

# Romanian Traditional Musical Instruments in the Context of the Family of Musical Instruments



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By

Ovidiu Papană

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## PREFACE

*Motto: “However different we are behaviourally from each other, we are condemned to live (and implicitly play) together.”*

Human spiritual evolution has its well-defined socio-cultural course. This route comprises the unfolding and sedimentation of fragments of time, concretised by momentary interactions, which are unfolded and logically completed. In this sense, the objects built and used by people in different historical periods (those that have remained until now) can be considered “palpable witnesses” that illustrate some unique ways/lifestyles through their conservatism within human existence.

Some cultural assets or household objects have remained unusable in the contemporary period because they no longer exist in today’s socio-cultural landscape. They are considered obsolete; we no longer know how to use them properly or even see the purpose for which they were designed. Every object (cultural or utilitarian) built in a particular segment of human historical evolution encompasses and reflects the ideas, mood, technologies, customs, and “cultural life” of a historical era.

In this context, the present book aims to approach, in a narrower thematic way, a cluster of studies strictly limited to the field of organology. The topics discussed propose the presentation of some Romanian musical instruments less known in specialised literature – “cultural testimonies” that played an important role in the general construction evolution of various categories of musical instruments.

The exposition of the subjects that characterise Romanian musical instruments is done through the contextual analysis of their musical impact on artistic life. Their sonorous qualities and musical characteristics are explained using specific notions of theoretical musical studies.

During the work, some traditional musical instruments that had a special role in Romanian musical-interpretive practice are presented modularly. Comparing Romanian musical instruments to traditional musical instruments of other peoples aims to (or justifies) the phenomenon of intercultural relations encountered worldwide: some similarities, differences, or cultural interferences.



This way of presenting the musical-theoretical aspects was not chosen by chance. Traditional musical instruments are viable examples of construction attempts made (singularly or through cultural interference) throughout time by all of humanity. They can provide us with relevant data that depict the evolution of various local or national cultures in different periods of time. This information indicates:

- The aesthetic-musical way of thinking specific to the various peoples (made concrete through the design, choice and use of traditional instruments);
- The technical-interpretive opportunities offered by the constructions of musical instruments (with a significant impact on the establishment of musical repertoires: the use of sound systems, rhythmic systems or unconventional musical performance techniques);
- The musical-acoustic qualities of different instruments that stood out in different historical periods;
- The local (regional) technological endowment and the primary materials used in the construction of musical instruments;
- The construction-acoustic ideas that were the basis of their conception.

The fact that I had the chance to carry out my professional activity on the confluence of two centuries (the 20<sup>th</sup> century and the 21<sup>st</sup> century, totally different from a socio-cultural point of view) gave me the opportunity to research (and know) the traditional musical instruments of Romania, some scarcely known at national and international level. I regret that these models of musical instruments have already been removed from the use of artistic activities of traditional Romanian culture for a long time.

When I tackled the scope of a research problem that has not been studied, it was very difficult for me to be able to clarify some cultural phenomena in their entirety, taking into account that, at the moment, we only have fragments of concrete information (through which these musical instruments manifested themselves in the interpretive practice). It was the main reason that led me to approach in a multidisciplinary manner some research themes, where musical constructions and their acoustic research provide valuable information about the musical characteristics of the musical instruments in question. In this context, the clarifications, nuances and ideas presented aim to complete the current acquaintanceships, clarify possible uncertainties, or eliminate some remaining inaccuracies (deficiencies) regarding musical information.

The book mainly presents some musical instruments less known in the organological literature, instruments used relatively rarely in the interpretive

practice of traditional Romanian music (I mean: “*fişconiul*”<sup>1</sup> – “*pitpalac*”<sup>2</sup> whistle, “*vuva*”<sup>3</sup>, “*buciumul*” (with the construction variants encountered in Romania – “*tulnicul*” and “*trâmbiţa*”)<sup>4</sup>, “*violoncelul batut*”<sup>5</sup>, “*duduroniul*”<sup>6</sup>, etc. Their presence in traditional Romanian cultural life shows us the process of construction evolution or differentiated use of some categories of musical instruments. They have remained viable over time by being re-evaluated or reconverted at an interpretive level. By presenting these musical instruments in detail and implicitly some pieces from their repertoire, I managed to perform a late recovery, perhaps too late, for these “cultural sequences” present in the Romanian musical landscape.

