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MUSICAL IMAGINATION AS A POINT OF CONTACT BETWEEN SCHOOLS PIANISTICS

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Summary

Pianistic Schools present the concept of Musical Imagination as a point of contact. Verifying the sustainability or consistency of this textual formulation in terms of a substantive hypothesis constitutes the scope of this work. In this vein, we used the analytical-descriptive method supported by the Literature Review. Furthermore, as an expressive way of the conditions underlying human existence, Musical Imagination takes possession of the means and resources originating from the historically accumulated Pianistic Technique in order to enable the pianist to freely communicate their artistic-aesthetic intentions. On this basis, the notion of Musical Imagination emerges from the evolution of Pianism.

Keywords: Musical imagination. Pianistic technique. Pianistic schools. Pre-scientific and scientific schools. Expressivity and creative process ("*poíesis*").

Abstract

The Pianistic Schools present the concept of Musical Imagination as a point of contact. Checking the sustainability or consistency of this textual formulation based on a substantive hypothesis is the scope of this work. In this tuning fork, we use the analytical-descriptive method supported by the Literature Review. Furthermore, as an expressive way of the conditions underlying human existence, Musical Imagination takes over the means and resources from the historically accumulated Pianistic Technique to enable the pianist-interpreter to freely communicate their artistic-aesthetic intentions. In this support, behold, the notion of Musical Imagination is inferred from the evolution of Pianism.

Keywords: Musical imagination. Pianistic technique. Pianistic schools. Pre-scientific and scientific schools. Expressiveness and creative process ("*poíesis*").

1.0 – Introduction: delimitation of the problem, justification and possible contribution

As we extract from Signorelli (2019), we have that:

> As of March 2016, we began teaching the optional theoretical subject "History of the piano and pianists: technical-interpretive trends and pedagogical approaches" at the Faculdade de Música do Espírito Santo (FAMES). The main purpose of this discipline is to equip students with a technical-musical arsenal based on historical information that allows students to acquire new motor skills and enhance their capabilities in solving pianistic problems. (SIGNORELLI, 2019, p. 1).

Thus, in line with Signorelli (2019), we read that this discipline's main scope is to equip students with a technical-musical arsenal based on historical subsidies that provide students with the acquisition of new motor skills and the enhancement of their capabilities in solving problems. pianistic problems in an autonomous, emancipated or independent way.

For the present work, we will consider the concept of Musical Imagination adopted by Neuhaus (1973), Pereira (1948) and Matthay (1988), among others. In this sense, we have Musical Imagination as*the ability to hear the sound before playing ("feel")*. It is, therefore, a perception or sensation of the inner ear[1].

According to Kaemper (1968,*apud*Signorelli, 2019), for each Sound quality desired by the performer-pianist, a certain type of gesture corresponds (and vice versa)[two]. However, it is important to remember that we will not deal here with the tactile or sensorimotor aspects (i.e.: corporeality, body awareness or motor imagination) nor the visual issues (i.e.: physicality, spatiality and visual imagination) of music making.[3](although all these aspects are interrelated with each other in a synergistic symbiosis). We will therefore carry out the due epistemological restriction of the term by framing it, framing it and cropping it in order to provide clear contours or delineations to the focus of our thematic proposal.

1.1 - Objectives

[1]In short: the Image or Mental Representation about the Music (Text) will give rise to an Image or Mental Representation about the Movements (Body) strictly necessary for the good execution of a given passage. According to Neuhaus (1973), it is a dialectical mechanism that is at work ("*Image-Making*").

[two]Although, depending on the author, the same excerpt, passage, content, sequence or musical design may accept different types of gestures for its effective realization in terms of sound production on the piano.

[3]However, both are important and must be considered both in the technical and in the interpretative field.

As objectives of this work, we can mention the scopes listed below, unraveling them, breaking them down, dissecting them into general objectives and specific objectives to be achieved in the investigation of scientific writing.

In fact, objectives also have the power to point to the justification of the work; as well as indicating or suggesting its possible contribution to both the academic-scientific field and the artistic-cultural field.

1.1.a - General objective

Assess how the instrumentalist can offer the public a genuine and faithful interpretation; as well as how piano schools can help you with how to interpret a Musical Work with Musical Imagination as the starting and ending point of artistic creation.

1.1.b - Specific objectives

1) Demystify the concept of "pianist schools"[4]as something old and outdated oxygenating its real reach, meaning and scope;
2) Show how the adopted concept of Musical Imagination guided the entire development of Pianistic Technique, as well as the dialogical relationship between the meanings of Musical Imagination and the contents of Pianistic Schools throughout the History of the Piano;
3) Conclude on the relevance and usefulness of Pianistic Schools in order to guide (without impositions) the pianist in their interpretative decisions aiming at the faithful realization of the musical content.

[4]The reference was made in quotation marks solely to indicate the use of a term, phrase or expression.

In this work, we will use, as the main guiding theme, the works of Neuhaus (1973) and Lucas (2010). As more modern and updated references on how Musical Imagination interferes with Performance (regardless of the technical-interpretive school addressed); we will use the collaborations of Bowen (1993), Small (1998), Clarke (1999), Wegman (2003), Cook (2009) and Kuehn (2012), among others. In this research, we will also use the set of literature of manuals aimed at the analysis of technical-interpretative aspects in the piano field, in their respective chapters consistent with the theme at hand.

Like Signorelli (2019), we will use the references of authors who they dialogue with the same language, timbre and chromatic tonality in relation to the aforementioned authors; namely: Schultz (1936), Schonberg (1960), Kochevitsky (1967), Kaplan (1987), Richerme (1996), Buser (1997), Mark (1999), Chiantore (2001), Leite (2001) , Rattalino (2005), Hertel (2006), Gerig (2007), among others.

In the subsequent lines, moreover, the authors will parade.

4.0 - Musical Imagination

In this topic, we will discuss the conceptions or meanings of the term *Musical Imagination*. It should be noted, however, that, in the piano-musical theoretical literature, only in three authors, namely, Pereira (1948), Neuhaus (1973) and Matthay (1988), do we find a clear, precise and objective definition of what comes to be be Imagination applied to pianistic interpretation.

The first of them is the figure of Neuhaus (1973), for whom *Imagination* corresponds to the Artistic Image, the Sound Image (listening internally in advance), the clear Aesthetic-musical Conception of the performer. Let's take a closer look at his words:

> How many times have I heard students who did not have a true artistic-musical school, ie, no aesthetic education, who are poorly developed musically in an attempt to interpret the compositions of a great composer! The musical language was not clear to them; instead of a speech, they acquired a type of murmur; instead of a clear idea – just a few scant fragments of thought; instead of a strong emotion – some abortive sufferings; instead of a deep logic - "causeless effect", and instead of a poetic language - a prosaic shadow. And obviously the much talked about technique was consequently inadequate. This is the type of execution when the artistic image is distorted, or it is not at the center of the interpretation, or it is completely absent.[5](NEUHAUS, 1973, p. 70, our translation).

And he continues: "[...] Music lives within us, in our minds, in our consciences, our emotions, our imagination; its "home" can be exactly established: it is our listening"[6](NEUHAUS, 1973, p. 70).

As we have seen, we can infer that, for the renowned professor,*Imagination* it means delving into the intricacies of the musical language, discovering the intimacy of the composer's ideas in a complete, continuous and entire reasoning (without interruptions, suspensions, breaks or sections). The result of this analysis is the unity of the compositional discourse and the authority obtained through knowledge translated into more convincing (and strong) emotions, making up an entirely poetic whole. In other words, the attribution of musical meaning (Semantics) first goes through the process of unveiling the written speech or musical text (Syntax). This is the total process of attributing meaning or structuring the meanings arising from the graphic signs present in musical notation. In short: the*Musical Semantics*is closely related to*Musical Syntax*, as*product*this one. Both are inseparable entities.

This seems to be the core thinking of Heinrich Neuhaus (name of German origin) or Gustav Gustavovich Neigauz (name of Russian origin). And it is not surprising that this is the opinion of this master, so linked to the schools of Chopin and Liszt; which, in turn, received,

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[5]How many times have I heard pupils who had no real musical or artistic schooling, ie., no aesthetic education, who are musically insufficiently developed, attempt to render the compositions of great composer! Musical language was not clear to them; instead of speech, they achieved some sort of muttering; instead of a clear idea - only some meager fragments of thought; instead of strong emotion - some abortive pangs; instead of profound logic - "effect without cause", and instead of a poetic image - a prosaic shadow. And of course so-called technique was consequently also inadequate. This is the kind of playing you get if the artistic image is distorted, or is not at the core of the rendering, or is absent altogether.

