

Alberto Toledano

Physically left us at
8:10 am, on 11.23.02,
without fear
because he believed
in immortality.



1914
A. H. S. P. A.

Strange is our situation here on earth.

Imagination is more important than knowledge.
Knowledge is limited. Imagination encircles the world.

The further the spiritual evolution of mankind advances,
the more certain it seems to me that the path to genuine
religiosity does not live through the fear of life, and the
fear of death, and blind faith, but through striving after
rational knowledge.

It is the supreme art of the teacher to awaken joy in
creative expression and knowledge.

Teaching should be such that what is offered is perceived as a
valuable gift and not as a hard duty.

- Albert Einstein

Alberto

Truest friend.

Always honest.

Man of his word.

Teacher.

Scholar.

Professor of mathematics, physics, applied mechanics.

Artist.

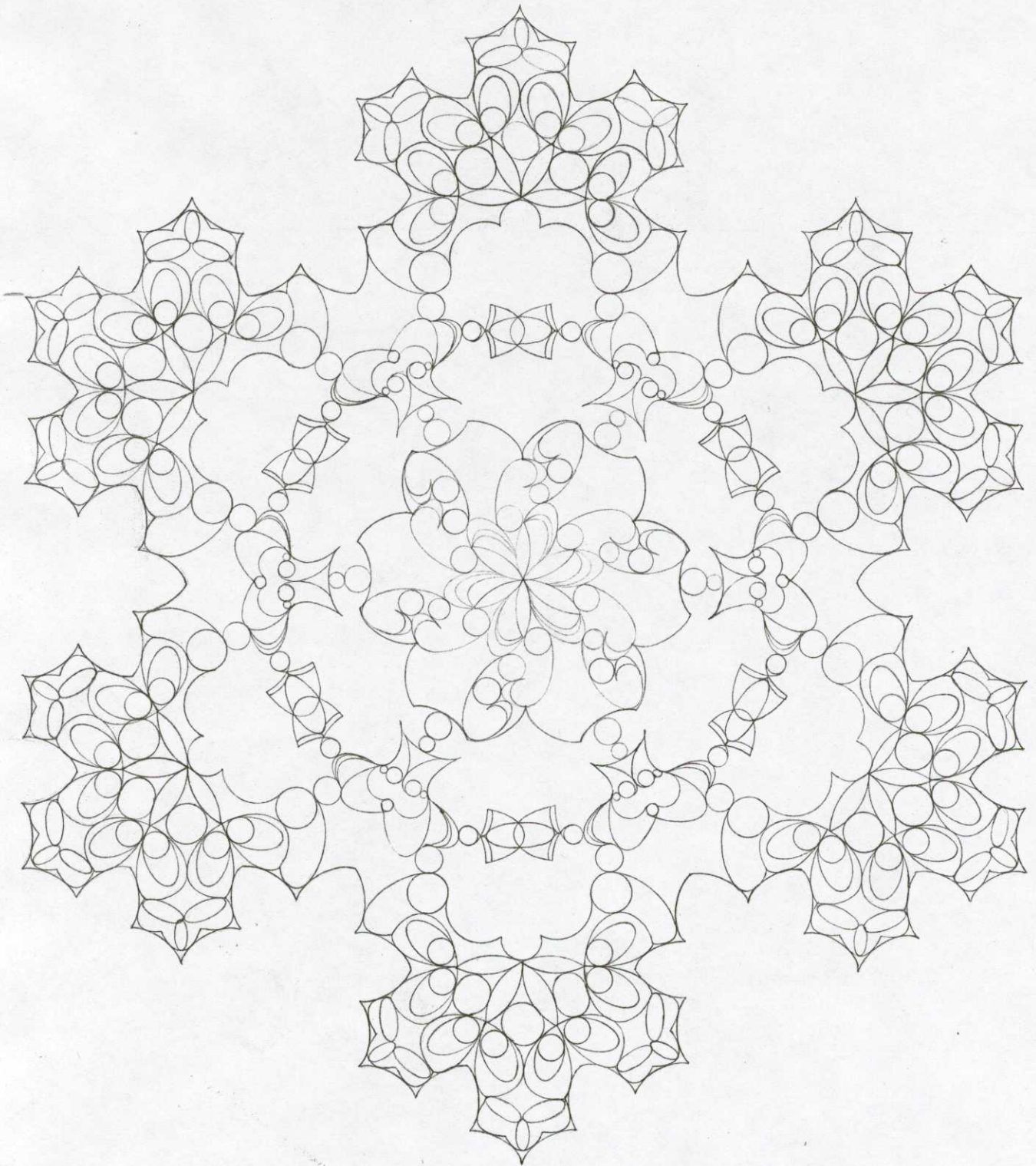
Writer.