A rather delicate problem that organologists and music historians face today is that they lack concrete sound sources of artistic manifestations or actual audio-video recordings of the various traditional musical repertoires. Only these sources can conclusively elaborate on some studies related to the cultural practices that manifested themselves in the past centuries. In this field of activity, there are only some somewhat incomplete descriptions (or even deficient in their presentation) of the musical events carried out in the past centuries or distant historical periods.

Current direct information is based on the traditional music of musical performers of more recent periods, performers who partially preserved the oral cultural heritage of the past. Researchers often professionally trained according to the requirements of high culture (propagated through written documents) and formulated some subjective reasoning because they did not have direct contact with the “living” interpretive practice of old traditional music.

Under these conditions, details of traditional cultures and aesthetic laws propagated by visual and oral means must be deeply understood. In the case of my musical presentations delivered in this book on subjects where I could not come in direct contact with the original musical phenomenon, I had some slight hesitations, presenting personal hypotheses or various formulations that adhere to a very rigorous logic, through which I sought to clarify as correctly as possible the real manifestation of the cultural-artistic act carried out in various periods.

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<sup>1</sup> Simple whistle that uses a bellows to blow the air jet.

<sup>2</sup> Quail

<sup>3</sup> Tambourine whose membrane is rubbed with the fingers.

<sup>4</sup> The traditional Romanian variants of the Western European alphorn.

<sup>5</sup> The traditional cello where the strings are struck with a stick

<sup>6</sup> Simple aerophone instrument fitted with a reed, similar to the Hungarian “tarogato”.

As for the methods by which I have tried to study traditional musical instruments under current conditions, I believe that in the absence of other concrete data - at a conceptual level - these “cultural relics” speak for themselves through their very physical presence within artistic “life”. Thus, each particular construction element of a musical instrument can represent an accumulation of knowledge that awaits the decryption of its value at the level of contemporary scientific thinking. In that situation, it was essential that I became informed, and I turned to the theories and explanations formulated within the universal acoustic-musical laws. In the past, most people involved in the cultural life (propagated by visual-oral means) of previous centuries came into contact (involuntarily or voluntarily) with these laws, applying them intuitively when they built, designed or used these musical instruments.

In the 20<sup>th</sup> and 21<sup>st</sup> centuries, Romanian oral culture, as a whole, experienced a long series of irreversible transformations. As a result, contemporary Romanian society has been clearly detaching from the old traditional values (marked in the past by a pronounced national spirit). Such a remark is also valid for traditional cultures found in most peoples.

This social phenomenon of profound cultural transformation, regrettable but “perfectly normal” for the new forms of social behaviour manifested in today’s modern communities, imposes on researchers currently studying all traditional cultures based on visual-oral knowledge one moral-professional obligation: that of hoarding and presenting, at a higher scientific level, the segment of cultural manifestation that has remained viable, including that in the organological field.

The main message of this book is to signal the fact that a comparative presentation of the global cultural phenomenon, seen through the prism of some material invoice elements (witness), in the present case of musical instruments, can highlight in a somewhat particular way the aesthetic-musical similarities or differences that governed the relational cultural aspects of the Romanians with their neighbours or the peoples with whom they temporarily came into contact. This form of inquiry can have a salutary effect in terms of fundamental theoretical research, in the sense of a deeper understanding of how cultures have been artistically conceived: local, national or continental, within the phenomenon of cultural interference unfolding at the global level.



# CHAPTER ONE

## TRADITIONAL MUSIC FROM THE RURAL ENVIRONMENT: DEFINING CHARACTERISTICS

In common parlance, “traditional” has a relatively broad meaning. It defines a <<set of conceptions, customs, traditions and beliefs that are established historically within some social or national groups (people, nation, political party, etc.) and are transmitted (by word of mouth or visually) from generation to generation, constituting for each social group its specific feature>>. <sup>7</sup> Having a specific explanatory role within linguistic expressions, the term “traditional” is used in an associative relationship with other words, somewhat particularising their meaning: traditional relationships, traditional culinary products, traditional customs, traditional music, traditional musical instruments, etc.

