Rabin

¹ Le corps entre les mains- J. Dolto – Edition Hermann 1976 p.249

² I met Guy Cornut through Christine Bertocchi and Monique de Saint Ghislain

³ La dynamique du diaphragme – Annie Trolliet-Cornut – colloque « moyens d'investigation et pédagogie de la voie chantée » Edition symétrie Lyon 2001

⁴ idem note 1

⁵ idem note 3

⁶ Respir-Actions- Philippe Campignon- Edition Frison-Roche- Paris 2012 – 3^{ème} édition

⁷ In « cockette en goguette » by Marie-Christine Vernay- Libération 18 mai 2012

⁸ Extract from François Chaignaud's interview with O. Rouquet April 2011

⁹ Extract from Suzanne Bodak's interview with O. Rouquet April 2011

¹⁰ Idem note 8

¹¹ Martha ou le mensonge du mouvement – Claude Pujade-Renaud- Edition Babel Actes Sud 1996

¹² Martha Graham- Mémoire de la danse- Edition Babel Actes Sud 1992 p.276

¹³ Quotation from « Place de la gymnastique abdominale hypopressive dans la prise en charge des algies pelvi-périnéales. » M. Caufriez, A. Marzolf

¹⁴ Idem note 11 p.89

¹⁵ Béatrice Massin's interview by B. Jarasse August 22nd 2008 Dansomanie

¹⁶ See DVD « The diversity of supports in modern dance » - REM collection 2010

¹⁷ Informal talk with Xavier Rachtet- June 2011

¹⁸ A Feldenkrais lesson lasts one hour, in the DVD few extracts are presented.

¹⁹ Exercices written in Laban Notation by Nona Schurman 1972 and taught by Noelle Simonet to the CNSMDP students- extract from Doris Humphrey's Ritmo Rondo.

²⁰ « Ouf ! Je respire » Yvonne Paire –Edition Mango bien-être 2012