[6][...] Music lives within us, in our brain, in our consciousness, our emotions, our imagination; its "domicile" can be accurately established: it is our hearing.

according to Lucas (2010,*apud*Signorelli, 2019), the influx of all the rhetorical thought (musical oratory) of the 18th century (expressed, above all, in the work of Beethoven).

So that F. Chopin, according to Eigeldinger (1986,*apud*Signorelli, 2019), sought to imitate the human voice on the Pleyel piano, since it was inspired by the*"bel canto"* Italian[7]and in baroque polyphony. In contrast to the pianos manufactured by Érard, the Pleyel brand pianos had a "simple escapement": with a much less resistant keyboard and equal weight in terms of the keys; and conducive to the production of the most subtle medium nuances (as well as the touch "*je perlé*" = pearly). Unlike Érard pianos, more dedicated to "*voice*" and to "*cantabile*", with greater sound distance (and also regularity in the weight of the keys) between the low and high registers (more focused on contrasts, drama and theatricality).

It is important to highlight that Pleyel pianos were preferred by F. Chopin. In fact, his romanticism of ideas demands greater flexibility of touch and its refinement matches the possibilities of delicate gradation of dynamics (richness of details regarding the timbre, the quality of the touch, the "*cantabile legato*", the diversity of touches and the color) of Pleyel pianos. Softness and sweetness were characteristics of Pleyel pianos, considered by F. Chopin to be the last word in perfection. In this context, Eigeldinger (1986,*apud*Signorelli, 2019) notes F. Chopin's technique and his pedagogical approach: "Have your entire body flexible down to the tips of your fingers[8]" (EIGELDINGER, 1986, p. 23, our translation).

In turn, still according to Eigeldinger (1986,*apud*Signorelli, 2019), F. Liszt made the Érard piano a great orchestral power, placing itself chronologically between LV Beethoven and M. Ravel in this aspect or aspect. With the advent of Érard pianos, the transmission of motor impulse (musical energy) became more efficient (reducing the effort to put the hammer into action) and the keyboard became lighter, although more resistant to touch (sound production only occurred when the key reached its bottom, it was not enough to press it halfway with the key lowered – half of the key corresponded only to the first escape). Therefore, these transformations led to the repetition of the same note at high speeds or the so-called "repeated notes" compositional technique (previously, the hammer separated from the string, traveling a long way before returning to its starting point).

[7]According to Eigeldinger (1986), when teaching, F. Chopin advised his students to listen to singers in order to learn how to phrase.

[8]Have the body supple right to the tips of the toes.

match). It is worth mentioning that Érard pianos were F. Liszt's favorite, which explains the technical-pianistic revolution that this composer (and also great pianist) carried out in the musical universe. So piano technique can be divided into before and after F. Liszt. In fact, the "double escapement" pianos built by Érard, equipped with a more resistant keyboard, required a greater contribution of weight from the neck (as we will see in the so-called Lisztian school of piano in another scientific article that deals with the German school), as well as the participation of the entire body in the execution.

In this sense, Ott (1992,*apud*Signorelli, 2019), stating that the technique of F. Liszt was based on the use of the entire arm (application of weight from the shoulders or upper parts of the arm) in a suspended state. He also comments on F. Liszt's pedagogical approach: "[...] one must suspend the arm as a stable reference point in the work of pressing or relieving the forearm[9]" (OTT, 1992, p. 40, our translation). And he adds, regarding F. Liszt's pianistic movements: "[...] spiral movements, there is an elasticity in the rotation, jumps are rolled. The hand moves in rotating gestures, the fingers are flexible in their rounding[10]" (OTT, 1992, p. 156 and 157, our translation).

In this vein, Franz Liszt even stated that the clearer the sound image in the pianist's mind, the more natural (and simple) the adaptation and adaptation of the means (technical-mechanical movements) would be in order to concretely achieve such a goal. (or "*goal*"). This is the basic notion passed, bequeathed or transmitted by the pianistic-musical tradition.

In the same sense, we glimpse the lesson taught by Copland (1974), according to which:

> My own opinion is that all music has its expressive power, some more and others less, but they all have a certain meaning hidden behind the notes, and that meaning constitutes, after all, what a given piece is saying, or what what she intends to say. The problem can be put in a simpler way by asking, "Does music have a meaning?" To which my answer would be "Yes." And then: "Can you say in a number of words what that meaning is?" And here my answer would be "No." That's where the difficulty lies. People of simpler natures will never be satisfied with this answer to the second question. They always want music to have a meaning, and the more concrete, the better. Music seems more expressive to them the more accurately it represents a train, a storm, a funeral or some other known notion. This popular idea of musical meaning — encouraged by the contemporary habit of commenting on music — should be discouraged under all circumstances [...] Music

[9][...] one must suspend the arm as a stable reference point in the work of pressing or lightening the forearm.
[10][...] movements in spirals, there is a rotating elasticity, leaps are rolled. The hand moves in pivoting gestures, the fingers are flexible in their rounding.

> expresses, at different moments, serenity or exaltation, sadness or victory, fury or delight. It expresses each of these*moods*, and many others, in an infinite variety of nuances and differences. It can even point to states of mind that do not correspond to any word in a known language [...] Listen, if you can, to the themes of the 48 fugues of the Well-Tempered Clavier. Listen to each song one after the other. You will soon realize that each theme mirrors a different emotional world. You will also notice that the more beautiful a topic seems to you, the more difficult it becomes to find a verbal explanation for it that satisfies you. Of course, you can almost always tell whether the theme is happy or sad. In other words, you will be able, in your mind, to draw a boundary of feelings around the topic. Now pay more attention to the "sad" theme. Try to define the exact quality of your sadness. Is he pessimistically sad or resignedly sad? Definitely sad or casually sad (COPLAND, 1974, p. 5 and 6).

Therefore, focusing on the text is fundamental for intelligent study, as the technique is born from the mental image (*inventiveness*) and then return to it, completing a complete cycle.

Like this:

IMAGINATION = ACT OF LISTENING TO THE SOUND BEFORE PLAYING (“PLANNING”)

Pereira's (1948) statement about the need for a method of conscious and rational study of the piano corroborates this assertion. Let's read your support:

> You can improve your technique as much as you want, studying for hours on end every day, but this won't do you much good if at the same time you haven't developed the pianist's main faculty: auditory criticism, the differentiated ear (PEREIRA, 1948, p. 82).

In the same sense, we find the opinion of Matthay (1988), for whom “this subtle faculty, imagination – this power of pre-hearing – can also be cultivated much more than

which is generally suspected to be possible."[11](MATTHAY, 1988, p. 10, our translation). By Musical Imagination or Aural Capacity we mean the aptitude, competence or ability to internally hear the desired Sound in the mind before playing; that is to say, in advance of the action of producing or emitting any type of sound on the piano caused by sound control or balance without any type of imprecision, ambiguity or obscurity**.**

Therefore, in this sense, Imagination does not correspond only to the*act*to listen in advance, but*power*of listening in advance, which can be developed as a habit within the artist. We are talking about something that can be acquired in Musical Education as a product of a*empowerment*of students.

In this conception,*Imagination*is not limited to the process of studying the speech immanent in a musical work, but to the acquired ability or capacity to understand, introject, manage, project and create the sound result by feeling it intensely*with inventiveness*. It also refers to the acquisition, improvement and development of critical, analytical or differentiated hearing. It is an authentic artistic and practical projection of the*creative process* idealized by modern piano pedagogy. So, we are talking about*habit*of making music (Art), and not of a mere act or process of studying[12]. This is, at this point, the act represented by the*make music*or*make sound*in essence as a form of expression of life.

Therefore, in this view:

IMAGINATION = ABILITY TO HEAR THE SOUND BEFORE PLAYING ("TO FEEL")

[11]This more subtle faculty, imaginativeness - this power of pre-hearing - can also be cultivated in far greater measure than is generally suspected to be possible.

[12]In this context, we understand that a well-developed musician can internally "hear" the sounds even before the execution of any note, in the same way that a properly trained and experienced reader can "hear" the words he reads without needing to pronounce a single letter. Depending on the musical genre, this disposition can manifest itself more or less spontaneously.

It is in this context that we believe we will find the*Imagination*, as*creative entity*of sounds and sound effects; as*trigger point of an action*(musical action, more specifically*)*.

