

Tan Dun's *Water Music*: a sonic investigation on the instrumentality of water through experimental percussion practices and contemporary music performance

Water Music de Tan Dun: uma investigação sonora sobre a instrumentalidade da água através de práticas percussivas experimentais e performance musical contemporânea

Luís Bittencourt 

Independent researcher

bittencourt.mail@gmail.com

SCIENTIFIC ARTICLE

Section Editor: Ronan Gil de Moraes

Layout Editor: Edinaldo Medina

License: "CC by 4.0"

Submitted date: 31 oct 2023

Final approval date: 30 nov 2023

Publication date: 31 dec 2023

DOI: 10.35699/2317-6377.2023.48635

ABSTRACT: This article aims to discuss the instrumentality of water in the repertoire for percussion, using the performance of the work *Water Music* (2004) by Chinese composer Tan Dun (1957) as a case study. Rooted in my own artistic practice (as percussionist, improviser and composer) in the performance of the work as the core of research process, this investigation also combined methods and theoretical perspectives from the fields of auto- and performative-ethnography (Wong 2008), in addition to semi-structured interviews with other percussionists specialists in Tan Dun's water percussion works. Starting with an overview on water's integration into Western art music and its dynamic connection with percussion, this investigation intended to reveal, from the perspective of a percussionist, the intricate performative process involved in Tan Dun's *Water Music*. This investigation underscored the presence of a unique performance path, shaped by singular performative demands, in addition to creative and experimental artistic practices.

KEYWORDS: Tan Dun's *Water Music*; Experimental percussion; Instrumentality; Music performance; Contemporary music.

RESUMO: Este artigo tem como objetivo discutir a instrumentalidade da água no repertório de percussão, utilizando a interpretação da obra *Water Music* (2004) do compositor chinês Tan Dun (1957) como estudo de caso. Baseado na minha própria prática artística (como percussionista, improvisador e compositor) na interpretação da obra como núcleo do processo de pesquisa, esta investigação também combinou métodos e perspectivas teóricas dos campos de autoetnografia e etnografia performativa (Wong 2008), além de entrevistas semiestruturadas com outros percussionistas especializados nas obras de percussão com água de Tan Dun. Começando com uma visão geral da integração da água na música de arte ocidental e sua relação dinâmica com a percussão, esta pesquisa teve como objetivo revelar, da perspectiva de um percussionista, o intrincado processo performativo envolvido em *Water Music* de Tan Dun. Esta investigação destacou a existência de um percurso de performance único, moldado por demandas performativas singulares, além de práticas artísticas criativas e experimentais.

PALAVRAS-CHAVE: *Water Music* de Tan Dun; Percussão experimental; Instrumentalidade; Performance musical; Música contemporânea.



1. Introduction

My contact with Tan Dun's music occurred in mid-2009, when I was starting an investigation into the use of water as a musical instrument in a Master Degree in Musical Performance. During a bibliographical fieldwork on musical compositions that used water as a sound source, and I came to know Tan Dun's *Water Concerto for Water Percussion and Orchestra (in memory of Tour Takemitsu)* (1998), and *Water Music for solo or four percussionists* (2004). The former, as suggested by its title, is a percussion concert featuring water as the soloist instrument, probably the first and only orchestral concert ever composed for water percussion until the publication of this article. The latter, which is originally composed for percussion quartet but can be performed as a solo work¹, can be considered the chamber version of the concerto, since it uses the same instrumentation from the soloist part and features several identical excerpts from it.

Water Music became the main case study of my master's research, entitled "The use of water as a percussive sound source: analysis of *Water Music* by Tan Dun". Some outputs of this research included a dissertation with an analysis of *Water Music* in its soloist version, departing from technical, interpretive and structural viewpoints, in addition to video recordings of my solo² and a chamber³ versions of the work. Subsequently, I continued to develop my investigations on related issues, such as percussion and the instrumentality of found objects and unusual sound sources (Bittencourt 2019).

The present investigation was developed through documental research (bibliographic, discographic, videographic), case study and studio research on my own artistic practice in the creation of a solo performance of the work, in addition to a performative ethnography fieldwork with percussionists David Cossin (b. 1972) and Beibei Wang (b. 1986). Cossin is a specialist of Tan Dun's water percussion works, and he has been working in a close relationship with the composer for more than 15 years. He is also the soloist in the DVD recording of Tan Dun's *Water Concerto* (Dun 2009) with the Royal Stockholm Philharmonic Orchestra. Wang is a Chinese percussionist and regular collaborator of composer Tan Dun in his trilogy of orchestral percussion concertos. This trilogy, called *Organic Music Series*, consists of the works *Water Concerto*, *Paper Concerto* and *Earth Concerto* and features water, paper and ceramics as soloist materials/instruments respectively. My performative ethnographic fieldwork undertaken with these percussionists was developed in two artistic residencies, in Lecce (Italy) in 2012 and London (England) in 2017. The performative ethnography in both residencies included in-depth interviews, observations, several studio experimentation sessions, collective reflections, rehearsals and public performances. In addition, percussionist Maria Flurry, who is also specialist in Tan Dun's water percussion works, has collaborated through personal communications through email.