When we encounter this term in the musical field, “traditional music”, we understand a cultural manifestation with a rather narrow area of activity. Traditional music is created and transmitted exclusively by visual-oral means; this distinct musical category is included in folklore activities. Its forms of aesthetic expression are strongly marked by the specificities of local thoughts, which impose themselves quite authoritatively in different geographical spaces.

The musical differences encountered in the cultures of various peoples can be observed primarily through how the melodic lines are conceived and used:

- Organisation of sound structures;
- The size of the musical intervals used for playing and how their sequence is made;
- The individualised use of various rhythmic systems;
- Differentiated use of musical performance tempos;
- The distinct use of musical ornaments (“appoggiatura”, “trill”, etc.) or unconventional interpretive techniques.

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<sup>7</sup> *DICTIONAR EXPLICATIV ILUSTRAT AL LIMBII ROMÂNE* (Tipografia Italia, Editura Arc; Gunivas, 2007), 2038

Since ancient times, two distinct forms of coexistence have been crystallised within the human social organisations encountered in the context of the diversified existence of some ethnic communities: the rural type and the urban type. Due to the large habitat differences existing (physical or geographical), this delimitation within social environments has some repercussions related to the mentalities that are crystallised in the perimeter of the respective communities.

Concretely, the forms of rural organisations promote the way of life and spiritual values originating from ancestral ethnic specificity conservatively.

In general, the rural environment ensured the constant behaviour in folk life and ethnic particularities through the temporal primordial and human weight, which was supported by the homogeneity and balance of the traditional organisations. The structure of village communities was represented by concentric circles (individual — family — consanguinity — rural community — local community — ethnic community)...<sup>8</sup>

Local endogamy strengthens inter-community relations. The basis of the organisation of most villages is the “clan,” with all relationships and degrees of kinship inside and outside it.<sup>9</sup>

Socio-culturally heterogeneous urban organisations have been and are still open to successive renewals and ideas resulting from the interference of different cultures or groups of people with diverse conceptual orientations. As for the forms of urban social organisation, they are strictly determined (by adopting the modern legislative framework and by the consensual acceptance or inclusion of some rules established by high culture, propagated in writing).

Social life functioned differently in rural communities. It was more rigorously organised than in modern (emancipated) cities by its unwritten laws, and because they were small communities, everything could be much more precisely controlled by “collective censorship.”

Urban traditional culture propagated by visual-oral means has a hybrid form of manifestation. Cultivated (academic) creation is organically integrated into the mix of urban type culture. Being institutionally coordinated, it synthesises through a form of propagation carried out at a higher level some predominantly aesthetic concerns that may or may not be related to the ethnic features of the community group. This creation is

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<sup>8</sup> Gheorghe Oprea, *Folclor Muzical Românesc* (București: Editura Muzicală, 2002), 20.

<sup>9</sup> Ibid, 20

supported and promoted by some groups of socially prominent individuals who have close or common conceptual affinities.

Both forms of cultural expression (promoted visually-orally, or in writing) are conditioned by the way in which the social mentalities of different historical eras manifest and evolve. Social (or mental) changes gradually achieved over time are predominantly determined by technological advances implemented within human communities' many forms of existence.

Regarding the musical-folkloric productions encountered in Romanian traditional culture, I consider that some nuances related to their thematic area and to some terms used in this sense are necessary.

Since the beginning of research in the Romanian ethnological field, certain terms of reference for folklore creations have been used in a nuanced way in specialised literature: popular (popularity), of the people, peasant, etc. Considering that the cultural field included a significant number of artistic creations, well outlined musically and thematically, these particular nuances remain valid even at the moment, even if the terms *of the people* or *peasant* are no longer frequently used.

In the context of musical productions, the notion *popular creation*<sup>10</sup> is defined as a creation that can be understood by anyone or that is accepted, respected or liked by public opinion. Most of the popular music categories within the traditional creations belong to the culture of rural origin: children's repertoire, customary repertoire, repertoire determined by various trades, repertoire related to the seasons (with magical connotations), repertoire with patriotic themes created and propagated orally, traditional repertoire with religious connotations, lyrical-musical genres (species), epic-musical genres, dance repertoire, etc.).