In this context, Imagination corresponds to a*key problem*, to a*thoughthypothesis,*to one*matter-force*capable of putting the piano apparatus into action (which will act coordinatedly, in the correct way).

In fact, it is a*assumption*that removes the interpreter from the state of inertia (total relaxation or complete initial relaxation) by moving him internally using his strengths. It constitutes the generating factor of the Impulse (or balance; or, even, "*not her*").

In fact, isn't this exactly what happens in the creative process of characters in the performing arts (which, by the way, also have a discourse)? Yes, this truly corresponds to the model outlined by Stanislavski (2006), when he proposes his so-called "*ses*"magicians.

He explains, for example, that the action of closing a door quickly and leaning against it in fear takes on more life if the actor imagines that he is being chased by a criminal. Thus, it will not be just a mechanical act of closing a door and pressing on it trying to demonstrate fear through bodily expression, but a*real action*full of meaning and content, with faith and a feeling of truth in themselves. Not a mere representation, but the*full action* in itself.

The director then suggests that the actors think like this:*What if there is an evildoer behind the door?*The goal is a more natural, more organic, more convincing, more real, more inherent, more visceral, more coherent, more unified, more whole and continuous, more vivid, more present, more dynamic, more fluent (full of flows and inflows). Insta gizar, with true feeling that springs from within (ie,*moved from the inside out*).

Imagination is capable of acting within, compelling the pianist to a*Action*. Therefore, the study and analysis of*pianistic action*becomes imperious.

This is the idea that we deduce from Riemann's pen (1936), otherwise let's see:

> Interpreting a work of art on the piano does not simply mean translating graphic signs into effective sounds, but rather involving yourself deeply with the work, feeling it intensely and giving it new sonic life.[13](RIEMANN, 1928, p. 103, our translation).

As we can see, this meaning goes beyond translating or soundly reproducing the text written by the composer, that is, it is greater because it goes beyond musical syntactics to encompass the abstract meaning between the lines of speech. Like true treasures hidden in mystery, the interpreter, through his own *experience and creative experience*, will uncover and explore the meanings behind graphic signs and musical designs.

Clearly, this conception of the term *Imagination* is broader than a mere extension or product of the approach *syntactic-analytic* of the musical text; because it also encompasses ideas, images, impressions, sensations, affections, feelings and suggestions *Extramusicals*. These are the moods – or "*moods*", according to Copland's doctrine (1974). And because it is more comprehensive, the practical applicability of this understanding will also depend, obviously, on the adequate understanding or interpretation of the syntactic data offered by the musical work.

Like this, *Imagination* corresponds to a *impulse* or *creative springboard* which provides an intimate interaction between the performer and the work and the instrument itself in a harmonious, inseparable and indivisible whole.

In the words of Schubert (*apud* Kaemper, 1968), *impulse* is described as "a brief contraction, similar to a jolt that sets the mass in motion and then abandons it to its own trajectory" (KAEMPER, 1968, p. 81). That is, *impulse* and the *trigger point of an action* and corresponds to a *command*. This will be the concept of *Imagination* adopted by us from now on.

Soon:

[13]Interpreting a work of art on the piano does not simply mean translating graphic signs into effective sounds, but rather deeply understanding the work, feeling it intensely and infusing it with new sonic life.

IMPULSE = DETONATING POINT OF AN ACTION = IMAGINATION

And remembering that the Image, as a driving force or creative impulse, must be potentially active (with enough force to generate a physical action), we have to:

IMAGINATION = "IMAGE IN ACTION" (ON)

This meaning therefore corresponds to an expanded view of "*Image-Making*" defended by Heinrich Neuhaus (German name) or GG Neigauz (Russian name).

5.0 - Pre-scientific and scientific schools: brief historical digression

Thus, Signorelli (2019) points out that the evolution of pianistic technique was described by several historians, including Gerd Kaemper and George Kochevitsky. Similarly, we will leave to comment on the different pedagogical approaches, to mention the main ones: finger school (or pre-scientific or empirical); anatomical-physiological school (or natural or arm weight) and psychomotor school (or psychotechnical, psychophysical, kinesthetic, kinestheticmotor or proprioceptive).

Alongside the development and branching of pianistic schools, we have, as a corollary or fruit of this evolution, a plethora of currents that conveyed new trends, theories and ideas regarding various themes pertinent to pianistic practice, that is to say: pianistic movements, technical exercises , use of the pedal, finger articulation, application of arm weight, touch, etc.

As we mentioned before, we will use as references the works of Schultz (1936), Schonberg (1960), Kochevitsky (1967), Mark (1999), Kaplan (1987), Richerme (1996), Leite (2001), Hertel (2006), Gerig (2007), Lucas (2010), among others. The aforementioned authors considered historical, technical and aesthetic contents that permeated the formation of different eras and schools.

In effect, each pianistic approach has its proper basis and its respective representatives. In such a way that the investigation of these foundations allows us to trace a line of continuous evolution and constant development of the History of the Piano.

It is well-known and well-known that the clavichord (derived from the Latin "*clavis*" = key and "*chorda*" = string) is the predecessor of the piano, as we have already mentioned in detail in another scientific article. It turns out that, in the clavichord, the strings were hammered using a metal plate; whereas, on the harpsichord, the strings were pinched or pinched by a plectrum.

According to Locard (1948,*apud*Signorelli, 2019), the harpsichord was an instrument with strings plucked with plectrums. Its appearance was more robust, its sound was rich and varied, providing precise and exact attacks. It was intended for larger environments, due to its metallic and vibrant sound, more powerful and intense, voluminous and bright, dry and rigid, shorter.

According to the aforementioned author (*apud*Signorelli, 2019), the harpsichord developed and perfected between the years 1500 and 1750. In turn, the clavichord, derived from the Latin "*clavis* " (key) and "*chorda*" (string), was an instrument with strings struck with tangents.

In this light, Signorelli (2019) highlights that:

> It was intended for smaller rooms and more intimate environments because it was capable of expressing in rich detail the most subtle nuances and colors (or hues), endowed with greater expressiveness and a more comprehensive timbral palette, with a greater variety of tones.

> dynamics and touches, more delicacy, touch-sensitive keyboard, smoother and legato sound, longer. According to Casella (1936), there are reports that Carl Philipp Emanuel Bach was capable of producing "*vibrato*", "*balancing*", "*tremolo*" or "*baby*" to the clavichord (through direct attack with the finger on the touch-sensitive keys, which vibrated the strings). Thus, on the harpsichord the percussive aspect was more evident; while in the clavichord, the expressive feature made the sound of the strings prevail (and not the plectrums plucking the strings). (SIGNORELLI, 2019, p. 10).

However, we have already established in another scientific article that both instruments consisted of struck strings and competed until the mid-1700s. The official history of the tradition informs us that the harpsichord won, due to its weak and weak sound (although poetic and refined) of the clavichord. We have also pointed out in another scientific article that several virtuosos were responsible for the victory of the harpsichord over the clavichord (which we commented on above), including: Bach, Häendel, Scarlatti, Rameau, Couperin, Carlos Seixas. These composers were great harpsichordists and contributed to the development of the harpsichord technique (and nowadays, also the piano).

From the pen of Signorelli (2019), we infer that:

> In approximately 1702, Bartolomeo Cristofori invented the*pianoforte (cravicembalo col piano e forte).*This instrument was initially called *arpicembalo*. This instrument with strings struck with wooden hammers (previously copper, leather or bird feather beaks were used – such as crow feather tips, for example – to pluck the strings) represented the union of the sound characteristics of the harpsichord and the clavichord (direct predecessor of the piano) allowing soft and strong playing in a combination of the brightness and power of the cavo with the expressiveness and refinement of the clavichord. (SIGNORELLI, 2019, p. 9 and 10).

At this time, this new instrument used, for its operation, strings struck by suede-covered hammers which, in turn, were activated by the keys.

The previously mentioned mechanism allowed the pianist to perform different nuances of intensity, different articulations (linked or released notes) and expressive melodies.

In fact, in line with what we have already pointed out in another scientific article, the increase in all these aesthetic possibilities led to the need for the development of another instrumental execution technique.

According to Richerme's lesson (1996), both piano performance and teaching emerged in the middle of the 18th century.