Argentine Tango performer, choreographer, teacher.

In the hearts of those he let in, FOREVER.



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4.10.89

Tango and the Yearning for Closeness
by Alberto Toledano

I am thrilled to be part of [...], the first LA based newsletter. Our steadily growing Tango community surely deserves such a publication. The increased interest and widely shared passion for the dance, as evidenced by the continuous number of tangueros and tangueras who invariably support our local milongas, have spurred the creation of this column, which is entirely devoted to any aspect of the Tango in its dance form.

As a child, I had listened to Gardel on the Spanish radio. He was a household name, and his reputation as a Tango singer was widespread. As a result, the heart-felt sadness and melancholy of the music were familiar to me. Only years later, in the spring of '82 while residing in Montreal, did I have the immense pleasure of watching the dance for the first time. I remember the experience vividly: during the second act of an entirely musical program, performed mostly by Uruguayan artists, the pianist stood up and danced a short piece with a ballerina from the city's ballet company. The dialogue between the dancers' feet, their meditative expressions, and their enjoyment of each other, enthralled me. What fascinated me the most, however, was the closeness of their torsos. I could feel the sweetness of their tight embrace, and the warmth of their caressing bodies. That evening, I resolved to learn how to dance Tango.

Since then, I've had the privilege to travel several times to Buenos Aires, and dance in the many milongas which flourish in the city. The closeness of the dancers still strikes me as of one of the most crucial features of the Tango. The dance cannot be fully enjoyed if the bodies are away from each other. The milongueros always strive to maintain the physical contact. This is best achieved by walking (*caminar*), where the torsos are naturally touching. Pauses are also used, thus reinforcing the physical contact. In the more difficult case of turns (*giros*), the man leads the woman with his upper body, so that she rolls on his chest. This intimacy makes the experience personal. Furthermore, the dejection, the mournfulness, and the power inherent in the music compel the dancers to seek and revel in physical togetherness.

The social and moral laws that prevailed during the early development of Tango forbade the public display of intimacy. Tango therefore expresses the yearning for closeness of two bodies, for affection between two beings. The embrace (*el abrazo*), created out of this strong desire, inexorably brings the man and the woman into intimate physical contact. They speak and feel solely with their bodies. They get to know and enjoy each other, as their breaths mix, their legs interlace, and their feet kiss. Words are not only impossible, they become superfluous. The quietness, the solemnity, and the sweetness of the embrace allow the communion of two beings. Tango thus becomes a channel for the release and exchange of the dancers' inner energies.

Space and Time in Tango by Alberto Toledano

In two previous articles ("Tango and the Laws of Mechanics, Parts I & II," La Voz del Tango, July/August and September/October 1996 issues), I discussed the basic concepts of mass and force as they apply to Tango. Here, I shall consider the other two fundamental notions of the Science of Mechanics, namely space and time.

Tango, as dance form, expresses movement of two bodies. Now, movement implies both a spatial and a temporal representation. It is impossible to imagine, let alone experience, movement in space, but not in time, or in time, but not in space. This interdependence of space and time is unique to the art of dance. Sculpture and painting, for example, are solely spatial compositions, frozen in time. Music, on the other hand, has one single temporal dimension, but is devoid of any spatial characterization. Tango is a pattern in space which employs time rhythm.

In the present discussion of space as it relates to Tango, I shall distinguish between intimate space and container space. Although these spaces operate in conjunction, perception in the former is sensorial, in the latter dynamic.