The urban environment only partially takes over these identity elements with a pronounced local or regional ethnic character. Oral musical-urban creation is dominated by the *lăutar* genre (interpreter of "lute" or "fiddle") – music in which the influence of academic music is noticeable (written music).

"*Fiddler*" was defined in earlier centuries as <<a folk musician, usually part of a *taraf* (small instrumental group) performer playing a stringed instrument>> (lute, fiddle)<sup>11</sup> In the current period, "*fiddlers*" are considered musically specialised persons with material benefits due to the activities carried out in the musical folkloric field. Most "fiddle" folkloric creations have little to do with the ancestral forms of manifestation of ethnic creations of rural origin. In the case of the "fiddle" repertoire, there

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<sup>10</sup> Term used in the sense of popularity.

<sup>11</sup> *DICȚIONAR EXPLICATIV ILUSTRAT AL LIMBII ROMÂNE* (Tipografia Italia, Editura Arc; Gunivas, 2007), 2038.

are also entertainment songs<sup>12</sup> (with a predominantly erotic theme and a richly ornamented melodic line), orally transmitted romances, “listening” or “concerting” songs, songs with social themes, etc.

In the wide range of Romanian folklore creations, there is also a folk repertoire with religious themes, where the artistic-musical presentation is made in a “humanised” (non-institutionalised) manner. This creation is firmly anchored in the real life of the villages (carols with religious themes) or in a more doctrinal way (religious songs about the “star of Jesus Christ”<sup>13</sup> from the church environment).

Traditional music is subject to the rules set by the visual-orally means transmitted culture. Traditional music does not manifest itself in fixed, immutable forms in folklore activities. Musical productions are designed based on a broad concept of composing sound language. From an evolutionary point of view, traditional music can undergo some small transformations (structural, thematic, etc.) over time.

Another characteristic of traditional music is that, in most popular creations, various interpretive variants are embodied in versions: melodic, thematic, or structural. These productions have a common substrate. The simultaneous presence of variants in the general repertoire of folklore creations is part of their natural mode of existence.

Due to these circumstances, a musical genre labelled “traditional” has well-defined features. In this sense, we can conclude that:

- Traditional music manifests itself in cultural activities carried out in parallel with music promoted through writing (it is a cultural alternative to high artistic productions, being governed by its own laws);
- A traditional musical genre is promoted through personalised artistic manifestations; it has a well-established repertoire and remains viable for an extended period;
- Traditional musical creations reflect the aesthetic thinking of a limited local or zoned social group; as the case may be, these creations can even be representative at the level of a people;
- To remain viable, traditional musical creations must have a significant number of supporters, namely performers, and a knowledgeable public, and their promotion must be carried out in an organised framework (local, regional or national);
- Traditional musical creations can be framed in fixed structural forms or have some flexible compositions;

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<sup>12</sup> Gheorghe Oprea, *Folclor Muzical Românesc* (București: Editura Muzicală, 2002), 595.

<sup>13</sup> The “birth” of Jesus Christ.



- Even if these traditional musical creations undergo specific changes or evolutions (quantitative, qualitative) over time, they maintain (conceptually) their initial basic characteristics;
- We can find certain cultural interferences in the traditional music creations of each people because some manifestations of a musical-aesthetic nature can be accepted or taken over selectively within several communities organised according to ethnic criteria;
- The persistence over time or the disappearance of some oral artistic creations is determined by their functional side, more precisely by the emotional impact (manifested in a longer or shorter period) of the aesthetic ideas that were the basis of their creation.

The particular development of musical manifestations in traditional cultures does not occur in a strict isolationist framework. Even if these manifestations have well-defined features, they are subject to the same universal laws that determine the forms of artistic expression of all activities in the cultural perimeter. This fact provides a suitable framework for the emergence of multiple cultural interferences.

## CHAPTER TWO

### THE ROLE OF MUSICAL INSTRUMENTS IN THE LANDSCAPE OF CULTURAL-ARTISTIC ACTIVITIES

The appearance of musical instruments in aesthetic activities is not accidental. The human psychic structure is much more complex in its anatomical endowments that can be used for artistic-musical purposes. Naturally, the human being has a limited number of physical possibilities with which one can produce some sound emissions: vocal singing obtained by using the phonate, natural whistling (performed with the participation of the oral cavity), clapping or rubbing one's hands. By contrast, human thinking, which also includes aesthetic concerns (strongly influenced by the emotional side), has enormous valence to manifest itself in the artistic-musical sphere.