As Hertel (2006) teaches, when outlining the evolutionary process of piano technique:

> Since then, pianistic technique has undergone several transformations. This and the old keyboard instruments were externally similar, but they did not have the same sound and mechanical quality nor, consequently, the same playing technique. On keyboard instruments, for example, you need to control the speed of your fingers when lowering the keys under pressure. But, on the piano, it is the arm muscles that will control the weight and force expended in this act, which constitutes one of the elementary problems of pianistic technique. Precision in articulation, that is, the touch of the fingertip on the key, is the most important point in the harpsichord technique. As Kochevitsky (1967) states, the reduced movements of the hands and arms, together with an excessive and isolated articulation of the fingers, represent the playing of the harpsichord that was maintained for a long period [...] Richerme states that the search is valid " of a technique in harmony with physical and natural principles and laws, a technique that does not attempt to contradict such principles and laws, so that high standards of results can be obtained more easily. [...] Specific knowledge and a lot of diligence are required, arising from a rational analytical attitude". And the author continues: we must seek a technique that presents "a perfect anatomical, physiological and mechanical connection between the physiological apparatus performing the instrument and the adaptation of its methodology to the proposed objectives, aiming to allow man physiological and psychological well-being ". In conclusion, "technique must be a means, never an end". This is made up of some elements considered fundamental for interpretation, since, without them, the pianist will hardly be able to realize his artistic ideal (HERTEL, 2006, p. 3, 13).

We will not dwell on this point onwards, as we have already addressed the topics on screen either in our Master's Dissertation in Interpretative Practices-Piano (Performance) entitled "The importance of Musical Imagination in pianistic practice" or in our Scientific Articles that deal with both on Musical Imagination and on Piano Technique and Interpretation.

As we previously highlighted in another scientific article, we began teaching the optional theoretical discipline "History of the piano and pianists: technical-interpretive trends and pedagogical approaches" at the Faculdade de Música do Espírito Santo (FAMES) in March 2016. This discipline has The main scope is to equip students with a technical-musical arsenal based on historical subsidies that provide students with the acquisition of new motor skills and the enhancement of their capabilities in solving pianistic problems.

This subject was the result of our concerns, inquiries and research carried out in this field aimed both at developing pianism (artistic or cultural objectives) and at helping students with their pianistic questions (teaching or educational purposes).

It is worth adding that we continue researching in this line, as it constitutes study material for a lifetime.

Therefore, we do not intend to exhaust or consume the subject covered in this particular Scientific Article, as we view the depth of the topic at hand with humility and broad verticality.

So, let's move on to the analysis of the piano schools under discussion.

6.0 - The pre-scientific school (or the so-called “school of fingers”[14])

Indeed, Kochevitsky (1967, *apud* Signorelli, 2019) points out that piano teaching continued to follow the principles of the ancient harpsichord technique from the 17th century, while the pianoforte and its own performance technique evolved.

In this vein, the first school or pedagogical approach arising in the History of the piano and pianists can be identified as the so-called “finger school” or pre-scientific school.

For pianist and professor Richerme (1996), the period before the 1880s is considered by researchers as the pre-scientific period of pianistic technique.

According to Rattalino (2005), Chiantore (2014) and Kaemper (1968), it corresponds to the old French clavicinistic schools of Rameau and Couperin as well as the old Italian clavicinistic school of Scarlatti.

[14]The reference in quotation marks is justified because this is the main name by which the aforementioned school became known in the piano world or Pianistic Tradition.

Its main characteristics are: i) the rounded position of the hands with the tips of the fingers; ii) the articulated touch of the fingers (active fingers); iii) the posture with the arms immobile (seeking independence of the fingers with the aim of exercising them in isolation); iv) the percussive sound resulting from digital touch; v) deepening the fingers on the keys inside the piano (sinking or burying the fingers in the piano); vi) purely mechanical training with many hours of daily practice; vii) the absolute and infallible authority of the teacher (professional and closed pedagogy X dialogical, creative and libertarian pedagogy); viii) the absence of effective technical remedies; since, similar to the description of Amy Fay's classes in her book “Music studies in Germany”, the master did not show how to correct errors (*apud* Kaemper, 1968).

In this vein, Kochevitsky (1967) adds that the student should repeat the same passage several times until they get the model presented by the teacher correct. Hence the notion of the term *rehearsal* in French, "*repetition*", as the act or effect of endlessly reproducing a certain musical section until technical-mechanical perfection is reached.

Among the most expressive representatives of the so-called School of Fingers, Kochevitsky (1967) points out *Muzio Clementi* (1752-1832) and *Karl Czerny* (1791-1857). Both are related by the aforementioned author because they advocate systematic studies of the technique as a pedagogical practice.

In fact, Signorelli (2019) highlights that Clementi was the first to compose specifically for the piano. In his work “Introduction to the Art of Playing the Piano”, he created a didactic method in order to develop piano technique. For him, the five fingers should be strong and equally developed (metric-sound equality). He trained his fingers in the same way and tried to keep his hand still on the keyboard. Each of the five fingers must be positioned on its respective key and the fingers that do not work, articulate or function must remain quiet. He worked daily for hours on end, which is why he was one of the pioneers in requiring many hours of practice. Considered by Kochevitsky (1967, *apud* Signorelli, 2019), the creator and founder of modern piano technique, was Beethoven's teacher. According to Lucas (2010, *apud* Signorelli, 2019), was the predecessor of most of the traditional national piano schools (development of piano schools in the world).

According to the author:

> The history of pianistic performance then develops with Mozart and soon after with Muzio Clementi (1752-1832), considered "*The father of all technique*"whom Vladimir Horowitz called "*The founder of the Modern Piano School*". Ludwing Van Beethoven (1770-1827) stated: "*Anyone who studies Clementi in depth also knows Mozart and other composers...*" (LUCAS, 2010, p. 30 and 31).

In this turn, Signorelli (2019) points out that, in 1779, in London, Clementi published his first Sonatas for piano; and in 1826, his "Gradus ad Parnassum" Op. 44 ("Steps to Parnassum"), a set of works dedicated to the development of pianistic technique (studies), in three volumes. In 1781, the famous improvisation "duel" took place between Mozart (more focused on musical expression and the delicacy of nuances) and Clementi (who displayed his thirds, sixths and octaves as an asset).

In turn, Czerny wrote his "Complete Technical and Practical School of Pianoforte". His work consisted of short and long exercises. For him, technical difficulties should be preliminarily studied with excessive articulation of the fingers incessantly until they were able to be mastered. After overcoming this preparatory phase, the student would be able to study musical pieces. In this sense, Czerny managed to separate technical study from musical study (that is, pure technique from applied technique). The study of technique advocated by Clementi and Czerny describes a time of absolute predominance of technique in execution, in which performers trained details until reaching perfection. In this vein, a series of studies was preceded by a range of technical exercises. This is what Kaemper (1968) tells us about the Lebert and Stark Conservatory, in Stuttgart, Germany.

In effect, the School of Fingers only influenced*partially*the so-called old French school of Marguerite Long, as we have already detailed in a convenient moment of another scientific article.

On the other hand, Signorelli (2019) clarifies that we currently find very strong evidence in the use and teaching of the aforementioned pianistic resources.

7.0 - The Anatomical-Physiological school (or the so-called “arm weight school”[15])

Based on the ideas of*Ludwing Deppe*,*Rudolf Breithaupt*It is*Blanche Selva*, the anatomical-physiological school or natural school of piano or the so-called “arm weight school” has as its luminaries Gát (1980), Neuhaus (1973), Matthay (1988) and Leimer-Gieseking (1951).

According to Gerig (1985), the first teacher to combine the simultaneous use of arms and fingers was Ludwing Deppe, allowing piano technology to develop through other theories. For him, the elbow should be the “leader” of the movements; and the wrist, a “feather”[16]. Thus, the entire pianistic apparatus has participation or involvement in the pianistic performance.

This is what the lesson of Gát (1980,*apud*Signorelli, 2019), when dealing with the performer’s need to be in constant contact with the piano:

> The most ardent desire of every performer is to amalgamate, to become one with his instrument in such a way that he feels that it is not a foreign body, but an organ of communication opening up wonderful possibilities for him, an organ that enables him to speak more. directly and naturally about your feelings and emotions than you could in spoken speech[17](GÁT, 1965, p. 75, our translation).

For him, the*full body*participates in regulating dynamics and weight distribution, so that the application of greater or lesser use of weight is related to the dynamic demands of the musical section.

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[15]Once again, the reference in quotation marks is justified because this is the main name by which the aforementioned school became known in the piano world or Pianistic Tradition.

[16]The expressions are in quotation marks to indicate the terminology originally used by Deppe in his work.