The intimate space is that space shared by the dancers as they come together. This action forces the dancer to expose himself, and let the other penetrate the invisible, yet protective sphere or bubble, that surrounds him. When the respective bubbles overlap, complete intimate involvement occurs. Each partner must be willing to become vulnerable in order to exchange energies: a physical and emotional transaction takes place.

Intimate space results in physical contact, the amount of which depends on the distance the dancers keep between them, i.e it depends on the tightness of the embrace. This, distance is obviously variable. The intricate nature of certain figures requires the bodies to separate in order for the execution to be comfortable and precise. Walking, on the other hand, may be done in close contact, chests pressing against each other. Also, the music, the mood, the way the dancers feel about each other can bring them closer together.

In intimate space, the presence of the other is unmistakable, undeniable, because of the increased intensity of sensory inputs. In particular, touch, smell, heat from the other's body, and feel of the breath, all contribute to signal the strong, powerful involvement between the dancers. During maximum physical contact, muscles and skin communicate. Heads, chests, thighs are brought into play; arms encircle. Vision is limited, but when it is possible within the intimate range, the image of the other is enhanced, the impression and effect are stronger.

The man's lead originates within the intimate space. His upper body indicates the nature and direction of movement. For example, for a forward step, the man thrusts his chest

forward, while in a sacada, his leg comes into contact with the woman's. In either case, the man invades the woman's space. This act of invasion is assertive, forceful, sometimes explosive, but never destructive.

The classical concept of space provides a means to specify the position where material objects are located and to describe a medium through which they move. This interpretation suggests the idea of a container space, i.e. a space in which things may be put. Where a couple was previously located, another couple, or the same one, may come to be situated. The place remains. Space then is the receptacle or container in which the dancers are placed and through which they move. Space has the quality of emptiness, and like the sculptor, the dancer fills it. The dance becomes a sequence or arrangement of patterns associated with the phenomenon of displacement. Perception of space is then dynamic, because it is related to action.

In a social context, the man, as leader, is not only the initiator of the movement, but also its director. In other words, the man has the responsibility to look for the space, i.e. to look for an available opening or vacancy on the dance floor. The selection of figures is obviously a function of this available space. It depends on the distribution and density of the couples sharing the floor. As a result, there appears a network of relations among couples. This relational interpretation of space in a milonga is a direct consequence of the container conception of space.

I have already mentioned that Tango is an arrangement of patterns in space. Therefore, the dance possesses a spatial rhythm, i.e. it is an oscillation between tensions and contractions, linear and circular movements, short and long steps, stillness and motion. This spatial rhythm confers a dynamic to the dance. The dance thus acquires life for it breathes. In stillness, the sense of the intimate space reaches its maximum, while in motion the sense of the container space predominates.

I now come to the concept of time. Music exists in time. There is a before and an after, a progression from an earlier to a later point. This also characterizes our daily experience of time: it flows, it proceeds unidirectionally from one event to the next. Because dancing is an independent art, it can exist without audible accompaniment. As far as Tango is concerned, however, the dance acquires meaning and comes alive when it is performed to musical time. As music is an organization of time, so is the dance an arrangement in time, which employs temporal rhythm. The dancer is guided by the pulsations in the music, i.e. by the alternation of contrasting elements such as rise and fall, tension and release, anticipation and surprise. The dancer interprets the distance between notes, he deciphers their relations and translates them into spatial movement. He creates a mapping between time and space, he transforms a musical geometry into a spatial geometry.

The successive stepping on the right and left foot, as well as the beats that define the rhythm, both form a discrete sequence of numbers, i.e. they can be counted 1,2,3, ... Movement and music, however, are continuous manifestations. Bodies don't just disappear from one place to suddenly pop up elsewhere. Space has no gaps. Similarly, music is not a series of isolated, instantaneous sounds. It is a spectrum. Our palpable

sense of continuity emanates from the relations between places and events. As the dancer hears between notes, he dances between steps to model continuity from discontinuity. The dancer is a designer, a sculptor of action. Space and time are the materials at his disposal to create movement.