Musical instruments are the equivalent (from an aesthetic point of view) of objects (tools) used to make various utilitarian activities in everyday life more efficient. The presence of musical instruments in people's "artistic life" beneficially complements the limited human biological endowments used for forms of sonic expression. They are a natural outcome of continuous searches related to expanding human physical possibilities, which produce and use the sound phenomenon with increased efficiency. For this purpose, *various methods of human interaction with the environment* were additionally used (from stomping the feet on the ground to the priority use of inorganic or organic materials - unprocessed or processed - with which we can obtain sound effects).

In fact, during the human spiritual evolution, aesthetic-musical thinking and forms of instrumental or vocal interpretation have inter-conditioned one another. Every new idea or initiative that appeared at musical level (including a manufacturing aspect) materialised by expanding the physical possibilities of artistic manifestation. In the context of multiple interrelationships, the professionalisation of singing/playing forms, achieved successively, implicitly led to broadening the aesthetic knowledge horizon.

Initially, all musical instruments were simple sound sources elaborated and used intuitively. Over time, some of these primary sound sources remained in their primitive construction phase, while others developed as construction, becoming actual musical instruments today. Most simple sound constructions remained used in practical activities or secular or religious ritual practices manifested syncretically.

The construction variants of the musical instruments result from using the same acoustic principles but using more or less different physical-mechanical means or constructions.

The sonorities produced by musical instruments are acoustic emissions created artificially by using various ways of vibrating processed materials available to man in his environment. The “objects” used for musical purposes have evolved and improved continuously over time. They started with using simple (inorganic or organic materials) from the surrounding space: wood, stone, metal, leather, bones, leaves, etc., materials that, under certain conditions, could produce sound vibrations.

Artificially created musical sounds were made exclusively for aesthetic purposes. Some primary materials from this category are also found today in the traditional cultures of various peoples. They were already used in the early forms of musical interpretation practised in the primitive periods of human existence and included in the category of musical *pseudo-instruments*.

We can also find these materials in children’s musical games of the current period. In the musical-interpretive practice of the Romanians, the following are still preserved:

- Producing sounds with the blade of grass;
- Playing (musically) to the leaves of some trees;
- Playing (musically) to fish scales or birch bark;
- Sound emissions made at (tube) of onion or pumpkin - split in its upper part;
- The sounds produced by rhythmic blows of two wooden sticks.

The presence of these simple materials in musical and artistic activities shows us the multiple attempts made in the different eras of human communities’ primitive existence to obtain sounds that could generate an important emotional impact through their use in artistic manifestations. Such preoccupations aimed at eminently aesthetic-musical purposes concretely illustrate how people’s intuitive predispositions (from the aesthetic sphere) have been used since their spiritual awakening.

The human species has a superior genetic makeup within the terrestrial biological organisation. Unlike the other living things from the animal

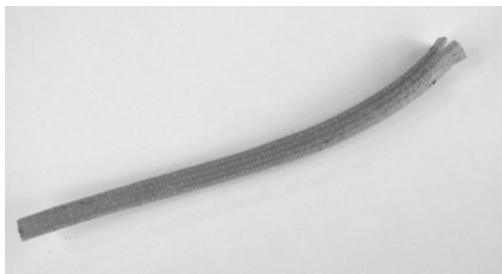
habitat, in the genetic configuration of the human species, a form of aesthetic-emotional thinking is also “predicted.”



**Photo 1.** The grass is used as a pseudo-instrument (its vibration is produced by blowing).



**Photo 2.** Onion stems (sound tube provided with a split at one end – primitive aerophone instrument provided with a double elastic “reed” processed from organic materials).



**Photo 3.** Construction detail – the pumpkin stem is made with a split at one end.



**Photo 4.** Leaf used in playing; at the acoustic-musical level, the leaf behaves like a vibrating reed that hits the lips of the musical performer, Ioana Ivan, Ciutesti village, Vâlcea County.