[17]The most ardent desire of every performer is to amalgamate, to become united with his instrument in such a way that it should no longer be felt by him to be some strange body but rather an organ of communication opening up wonderful possibilities, an organ enabling him to talk more directly and more naturally about his feelings and emotions than he could have done in ordinary speech.

In the same position, we find Fink (1999,*apud*Signorelli, 2019), when dealing with technical piano vocabulary (pianistic movements), namely: vocabulary of hands, forearm, upper arm, etc. Such gestures make up, according to the mentioned author, a true choreography contouring (modeling, sculpting, drawing) and giving shape to the musical groups (or drawings).

As a result, Signorelli (2019) records that a genuine sense of freedom, artistic sense and musical expression is acquired. Also Sandor (1995,*apud*Signorelli, 2019), Whiteside (1996,*apud* Signorelli, 2019) and Bruser (1997,*apud*Signorelli, 2019) support the coordinated participation of the entire biomechanical apparatus of the instrumentalist in the execution of a musical excerpt.

However, Richerme (1996) assures us that such ideas are not completely new in the pianistic field, as they have already been presented in an embryonic form.

Thus, based on Signorelli (2019), the first books on the technique of performing Keyboard instruments - such as those of harpsichordists François Couperin (1716) and Carl Philipp Emanuel Bach (1762), the latter already making some mention of the pianoforte as a new instrument - are the ones that present some ideas that are most in line with modern theories.

These works make some reference, albeit in a few lines, to the relaxation and freedom of movement of the fingers, as well as having a certain advantage in keeping the fingers always very close to the keys.

Likewise, Hertel (2006) clarifies that music masters did one thing, but taught another.

In fact, educational practice did not coincide with instrumental practice. Otherwise, let us listen to his words:

> The 18th century presents, in its second half, the artistic personalities of Wolfgang Amadeus Mozart (1756-1791) and Joseph Haydn (1732- 1809), who began their musical careers composing works for the harpsichord, then moving to the piano . Mozart had an agile, clear and refined touch. Due to his innate intuition, the melodic passages presented an expressive cantabile. It integrated perfectly with pianos with Viennese mechanisms, making the most of their resources. Haydn incorporated the piano throughout his life. His music, despite

> simple and accessible appearance, it contains characteristics considered important, such as themes of an intellectual nature, original modulations and superior orchestration [...] Just like Liszt, other great composers and pianists emerged who continued to perform a natural, yet intuitive technical-pianistic execution, using the piano apparatus in a coordinated way, as others before them had also done. But, as Kochevitsky observes, despite all this innovative movement on the part of composer-concertists, teachers with an archaic, routine mentality and without any creativity, remained obedient and submissive to the teachings of the ancient School of Fingers. By maintaining this position, they ended up harming their students physically and psychologically. The situation reached such an aberrant point that protests arose, both from piano teachers, aware of their profession and with an open mind, and from doctors who treated pianists and their physical and muscular problems. (HERTEL, 2006, p. 3, 4 and 7).

Thus, the masters already prefigured in the practice of making music what would be systematized scientifically "*a posteriori*" in musical thinking.

In this context, Signorelli (2019) notes that, in parallel with the development of piano technique, John Broadwood began to manufacture his pianos in London. His pianos followed the "English" type of mechanics (with a heavier touch and larger sound, therefore). It is important to highlight that Broadwood was responsible for introducing the sustain or prolongation pedal ("*sustain*") and his pianos were Ludwing Van Beethoven's favorites.

Therefore, Signorelli (2019) argues:

> This fact may explain the technical and aesthetic revolution carried out in Beethoven's Work: with an increase in sound (more robustness); timbre enrichment (with the addition of the sustain pedal); greater dynamic and agogical width, but with rhythmic rigor; solidity of touch combined with fluidity or fluency of pulsation; growth of contrasts and drama; greater detail of your intentions in writing; and consistent increase in expressiveness with the consequent vertical deepening of the musical content. (SIGNORELLI, 2019, p. 14).

In this regard, Hertel (2006) also maintains that:

> The music of Ludwig van Beethoven (1770-1827), vigorous and vibrant, required pianos with stronger and more resistant mechanisms, which produced a brighter and more robust sound. His piano music contained technical and musical demands that ended up imposing relevant progress in pianistic technique, such as, for example, long improvised cadences, considered important elements of the construction of the musical work. Strong contrasts in dynamics are also considered fundamental guidelines in his musical expression, that is, the *pianissimo* as opposed to *fortissimo* followed by *sudden piano*, dense chords, quick register changes,

> bar changes within the same piece, rhythmic vitality with unexpected accents and the melody treated with the same importance as the other elements. It was Beethoven's innovative and revolutionary ideas, considered modern for his time, mainly his revolt against the rigid standards of the old school, that led some 19th century musicians to oppose the old pedagogy (School of Fingers), ending up abandoning it. it completely (HERTEL, 2006, p. 4 and 5).

Thus, new ideas emerged about the formation of touch and the importance of the critical ear in sound production at the piano.

Thus, Kochevitsky (1967) highlights the influence of Friedrick Wieck (1785-1873). Clara Schumann's father, he received influences from the old School of Fingers; However, he advocated the importance of students listening to themselves when playing.

So, as for the students, "[...] he tried to develop their ears, awakening them to musical activity before teaching them the notes. This innovation, modern for the time, is today equivalent to the principles of the Suzuki method" (HERTEL, 2006, p. 5).

Kochevitsky (1967, apud Signorelli, 2019) reports that Frédéric Chopin (1810-1849) innovated by advocating a more natural position for the fingers, as well as using all parts of the piano apparatus in the performance (fingers, hand, wrist, forearm, elbow, arm, shoulder, hip and trunk). Despite keeping the hand motionless when passing the thumb under the hand and passing the hand over the thumb (or passing the other fingers over the thumb), he maintained the use of *applied technique* (that is, the study of a complex piece of music that contained all possible technical difficulties) instead of *pure technique* in force until then. As an example of the application of this idea to technical exercises, we can mention the 24 (twenty-four) Chopin Studies Op. 10 and Op. 25, as well as the 3 (three) Posthumous Studies without Opus numbering [18]. In this supedaneus, Chopin's studies elevated musical form from purely utilitarian exercises to great artistic masterpieces.

[18] The final three pieces are part of a compendium called *"Method of piano methods"* (Method of piano methods) and were compiled by Moscheles and Fétis. Composed in 1839, they do not have an assigned Opus number. They appeared in Germany and France in November 1840, and in England in January 1841. Among the copies of the original editions of the studies, there are usually several manuscripts written by Chopin himself and additional copies made by his close friend, Jules Fontana. At the same time, there are also editions by Carl Mikuli, a student of Chopin.

Although sets of piano exercises were common in the late 18th century (Muzio Clementi, Johann Baptist Cramer, Ignaz Moscheles and Carl Czerny were the most relevant and significant), the Chopin Etudes presented a set of entirely new technical challenges incorporating to the concert music repertoire. His studies combine musical substance and technical challenge to synthesize a complete artistic form; that is, they are considered the product of mastery in combining the two elements.

As Schonberg (1960) and Gerig (2007) point out, its effects on contemporaries such as Franz Liszt and Robert Schumann are notable, based on Liszt's review of his own Concerto Studies after meeting Chopin. Similarly, the artistic ennoblement of the style of the studies had repercussions on the Transcendental Studies by F. Liszt and the Symphonic Studies (Twelve Symphonic Studies, in the Form of Variations) by R. Schumann. In this regard, Signorelli (2019) informs us that R. Schumann considered it more important to mentally perceive the essence of the composition rather than mechanically repeating either note for note or measure for measure or studying the technique of the piece separately for hours on end. Therefore, it is important to hear yourself while playing; because the fingers must obey the brain's command (and not the other way around).