© Alberto Toledano, 11.29.1997

Tango, A Dialogue Between Two Bodies
by Alberto Toledano

I like to think of Tango as a language, spoken not with the tongue but with the entire body. A silent language indeed, but endowed nonetheless with its own syntax and semantics.

Following the musical phrases, the dancers construct sentences with their feet. These sentences are not fixed, immutable figures carved in stone. They rather consist of dynamic patterns or elements, which may be combined in any desired manner. Complete arbitrariness is however impossible, for movements would otherwise lack fluidity and feel unnatural. This syntactic constraint is akin to the way words are put together to form intelligible clauses in daily speech. Furthermore, the same basic, choreographic elements yield totally different combinations, according to the music, the space, the mood, as well as the specific partner. These variables thus dictate the meaning of any improvised dance.

In much the same way as two interlocutors need pay attention to what each one is saying in order to carry on a stimulating conversation, so must the dancers' bodies closely listen to each other. The man must be sensitive to the woman, and the woman in turn must be sensitive to the man. This mutual sensitiveness makes the dialogue possible. A clear understanding of and a profound respect for each partner's role are tantamount to creating a Tango.

In any couple dance, someone has to lead, someone has to make the first move. This responsibility traditionally rests upon the man. The lead is a coded message, which the woman needs to decipher in order to take action. This response on the woman's part in turn gives rise to an answer from the man, i.e. the man follows the woman's reaction with another proposition. This succession of actions and reactions constitutes the dance, a spontaneous dialogue between two bodies. The woman obviously must wait for the man's lead before attempting any movement. He then waits for her to complete her action, before sending the next message. Waiting is a fundamental aspect of Tango. It is being aware of what the other is trying to express, it is being sensitive to what the other is feeling. Anticipation, much like a rude interruption which hampers the natural delivery of speech, disrupts the continuous flow of movement and exchange of energies. Waiting creates a polarity essential to communication, to sharing each other.

The music interpretation is enhanced when the man deliberately pauses and lets the woman take the initiative. She can then do different adornos (adornments) with her feet. These pauses are bifurcation points from which new paths spread out. I love when the woman takes full advantage of such moments, because it allows me to experience her creativity, and savor her sensuality, her femininity. On the other hand, I also have the freedom to adorn while she is in a parada (stop) position, for example. This possible alternation of embellishments or monologues highly enrich the dance. It then becomes a creative repartee during which we more fully surrender to each other. The man can also pause and let bars of music go by before resuming the dance at the next phrase. These

quiet, still moments bring the dancers into a closer intimacy, forcing their bodies to connect at a deeper, more visceral level.

In a milonga somewhere, a man and a woman sit. Once in a while, they take a sip at their drink. They listlessly observe the dancers glide on the floor. Then, a sudden eye contact, a subtle nod, and this man and this woman come together. During a short time span, these two strangers get to know each other. Their bodies express feelings and exchange emotions. They live an intense and intimate experience without uttering a single word. It's a Tango... Back at their tables, they resume their routine, their eyes languidly follow the dancers.

© Alberto Toledano, 5.31.96

Tango and the Laws of Mechanics
by Alberto Toledano

Tango, as a dance *form* (*Tango Danza*), is one expression of the interaction between two material bodies in motion. It therefore seems natural to approach the subject from a *mechanics* point of view. The fundamental principles and laws of this science involve the basic concepts of *space, time, mass and force*. Here, I shall be solely concerned with mass and force as they relate to the dance, while deferring the discussion on space and time to a future article.

The human body, possessing mass, may be represented by its *center of gravity* (CG) and *vertical axis* (V A)! The CG is that point at which the total mass of the body could be concentrated. Its exact location depends on the shape of the body, i. e. on the spatial distribution of its mass. In humans, the CG is found in close vicinity to the navel. The V A runs through the head, 'along the spine and passes through the CG. In a natural standing position, this axis divides the body into two equal and symmetrical parts.