**Photo 5.** Leaf playing (fixing/positioning the leaf when playing). The leaf acts as an elastic reed that vibrates.



**Photo 6.** Fish scales are used as an elastic reed that vibrates—fish scales (carp species, weighing at least 10 kg).



**Photo 7.** Fish scales are used as an elastic reed that vibrates—the position of the scales when playing.

The evolution and development of these sound sources have been gradual over time. This “continuous renewal” has occurred over the centuries in various social organisations (groups), in parallel with the global technological progress manifested in the practical plan to improve people’s lives.

In the large “family of musical instruments,” new models (or variants) of musical instruments that were built with a high degree of technological complexity brutally removed or shaded (sometimes unjustifiably) the predecessor instruments originally used.

This construction mixture led to the diversified appearance of musical instruments, which later became distinct musical-manufacturing categories.

The different instrumental models have emerged by implementing physical actions governed by universal acoustic laws. In the primitive periods of human existence, most of the “objects” used to produce sound emissions were discovered by chance. They were later reconverted by their occasional use as sound sources. The “professionalization” of musical instruments was a significant requirement when artistic-musical manifestations were usually included in aesthetic-affective concerns.

Over time, many musical instruments with outstanding acoustic performance have unfortunately disappeared. Others have undergone successive construction changes. Their presence or absence from interpretative activities was determined or conditioned by:

- Their musical efficiency (sound intensity, the number of sounds, spectral composition of sound);
- The physical-interpretative facilities offered for playing;
- Their compatibility with the aesthetic thinking of different peoples;
- Their compatibility with the playing styles of different historical epochs (for music from the culture propagated in writing);

- The uniqueness of some sound emission characteristics encountered in some instruments;
- The comparative evaluations obtained in the context of conducting competitive artistic activities.

The evolutionary course of artistic manifestations has led to the emergence and use of an amalgam of musical instruments. Chronologically, they were born in different geographical areas and historical periods, their viable presence being determined by the advantages of interpretation.

The construction of musical instruments was carried out mainly under the impulse of cultural interferences caused by the contact of different social organisations. In some cases, the design of musical instruments was done through the phenomenon of polygenesis (given that all construction attempts made independently were related to the same universal acoustic laws).

Even if classifications with certain degrees of kinship between musical instruments (classifications made according to acoustic principles) have been established, the diversity of musical constructions and their construction variants shows us that these divisions are only partially valid nowadays. Many musical instruments belonging to distinct acoustic categories are indirectly related to each other.

The acoustic impression of the sounds produced by musical instruments (marked/differentiated mainly by the timbre) played an important role in consolidating some forms of aesthetic-musical expression. Their presence in various artistic activities is not encountered only occasionally or randomly. Each sound, through its well-differentiated acoustic characteristics, mentally determines a certain emotional state.

The emergence of orchestral groups/bands in musical-interpretative practice has opened a wide field of sound expression through the new complex forms of acoustic communication promoted from an aesthetic point of view. Using the instruments in an associated manner led to the *simultaneous* emission of different sounds. In using sound emissions from different acoustic associations (kinship or sound incompatibility are strictly determined by the consonance or dissonance relations established by the phenomenon of superior resonance of a fundamental sound), the whole musical life experienced substantial qualitative progress.

In musical interpretative practice, playing (singing) forms are performed singly or simultaneously. Simultaneous musical playing of some sounds is accomplished through a rigorous acoustic selection of the frequencies that make up the various sound associations. Musical language presented in the form of sound conglomerates has become *the most*

*sophisticated form of acoustic communication* made under the impulse of human inner feelings. This crucial step by the superior interpretation of the sound phenomenon allowed human aesthetic-musical thinking to manifest in full, offering it multiple (infinite) forms of artistic manifestation.

Cultural-artistic activities directly benefit from the facilities offered by the forms of sound expression promoted by instrumental music. In such activities, musical participation can be made unilaterally musically (vocal-instrumental manifestations) or can be included in some complex artistic manifestations that bring together the music, the dance, “strigături” (the verbal expressions) and the clothing. They are specific to the manifestations encountered in audio-visual cultural practices. Finally, I would like to end this presentation with a question:

- What would the human artistic activity have looked like without the participation of musical instruments?