However, according to Göllerich (1996), F. Liszt reached the same conclusion in his mature years when he taught in Weimar, Germany. This fact is clarified in the exposition of Hertel (2006), for whom:

> As for Franz Liszt (1811-1886), he did not leave written pedagogical guidelines, but it is known that, as a young man, he accepted the technical impositions of the time, however, he maintained his individuality, gradually forming his own thought, only compatible with the most advanced ideas of the 20th century. Both Kaemper and Kochevitsky transcribe excerpts from reports by Amy Fay (Liszt's student), in which she wrote that the composer did not teach his students how to study or play; they themselves needed to think and come to his personal conclusions. Liszt did not consciously analyze his execution, doing everything by intuition like the genius he was. He recommended to his disciples the same technical guidance that he had received as a student of Czerny, however, he himself did the opposite without realizing it. The pursuit of technical skill for Liszt consisted of the development of musical imagination. He also highlighted the importance of learning to listen to one another. It was necessary, therefore, to capture the meaning of the work, because the technique should not only serve the artistic objective, as it is created by the sound image. The composer, according to Kaemper, gives the piano a symphonic treatment, and his compositions require the use and coordination of the muscles of the arm, shoulders and back, as well as the weight of the arm from the shoulders to the tips of the fingers, with the participation of the whole body in touch. His technique requires active dynamics, free and elastic movements, varied positions and well-exercised fingers. This is what is called *free ringtone*. Liszt always remembered the importance of knowing in advance the sound you wanted to obtain, so that you could then use the

> appropriate technique with the appropriate gesture. According to him, the inner impulse is what determines the rhythm and dynamics to play expressively. Information found in the diary of Madame Boissier, mother of one of Liszt's students, reveals that his fingers were so flexible that they had no defined position; His hand was passive, lowered, soft or inert, or else in continuous movement, free and graceful. It eliminated the rigidity of your touch by projecting your fingers from wrist movements over the keys, with perfect flexibility. Madame Boissier further wrote that Liszt's playing was genius and inexplicable, fluid and floating. In fact, in his pianistic works, the phrasing and fingerings show the action of his free touch (HERTEL, 2006, p. 6 and 7).

The view of Neuhaus (1973) does not conflict, which highlights the importance of the muscles of the arm and forearm to prepare each note in advance by placing the finger that will play in the exact position, ready for the attack. The following words are yours:

> To perform piano literature with the necessary technique, it is necessary to rely on the contribution of all the anatomical and motor possibilities of the human body. From the almost imperceptible movement of a phalanx, of the entire finger, hand, arm, shoulders and back, in short, the entire upper part of the body that fixes its point of support from one part at the fingertips on the keyboard, and from the other on the seat[19](NEUHAUS, 1973, p. 90, our translation).

In the same sense, Matthay (1988) states that in pianistic performance, the movement of the fingers is always accompanied by the participation of the hand, forearm or upper arm. However, for him, relaxation should not mean weakness and laxity; but a slight state of alertness and tension when playing.

Reframing, resizing and readjusting the procedures of technical ideology in historical terms, Hertel (2006) adds that:

> Kaemper writes that those fundamental principles for pianistic technique, already presented by Chopin and Liszt, although somewhat vague for other artists, began to take hold around 1885. One example is the use of the entire arm, from the shoulder to the ends, which implies both the use of the energy that characterizes the impulse to play, and the pressure or weight received by the fingertips. Thus, impulse and pressure become the essence of the movements that, in turn, will form the piano technique. It was from 1885 (Kaemper) that the

[19]Pour attention to the necessary technique in the piano littérature, which is the contribution to the anatomical possibilities and motors of the human body, after the mouvement on the perceptible part of one phalange of the body, of the main body, of the 'avant-bras, de l'épaule et même du dos, bref de toute la partie supérieure du corps qui prend son point d'appui d'une part au bout des doigts sur le clavier, et de l'autre le tabouret.

> technique from the times of Clementi (School of Fingers) to those of Liszt (which included the entire *piano apparatus*) began to be analyzed by theorists in a new way: scientific (HERTEL, 2006, p. 8).

Thus, Kaemper (1868) places the year 1885 as the initial milestone or birth of modern piano technology. According to the aforementioned author (*apud* Signorelli, 2019), Ludwing Deppe (1828-1890), among others, founded the Anatomical-Physiological School, whose basis was the study of the bones and muscles that make up the so-called piano apparatus. His objective was to develop a rational technique serving as a model for all pianists as a kind of stereotype.

Thus, Deppe (*apud* Kochevitsky, 1967), German conductor and piano teacher, maintains that the sound must be produced not by striking the finger (percussive touch); but by the coordinated action of all parts of the piano apparatus. Therefore, the production or emission of sound on the piano must come from the entire arm in a coordinated action. The fingers and hands must be strengthened and assisted by the free movement of the arm, distributing the effort over all parts of the body (from the shoulder to the fingertips). This mechanism thus guarantees the practical implementation of the principle of least effort and economy of movement, giving rise to the expression *playing apparatus*.

For Deppe (*apud* Kochevitsky, 1967), the weight must come from the arm from the shoulders. In this context, Deppe considers weight as the essential cause of impulse, "*not her*" or balance being responsible for a fluid, continuous and round movement.

On the other hand, Rudolf Maria Breithaupt (1873-1945), following Kaemper (1968), one of the exponents of the Anatomical-Physiological school, advocated the loose and heavy arm as the founding principle of piano playing. The hand had to maintain a passive, lowered, fallen, inactive and inert position, relegating the importance of digital articulation to the background of pianistic performance. For this teacher, the old technique needed to be revised through more accurate sound and visual observation, which would result in the correct execution of the movements. Therefore, the most important thing about piano technique, according to this aspect, would be natural movements (and not muscular development).

According to Kochevitsky (1967), this idea of Deppe consisted of the notion of the so-called "free fall". However, according to him, Deppe did not mean that the arm should fall freely. Thus, he defends that free-fall be understood not in a literal sense, as the expression used by Deppe was *"controlled free fall"*.

In this regard, Hertel (2006) concludes that:

> Deppe, adds the author, taught his students that movements needed to be rounded and smooth, with the arm and forearm rotating, which would make the wrist obedient and flexible. He wanted his hand a little forward and each finger forming a straight line with his key. The fingers needed to be conscious and free with sensitive tips, not hitting the keys, but caressing them. He highlighted the active role of the mind when practicing with the playing apparatus, in addition to auditory training with the technician. He called this making music by participating. During his lifetime, his theories did not have much reach. But, after his death, in 1890, his followers spread and developed his ideas, which served as the basis for the emergence of new ones, such as relaxation and weighted touch. It was the scientific environment of the second half of the 19th century that led piano teachers and theorists to place piano study on a scientific basis (HERTEL, 2006, p. 8).

In the same vein, Neuhaus (1973) also addresses the concept of *free fall* as a principle underlying pianistic playing.

In this dynamic, Leimer-Gieseking (1951, *apud* Signorelli, 2019) addresses the so-called *weight touch* or *arm touch*, in which the fingers function as passive touch elements serving as support for the weight (pillars, columns, stakes). It is also commented on the *active touch* (fingers as active elements of execution).

To Jungle (*apud* Kaemper, 1968), the *touch with the weight of the arm* it must be done by letting the hand press freely on the keyboard, controlling the weight load of the hand and arm.

According to Breithaupt (*cit* Kaemper, 1968), relaxation and weight control are practically the same thing.

Despite the fact that the Anatomical-Physiological School is based on relaxation and touching the arm, neglecting the work of the fingers or disregarding the importance of the digital function; It is not difficult to understand them, as both lead to *balance* (and not inertia) of the pianistic whole, favoring the harmony of the performer-instrument ensemble.

Despite this, many criticisms were made regarding the Anatomical-Physiological School, as Hertel (2006) adds:

> Followers of the Anatomical-Physiological School wrote several books and articles on how to teach and play the piano. For them, the most important part of these writings contained a detailed description of the anatomy and mechanics of the piano apparatus. However, they did not take into account the dangers arising from possible incorrect muscle use practiced by pianists. These were recommended not only to swing the upper part of the arm in a rotating movement, but also to find their own solutions to certain technical problems. It was believed that purely mechanical exercises could be replaced by the development of perception and consciously trained correct movement. However, by simplifying this technique in such a way, these theorists came to assert that, to solve certain technical problems, quickly and effortlessly, it was enough to know which muscles would be involved, their function and how to perform that specific technique. They did not even consider the function of the brain and the central nervous system as directors and controllers of this activity. Therefore, one can note as causes of the possible failure of this school, in addition to the simplified, limited and superficial knowledge of the anatomy and physiology of the piano apparatus, a near-disdain for the work of the fingers and the excessive importance given to the movement of rotation and balance. of the upper arm. But some talented pianists managed to survive the exaggerations and efficiently develop finger technique, also studying the principles of the Anatomical-Physiological School. They freed themselves from excesses, continuing their artistic activities normally. (HERTEL, 2006, p. 9).