Now, in *dance position*, the man and the woman have, respectively, the left and right arm raised. This implies that both the CG and V A are slightly shifted from their natural position towards the raised arm. This *in turn shows* the importance of always practicing, say walking, in dance position, as opposed to keeping the arms along one's sides.

The intimate embrace of the Tango forces the dancers' V As to operate in precise conjunction. One can thus imagine a *composite* body consisting of the man and woman bodies. This composite body will therefore possess its own V A. It is the *resultant* of the dancers' individual axes. Tango then involves the interplay of *three* axes.

The upper and lower bodies work as two separate, though complementary entities. The waist is the *connective* element between these two parts. The upper body, *or frame*, consists of both arms and the torso. The lower body consists of the legs and feet, which define the dancer's *groundedness*. Therefore, frame and groundedness play a crucial function in achieving complete control of the CG and V As, which in turn leads to proper balance, stability and togetherness.

The frame operates in *rigid body motion*, i.e. there is *no* relative deformation between its parts. It moves as one unit. In other words, the arms should not collapse, nor move up and down, forward and backward, while the shoulders are relaxed and leveled. It is worth noting that in this context, *rigid* does not mean *stiff*; but rather *strong, connected*. The dancer's frame plays the same role as a *structural* frame, which gives both shape and strength to a building. Here, shape consists of good posture and elegance. A solid, elegant frame is thus accomplished by pulling the shoulders back, opening the chest, stretching the diaphragm like a bow, and keeping the raised arm firm.

When the man presses the woman against his chest, holding her right hand in his left, a pressure arises from this intimate contact. If the dancers maintain a strong, stable frame, then a well-balanced tension exists between them, the composite body being in equilibrium. This is a direct consequence of Newton's Third Law of Motion, which states that *the forces of action and reaction between two bodies in contact have the same magnitude, are collinear and opposite in direction*. Under these conditions, the frame

becomes a *physical channel* through which the dancers communicate. The man holds the woman with conviction, making her feel secure in his arms, able to completely trust him. His intent is focused at his chest. She in turn is conscious of his power, ready to respond to his action. They then move together, thus complementing each other, since now all *three axes* are working in perfect unison.

To be continued...

Tango and The Laws of Mechanics, Part 2
by Alberto Toledano

In the first part of this article, I considered the basic mechanical concepts of *mass* and *force* as they relate to Tango. I defined the body's center of gravity (CG) and vertical axis (V A). I then introduced the notions *frame* and *groundedness*, and stressed their vital role in achieving proper balance, stability and togetherness. In this second part, I will conclude the discussion about frame and groundedness.

The frame, or upper body, consists of the torso and both arms. It characterizes the dancer's elegance. In dance position, contact is established at the chest, toes facing each other but slightly apart. As a result, the dancers are *leaning* against each other, their bodies making an inverted V shape. I like to think of this position as an *arch*, especially in the following sense: The inverted V shape implies a *discontinuity*, an abrupt change at the point of contact, where two distinct components have been glued together. The arch, on the other hand, is a *continuous*, smooth curve, suggesting one integral entity. The man and the woman are then extensions of each other. In this configuration, each dancer represents a prong of the arch. The *keystone* becomes the contact area at the chest. In much the same way as the keystone at the crown of an arch locks the other pieces in place, so does the contact at the chest create the necessary tension to keep the dancers in perfect balance (Newton's Third Law of Motion).

Groundedness involves the lower body, i.e. the legs and feet. Groundedness is first accomplished by bending the knees. This action naturally lowers the CG, thus increasing stability. On the other hand, the foot is completely relaxed as the body weight is transferred onto it. As a result, the floor imparts a reactive force to the supporting leg, this again being a direct consequence of Newton's Third Law of Motion. It is this reaction which helps propel oneself to the next step. Now, between each step, the inside of one leg *caresses* the other, while the foot of the moving leg *skims* the floor. This allows for greater control of both the CG and V A. When we stand or walk, we do not fall through because the Earth is right underneath us. Similarly, maintaining the physical contact with the floor, together with the action of one leg caressing the other, are both reassuring and essential to achieve proper balance.