## CHAPTER THREE

### THE NATURAL FORMS OF SOME BIOLOGICAL MATERIALS USED AS ACOUSTIC MODELS IN THE DESIGN OF PRIMITIVE MUSICAL INSTRUMENTS

During human spiritual evolution, the phases of emancipation-behavioural, cultural, technological, etc. - unfolded slowly and cumulatively. We can no longer reconstruct a large part of these springs of human “becoming” (especially those from the early periods of the mental awakening of human groups or societies) with certainty due to the lack of supporting elements (tangible material objects, rigorous descriptions or audio-video records) that can concretely depict the differentiated presences and perpetual transformations that appeared over time within primitive human social organisations.

A small part of these “white spots” that clarify some aspects of human spiritual evolution can be partially reconstructed through inter-relational studies or logical comparative analysis. Within them, some forms of investigation somewhat different from those usually used can be used - *specific analytical methods that aim to decipher how people have taken over for construction purposes various biologically created material structures, for conception and creation (rational) of the various objects used in their gainful activities*. Here, we can also consider studying the primary physical patterns found in miscellaneous organic compositions.

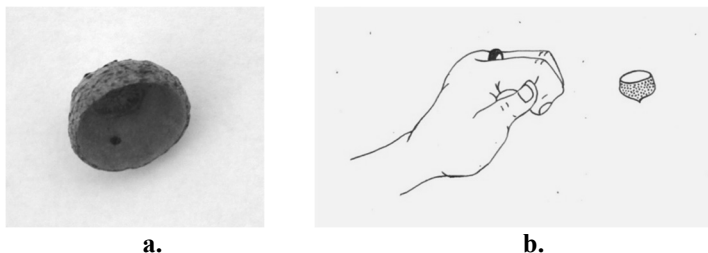
Within human activities, some biological constructions or (to a lesser extent) some inorganic structures from the ambient environment have been taken over (physically or conceptually) and used for construction purposes in their “semi-processed” forms. Also, these material structures were imitated in their own ways under the construction aspect for the elaborate creation of objects necessary for people’s daily lives.

In the case of musical instruments, their emergence, construction, and (later) imposition on the spiritual plane followed the same pattern of intuitive technological evolution. The delimitation of musical instruments

as objects with functional-aesthetic attributes was made because, over time, various simple material creations made by people (objects with multiple uses) began to have specialised uses. As a result, some of these “objects” were distinctly designed to be used only on a musical-emotional level. The increasingly high-performance constructions of musical instruments have been achieved through successive trials, improvements and refinements.

In the traditional cultures of various peoples (transmitted by visually means), not by chance, the previously presented pseudo-instruments or simple musical toys used by children have remained viable until now: the leaf, the fish scale, the green stalk of the onion, the apricot kernel, the cap of acorn placed between the fingers etc. Some of these primary elements originating from the biological environment, capable of producing various sonorities, were gradually replaced by other more performing materials, processed professionally, with higher acoustics facilities. For this purpose, dozens of attempts were made, which led to the individualised emergence and refinement of some primordial musical instruments and (implicitly) their division into instrumental categories or subcategories.

The presence of biological elements (of the same kind) in smaller or larger geographical spaces can explain and clarify, to some extent, the sporadic appearances of musical instruments in various distinct locations through the phenomenon of polygenesis or some forms of cultural interference. The principle underlying creations made through polygenesis considers that, due to the fundamental laws of creation, any material object (organically or inorganically constructed) has its unique characteristics. It behaves in the same way in different geographical spaces or various periods.



**Photo 8 a, b.** The acorn cap and its use as an acoustic enclosure—it’s positioned between the fingers to obtain the musical-acoustic phenomenon defined by the term “whistling.”<sup>14</sup>

<sup>14</sup> All the instruments photographed are part of the private collection of Ovidiu Papană.



**Photo 9.** “Apricot kernel” is an aerophone pseudo-instrument that produces sounds according to the principle of whistling, known as “whistling” or “bumb” (button); when playing, the apricot kernel is placed in the mouth, between the lips and teeth.

In the category of “semi-preparations” taken from the biological space, tubular shapes played an essential role in constructing utilitarian objects or musical instruments. Tubular materials were taken from the ambient environment before being artificially built by humans (for various lucrative purposes or musical instruments).