In view of the above, it can be said that the Anatomical-Physiological School had as its main contribution the fact of bringing to the fore the element correlated with Musical Imagination as the ejector focus of pianistic movements based on the touch of the weight of the arm in a state of relaxation from of the shoulders.

So that weight control is carried out from the element of musical perception, that is, Musical Imagination or aural capacity (insta gizar, ability or competence to hear the sound internally as a mental representation before playing, producing or emitting a certain piano sound).

8.0 - The psychomotor school (kinesthetic-motor, kinesthetic, kinesthetic-cognitive, cognitive-motor, proprioceptive, psychotechnical or psychophysical)

The psychomotor, kinesthetic, kinesthetic-motor, kinesthetic-cognitive, cognitive-motor, proprioceptive, psychotechnical or psychophysical school has as its main references Kochevitsky (1967), Neuhaus (1973), Kaplan (1987), Richerme (1996) and Hertel (2006).

In this paradigm, Kochevitsky (1967), in turn, informs us that, in order to develop the motor skills necessary for pianistic performance, one must focus on the quality of sound production or emission resulting from balance and control of loudness, on proprioceptive sensations[20]and the necessary movements[21]. The aforementioned author briefly describes the piano learning process as follows: 1) auditory stimulus (imagine the sound); 2) anticipation of the motor act (preparation); 3) motor act resulting in the sound effect; 4) auditory perception and evaluation of the result obtained.

We also find this teaching in Kaplan's lesson (1987). According to him, "it is necessary to diagnose the reason for the difficulty, its cause and the solution. The how will emerge quickly" (KAPLAN, 1987, p. 87). Thus, there are two fundamental questions that cannot be left unanswered, namely: 1) what I feel; 2) what I hear. These are important factors to be analyzed from a psychomotor (psychic and physical) point of view.

Thus, pianistic performance is composed of a subtle and sensitive interaction of psychophysical attributes. Internal hearing controls this fine and tenuous interconnection by imagining the desired sound, governing the movement (touch, sound, touch) and critically appreciating the sound result obtained. In this regard, Hertel (2006) points to the following evolution within the scope of piano technology:

> Even with so many mistakes, the Anatomical-Physiological School did not completely disappear. From it emerged currents with new theories and ideas, for example, about movement and exercise. On this subject, the German physiologist Emil Du Bois-Reymond, according to Kochevitsky, presented to the public, in 1881, a new theory about human motor activity. This depends on the correct association of the muscles and not so much on their contraction, since, according to him, muscular work

[20]Proprioception,also called Kinesthesia or Proprioceptivity, is the term used to name the ability to recognize the spatial location of the body, its position and orientation, the force exerted by the muscles and the position of each part of the body in relation to the others, without using vision . This is, then, the process through which the brain can autonomously perceive the movements of the body itself or its parts in space.

[21]This specific type of perception allows the maintenance of postural balance and the performance of various practical activities.

> tends to grow, stop and decrease. Reymond stated, according to the author, that the human mind, through exercise, becomes more elastic and versatile. Therefore, he opposed the ideas of the previous school, when he claimed that it was possible to make muscles strong and resilient. But, as for acquiring agility, this would not depend solely on gymnastics, but on the intervention of the mind. He was the first scientist who explained some important points about movement in piano practice. Oscar Raïf elaborates on his experiences about this movement. For him, it is the intellectual level of people that determines greater or lesser agility in their fingers, this ability being conditioned on their hearing capacity. The conclusion reached by Raïf, cited by Kochevitsky, shows that increasing agility in isolated fingers makes no sense. Because, in fact, the difficulty lies in the precision of the successive movements of the fingers, which is generated by perception and will, which originate, in turn, in the central nervous system. Therefore, it is necessary to develop in pianists the dexterity of the mind as well as that of the fingers. Years later, Adolf Steinhausen, also cited by Kochevitsky, physician-surgeon and critic of the School of Fingers and the Anatomical-Physiological School, stated that, despite the controversies, pianists should use the strength of the entire arm, from the shoulder to the tips of your fingers to achieve the desired effects. The body must participate continuously and incessantly, but without rigidity. For him, the pianistic movements contained in these acts differed from others due to the action of the central nervous system. That is, the pianist would use the natural strength of his fingers and coordinate gestures better, avoiding unnecessary movements. As this system would be responsible for the origin of the movement, explains Steinhausen, the practice would become a psychic process, as well as its automation. Mechanical and routine finger exercises can increase the size and strength of the muscles during normal piano practice. But it is through practice (mental learning) that one learns to move the fingers in the right rhythm and to correctly execute the notes, as well as to perform the dynamics with their sound gradations. As for fluency, safety and speed in the movements performed, these are obtained by eliminating useless muscular actions or gestures. Steinhausen thus showed, unlike Czerny, that technique is inseparable from musicality. However, like other theorists, he also made mistakes, such as when he believed that artistic ideals did not evolve and were the same for all pianists. However, reality shows that each musical conception corresponds to a different technique, adapting, however, to the personal characteristics of the performer. Kochevitsky remembers that Steinhausen was one of the theorists who came closest to a rational conception of piano technique.He showed that the pianistic apparatus is as important as the imagination and the objective to be achieved in the technical development (HERTEL, 2006, p. 9-11).

According to Kaplan (1987,*apud*Signorelli, 2019), performing piano performance requires the pianist to form motor habits and develop auditory perception. In other words, it also requires the development of sensory hearing.

Hence the fact that Neuhaus (1973) does not speak of absolute relaxation, but of *harmonic balance*between the different members of the body responsible for piano playing. The aim is to make each component part of the biomechanical system or piano apparatus assume its position in order to*act at least*: fingers (phalanges), hands (wrist), forearm (elbow), arm (shoulder) and trunk (hip). Thus, responsibility for the pianistic movement or gesture is democratically distributed to each element of the biomotor set with

energy saving so that none of them are overloaded. Therefore, useless muscular actions or gestures are avoided without loss of energy, saving time. In honor of the principle of economy of movement, only those muscles strictly necessary to perform a given complete gesture should be contracted. On this subject, we highlight the pertinent, shrewd and wise intervention from the eminent professor Pereira (1948):

> The beginner easily goes overboard, contracting unnecessarily and without benefit bundles of muscles that should not come into action and that not only contribute nothing to the movement, but even hinder and inhibit it [...] Excessive muscular contraction, this innervation of the muscles that should not be activated, it is called co-innervation. It constitutes one of the most serious obstacles that stand in the way of mastering piano technique (PEREIRA, 1948, p. 22).

For Kaplan (1987, *apud* Signorelli, 2019), pianistic performance requires perfect and harmonious coordination of the simultaneous movements performed by the upper limbs; which comprise arms, forearms, hands and fingers. Professor Kaplan (1987) highlights the need for flawless muscular coordination, sensoriality or kinesthesia and motor skills for the effective achievement of effortless movements. Therefore, perception (both musical and bodily) is an unavailable factor for good piano performance. This intertwined, intrinsic and intimate interrelationship forms a continuous and intermittent, bidirectional and dialectical flow; whether between mind and limbs or between pianist and instrument. It is a living and profound process, fruitful and dynamic, renewing and full of meaning. From this we can once again extract the importance of Musical Imagination for the practice of pianism.

In this turn, Kaplan (1987, *apud* Signorelli, 2019) also observes that piano learning depends on a mature nervous system capable of carrying out this task, on the individual's intellectual level, in addition to physical conditions appropriate to this complex act.

However, although Richerme (1996) carries out a detailed anatomical-physiological analysis of the pianistic apparatus or biomotor set, we can consider (albeit in a preliminary, preambular, superficial, low, floating, vague, shallow and premature way) that his conclusions frame it in the schematic categorization belonging to the psychophysical school of piano.