The dancer's knowledge and experience of the floor happen through his feet. He *must feel* the floor, be fully conscious of its presence and make it a natural extension of his feet. There results a connection, a relationship with the floor, whose reaction, literally and figuratively, make the dance possible. In the same way as a tree needs the Earth to grow deep roots and live, so do the dancers require the floor to create a Tango. Under this light, Tango involves the interaction of *three* partners: both dancers and the floor. The latter then becomes the *canvas* on which the feet, like brushes, paint the dancers' emotions in different colors and shades.



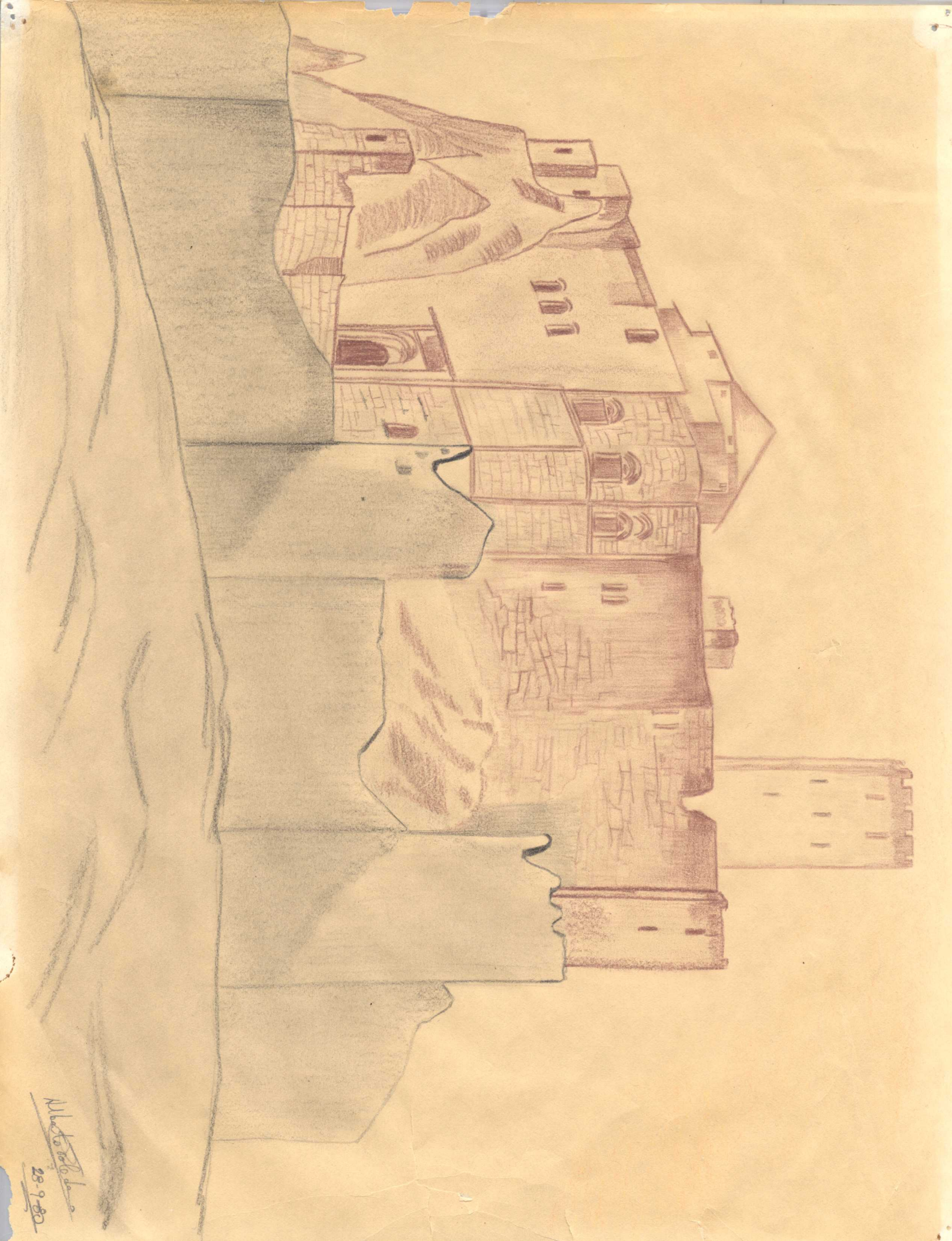
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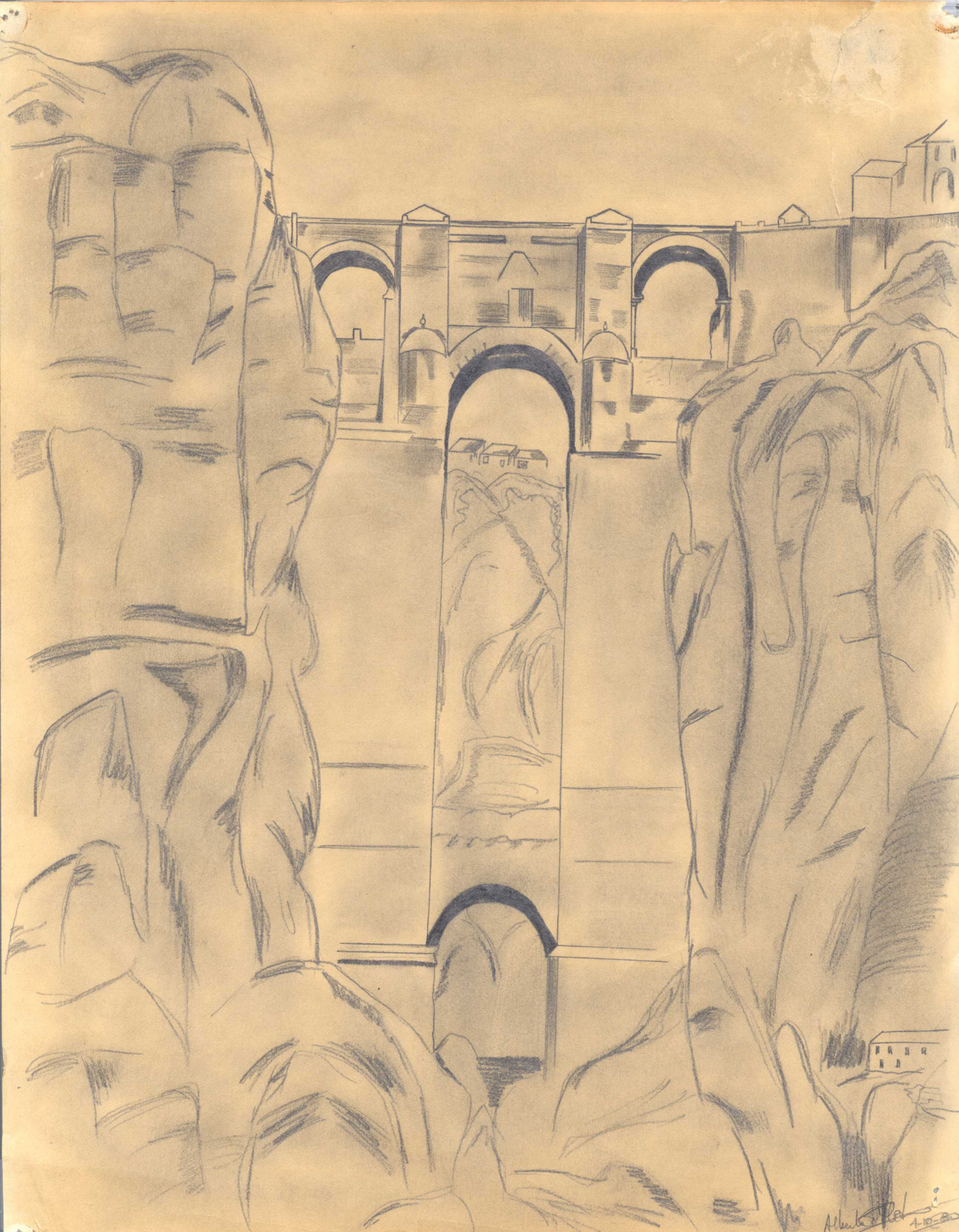