There are quite a few examples related to the use of tubes (from the biological environment) for musical purposes:

- the dried stem of anise or dill, the dried stem of hemlock, the reed (in “fifa”)<sup>15</sup> - instrument built from a single tube closed at the rear end, instrument musical precursor to the panpipe;
- the tubular bark of some tree branches: linden, willow (in the primitive “tilinca”) without mechanical blowing device – end-blowing flute, an instrument built from a simple tube that uses the process of sound emission by whistling;
- Animal or human bones (femur) – for primitive whistles provided with holes.

For the construction of the “tilinca” and the whistles, elder wood could also be used, which, by removing its soft inner core quite easily, had the physical-mechanical qualities of a much better-performing tube, being very resistant to (destructively) mechanical shocks. The main advantage of elder wood was related to the fact that this tube was much stiffer and less perishable in its various uses.

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<sup>15</sup> Ovidiu, Papană: *Instrumente Tradiționale Românești, Studii Acustico-muzicale Vol. II*, Editura Etnologică, București, 2019, pag. 180 – 213.

The primary forms of various modern aerophone musical instruments, such as the whistle (flute), clarinet, oboe, and upright trumpet, which use tubes to produce various sound emissions, were not conceived and created in their first phase by specially made constructions according to the laws of acoustics. Tubular wood and metal processing were used much later.



a.



b.

**Photo 10 a, b.** *Fifa* is an aerophone musical instrument with a single resonator tube, which lacks the whistling device; the air column is emitted with the help of the lips – a musical instrument with the tube closed at the lower end (the musical instrument preceding the panpipe); models of “fifa” built from **a** - anise stem and **b** - cane.



a.



b.

**Photo 11 a, b.** Manufacture reply – primitive bone whistle (femur) of a goat, semi-transversal aerophone musical instrument used to emit whistled sounds (instrument preceding primitive whistles); **a** – general image, and **b** – construction detail, the upper edge of the resonator tube; the whistle emits two sounds, and its tube is equipped with a hole.



**Photo 12.** *Tilinca* is made of elder wood. It is a musical instrument constructed from a simple tube (without a sound-producing device) in which sounds are obtained by whistling (using the upper resonance of a fundamental sound).

The sonic highlighting of “tubes with musical valences” was achieved by considering some serendipitous discoveries concerning the acoustic functions of some natural tubular materials and using their sonic characteristics for musical purposes. Within these concerns, the development of the first prototypes of musical instruments required the understanding and knowledge (at a simplistic intuitive level) of some sound phenomena, which resulted from applying acoustic laws derived from the physical universal laws. Such early understanding was gained through multiple groping.

In their phase of construction and primary existence, aerophone musical instruments benefited from some physical-acoustic advantages offered by biological materials taken from nature. In the environment, there were already various biological materials with tubular shapes (reeds, empty stems of plants or weeds: anise, hemlock, green onion, pumpkin, cereal plants), which, used to produce sound emissions, behaved acoustically in an efficient way and very diversified. Their presence in people’s everyday lives involuntarily offered some ways of perceiving and intuitively understanding acoustic phenomena.

The major disadvantage of these “semi-prepared products” originating from the biological environment was related to the fact that, by including them as construction components in the acoustic edifice of some musical instruments, some very fragile or even perishable instrumental prototypes resulted from this.

Over time, the establishment of performing musical acoustic models (physic-mechanical) created the premises for developing subsequent (artificial) constructions, which paved the way for the appearance of

personalised musical instruments. These constructions took some forms of biological materials, but they were made of much stronger and more durable materials (wood or metal).

In nature, some variants of the pumpkin species have shapes with cylindrical spherical or conical profiles. One wild pumpkin species (hanging from trees), scientifically known as *Lagenaria siceraria*, has an elongated tubular configuration with an oversized oval form at one end.



**Photo 13.** *Lagenaria siceraria*, the wild pumpkin species hanging from trees, used in constructing various household objects or “objects” with an acoustic-musical role.

The wild pumpkin species “*Lagenaria siceraria*” is not used in gastronomic activities. However, its elongated shape, provided at one end with an oversized oval termination (slightly pointed), allows it to be used, through very simple processing, as a utilitarian object or even as an object with acoustic-musical valences. Only the dry rind of this wild pumpkin species is used for such uses.

In the traditional terminology of the Romanian countryside, the wild pumpkin is known under various regional names: “tărtăcuță”, “tâlv”,