Regarding the Psychomotor School, we consider Hertel's (2006) reasoning pertinent, when projecting a look at the timeline regarding the progress of pianistic technique:

> At the beginning of the 20th century, the already known pedagogical trends were brought together and presented again. Currently, they coexist in various music schools and conservatories, balancing their elements in a viable way. The School of Fingers remains; however, at the beginning of the last century, despite giving a little more freedom to the hand and arm, it still did not allow for very articulated fingers. His teaching continued to be done by practical people who had difficulty accepting new changes. As for the Anatomical-Physiological School, it brought progressive and sensible ideas to piano pedagogy. The theorists fought against ancient authoritarianism and, despite not being musicians, they taught at this school. This continued to focus on science, dealing with problems of weight and relaxation, looking for correct and natural forms of movement. It also sought to determine which parts of the arm and which muscle groups participate in the movements. It was, however, the attraction of an effortless technique that contributed most to his success. Furthermore, at the beginning of the century, a third pedagogical trend emerged, called the Psycho-Motor School by Grigori Kogan. With his concepts still adopted today, he explores the field of intellect and psychology, seeking to solve various pianistic problems, as the act of playing combines purpose and will, as well as various automated elements. The greater or lesser participation of these makes the movements natural, economical and precise. It is a school that allows the use of all parts of the piano apparatus, that is, from the tips of the fingers to the torso. It can be considered as a universal and balanced technique, in which natural coordination plays an important role, as reported by Kochevitsky. In this context, the figure of the teacher becomes important in the pedagogical-pianistic process due to his knowledge, experience and talent. Your task is to explore the pianist's musicality, discuss music and demonstrate your artistic ideas through the instrument. This procedure was adopted by pianists and pedagogues such as Leopold Godowski (1870-1938), Arthur Schnabel (1882-1951) and Walter Gieseking (1895-1957). The Italian pianist and composer Ferrucio Busoni (1866-1924) was one of the first of this school to affirm the importance of mental work in the pianist's practice. For him, the brain is the seat of technique, combining distances, shapes and coordination, which makes motor activity flow naturally (Kochevitsky). As the technique has its roots in the central nervous system, the mind must control the sound. It is she, explains the author, who directs the motor activity at the piano, observing the musical movement with imagination, and then carrying it out. Thus, the conscious mind, for him, is the one that focuses on a specific purpose, in this case, motor activity, which can influence the subconscious. Basic principles such as a clear mental conception of the musical objective to be achieved,Concentrated attention and energy directed towards the execution of such an objective will dictate the success or failure of the study. Precise and intense ideas also help motor agility to develop. A correct pianistic technique, adds the author, needs to be broad, diverse and with rich imagination, taking into account the gestures, position and interrelationship of the pianistic apparatus, internally feeling the muscular and rhythmic sensations, mainly the sound result of the movement . Currently, it is observed that the pianist seeks to achieve this result by focusing on how to think and organize his own practical process. However, it is noted that in piano study and performance it is still the old school that continues to show what to do, complementing itself, however, with the teachings of composers who form the serious basis of this study and the basic piano repertoire. Therefore, unlike the two other schools, Psycho-Motora, by giving little importance to finger dexterity, makes the study of the musical content of the piece essential. Busoni considers that this study, until its meaning is grasped, should be done away from the piano because it is known that the difficulties of the keyboard keep the student away from this understanding; and it is only from the moment musical awareness occurs that dexterity can develop naturally.

> Therefore, the study of technique and interpretation should be parallel, taking advantage of the inevitable repetitions as vehicles for technical and rational adjustment to find the correct solutions. From the above, it can be concluded that pianistic technique is the sum of the means that a performer has to achieve his purpose, which is the artistic-musical idea, and cannot be considered independently of the music and the performer's personality. Therefore, piano technique, in this context, comes to mean knowledge not only theoretical, but mainly practical, of study methods and their details, which are essential for perfect execution (HERTEL, 2006, p. 11-13).

In this step, Kogan explains to us (*apud*Kochevitsky, 1967) three basic principles or foundations that he defends as psychological prerequisites for successful pianistic work, which are: a) the ability to internally hear the musical composition that is going to be interpreted on the instrument – hearing it extremely clearly either way a whole whether in detail (Musical Imagination, internal hearing or aural capacity); b) have a passionate and persistent desire to perform this work or piece of music in the way it was heard internally; c) fully concentrate the entire being on carrying out this task, both in daily practice and in public presentation.

Here, therefore, are some basic characteristics of the Psychomotor School, which advocates brain control over all component parts of the piano apparatus.

9.0 - Final considerations

Although we live in a globalized world, in which the amalgamation of influences is continuous and intense, causing pianists to play mixing different technical and interpretative trends; We can, mainly for didactic-methodological purposes, speak of Pianistic Schools.

Furthermore, we consider the division into Pianistic Schools for purely didactic purposes; since, in practice, depending on individual physiological and anatomical factors, the different technical-interpretive tendencies and technical approaches tend to merge according to the peculiarities of each instrumentalist[22].

[22]Likewise, understanding the principles underlying each technique facilitates the adoption of a "*modus operandi*" standard for each body type (resulting from the fusion of the various schools, depending on the Style and Character of each

It is worth stating that the technique is also something personal, as it depends on the body of each individual (fitting the body, making it organic and natural, with more ease, mastery, control and authority in the execution of a Musical Piece).

However, we believe it is extremely important for the piano student to know separately each of these techniques, approaches, trends, methodologies and musical conceptions; with the intention of adapting them and using them to your advantage, taking advantage of them for your own benefit and helping yourself aiming for the most perfect interpretation (that is, when performing a passage, you will use the most different approaches together, choosing what that suits you and that works best in your case with expanding your repertoire, menu or vocabulary of piano movements).

Thus, the larger the arsenal and the more tools it has, the more prepared the instrumentalist will be to solve the technical-interpretive problems of the Score.

Likewise, knowledge of different musical techniques and visions enables different ways of studying, practicing and performing. The greater the variety of ways of studying and playing, the better (since, strategically, all technical and interpretative difficulties will be surrounded on all sides; and, therefore, resolved).

In this summary, we have seen that, with the evolution of Pianistic Technique in the context of the History of the Piano, we can prospect for greater participation and involvement of the *imagery* of the instrumentalist in the context of pianistic performance.

To emphasize that we start from a physical-mechanical conception of the fingers, we go through the scientific technicality of natural bases aiming at the faithful realization of the musical content and we arrive at the performance based on the analytical-cognitive and psychomotor aspects of the performer-pianist.

In such a way that the progress of Pianistic Technique, over the years, highlights the importance of *Musical Imagination* in piano practice (title, by the way, of our Master's Thesis).

In this sense, we have that the prevalent methodology of Musical Imagination as a guiding thread of study and performance leads to the development of musical vocabulary as

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Work to be executed) cooperating with the naturalness (ease, organicity, corporeality, physicality, spontaneity) of the execution.

corollary of the activity of*musical improvisation*underlying the inner world present in the imagery of the performer-instrumentalist.

Thus, musical improvisation[23]Creativity is an essential component for its development.

Furthermore, as a result of the phenomenon of speech (orality), the individual's expression or communication embodied in the creative practice of sound making gives rise to musical improvisation as the result of a discursive action based on rhetoric or oratory[24].

Therefore, this*speak musically*originates in Musical Imagination and unfolds through a creative process formed by imaginative decisions in which the versatility or multiplicity of means and technical resources constitutes an essential factor for the successful communication of the musical message in an expressive, inventive, imaginative, sensitive and dynamics in a given context.

In this connection, Musical Imagination, using improvisation, relies on Pianistic Schools and appropriates the tools that Pianistic Technique offers it over the years in order to rhetorically expose to the public the content of the Musical Text considering the music as a language, idiom or vehicle for the free expression of thoughts, feelings, sensations, desires, images, representations, codes and human ideals.

Thus, Musical Imagination extracts from Pianistic Schools the necessary material for the concretization and perfection of its expressive ideals.

In fact, it takes away its material from them, equipping itself, empowering itself and instrumentalizing itself through the resources and means offered with the aim of promoting interaction between human beings and satisfying their linguistic-communicative verve.

In other words, Musical Imagination makes use of Pianistic Schools as an expressive path within the context of linguistic-communicative action embodied in the creative process of assembling a given Musical Work.

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[23]The Grove Dictionary of Music defines the term “musical improvisation” in the following terms: “The creation of a musical work, or its final form, as it is being performed. It may mean the immediate composition of the work by the performers, the elaboration or adjustment of details in an already existing work, or anything within these limits.” (GROVE DICTIONARY OF MUSIC, 1994, p. 450).

[24]According to Rocha (2016), improvisation corresponds to “a sequence of creative decisions in a given context (social, creative, affective, etc.).” (ROCHA, 2016, p. 6).

Therefore, Musical Imagination seeks inspiration for instrumental practice in Pianistic Schools; that is, the parameters and vestments necessary in order to freely express the contents specific to the seat of human relationships.

In this way, Musical Imagination uses Pianistic Schools to effectively carry out linguistic-expressive skills and abilities within the communicative context specific to human conditions of existence.

Furthermore, it is essential to see that Musical Imagination seeks in Pianistic Schools the tools, weapons and techniques fundamental to artistic-musical expressiveness.

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