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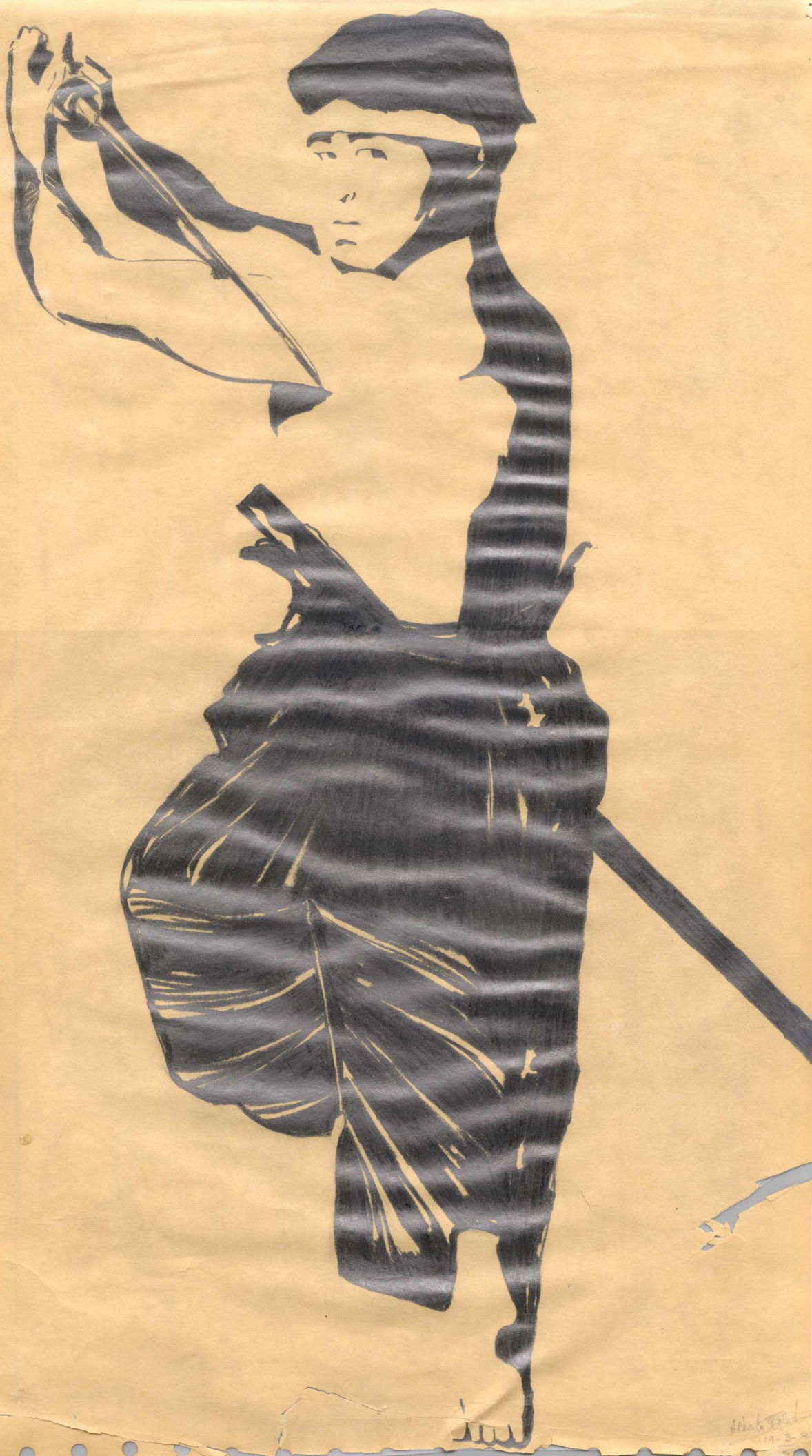


Alberto R. de S.
28-9-80



Alberto P. 1-10-20





The highest activity a human being
can attain is learning for understanding,
because to understand is to be free.

- Baruch (Benedict de) Spinoza