Water Music has become a special work in my repertoire, and in the past 14 years I have been performing it in the most varied contexts, places and audiences — from prestigious national and international concert

¹ "For solo version, the soloist can choose any portions from the piece to present" (Dun 2004, performance instructions).

² Excerpts of my solo version can be accessed at the link: <https://www.youtube.com/watch?v=5SfWHjfkP7c>

³ Excerpts of a chamber version can be accessed at the link:

<https://www.youtube.com/watch?v=pP8dUllzT8U>



Figure 1: Performance of Tan Dun's *Water Music* at Convento de São Francisco, Coimbra, Portugal, May 2019
Source: João Duarte

halls, experimental music festivals and contemporary art venues, to reservoirs of water supply companies, nightclubs and alternative spaces from the underground scene.

2. Music, Water and Percussion

In Western art music, water has held a prominent role for centuries, serving as a rich source of inspiration both symbolically and tangibly. Historically, the use of water in musical compositions commenced with a representational and metaphorical approach, influencing note selection, rhythm arrangement, and instrument choices (Helmreich 2012). Handel's *Water Music* (1717) is a well-known example, and various composers (such as Berlioz, Liszt, Wagner, Debussy, Maurice Ravel, Toru Takemitsu and many others) found inspiration in water, not only to create musical compositions but also to shape their compositional methodologies. Debussy, for instance, attended the 1889 Universal Exposition in Paris, where he encountered Javanese music, spurring him to introduce innovative elements into his music. He expressed this transformative vision, stating, "I would like to see, and I will produce, music that is entirely free of 'motifs,' or rather, composed of a continuous motif that is never interrupted and never returns upon itself" (Debussy as cited by Toop 1995, 18).

Until the mid-20th century, composers primarily used water symbolically in their compositions. Even though water appeared in many works and concert halls during this period, no one actually got wet (Kahn, 2001). In fact, real water first entered Western art musical compositions through percussion, more precisely percussion tuned by water, or *wet percussion*, as suggested by Kahn (2001, 247): "The first notable use of wet percussion was Erik Satie's use of the *boutelliphone* (a series of tuned bottles suspended from a rack, 'a poor man's glockenspiel') in *Parade* (1918)." Through percussion, the use of water followed two main pathways: 1) combining water with percussion instruments or sound objects, and 2) using water as the primary sound source. When combined with instruments or sound objects water acts as a tool to expand

sonic possibilities, allowing the sound to be tuned (e.g. *boutelliphone*), modified, amplified (e.g. water drum⁴), or both. This approach has been widely explored in percussion repertoire, enabling the new instrumental potentialities for various instruments like gongs, cymbals, and more. In fact, the combination of water with percussion instruments has allowed the emergence of new instruments, embedded with their own set of performance techniques, learning paths and virtuosity modes (e.g. the water gong⁵).

The 1930s marked a significant period for the development of water's potential as a tool for creating unconventional sounds in percussion instruments. Fueled by the sonic revolution of the Futurist movement, many composers dedicated themselves to crafting exclusive percussion works, contributing to the emergence of these groups as truly independent orchestras. Among these composers, Henry Cowell (1897-1965) made his contribution to aquatic percussion by including eight water-tuned rice pots of different pitches in his work *Ostinato Pianissimo (For Percussion Band)* (1934). It's noteworthy that Cowell indicated in the score that this instrument was derived from the Indian *jalatarang*, which literally translates to "waves of water."

Composer John Cage (1912-1992), a disciple of Cowell and Arnold Schoenberg (1874-1951), was responsible for several significant inventions involving percussion and water. His creations include compositions in which water is used as a genuine sound source, as well as the invention of the water gong, which has first formally appeared in his percussion ensemble work *First Construction (in Metal)* in 1939. However, Cage's introduction of the water gong dates back to 1937 at UCLA, two years before the composition of *First Construction*. At that time, he was working as composer and music director for the University of California–Los Angeles women's synchronized swimming team. Cage recalled:

My first commission was from the Physical Education Department of U.C.L.A. An accompaniment for an aquatic ballet was needed. Using drums and gongs, I found that the swimmers beneath the surface of the water, not being able to hear the sounds, lost their places. Dipping the gongs into the water while still playing them solved the problems of synchronization and brought the sliding tones of the "water gong" into the percussion orchestra. (Cage 2011, 86)

After employing the water gong in *First Construction* and subsequent works, Cage, in a pioneering manner, severed the link between percussion and water, emancipating it entirely as a sound source in his work *Water Music* (1952). In this piece, which is probably one of the composer's earliest musical-theatre works, several instruments are used, including a duck call to be played and submerged in water, as well as two containers for pouring and collecting water. Cage also composed the related work *Water Walk: For Solo Television*

⁴ "Instrument composed of two hemispherical bowls, made with gourd, one almost twice the diameter of the other. The larger bowl is filled with some water, and the smaller bowl is placed inside the first one, with the edges facing down. The portion of the bowl that is not submerged may be struck with hands, sticks, pieces of gourds, spoons, etc. In Africa, the instrument is used to accompany female songs, and it is one of the only instruments played by women." (Frungillo 2002, 326).

⁵ "name given by John Cage to a tam-tam or gong that, upon being struck, should be immediately immersed in water halfway down. The water causes the pitch to slide down and create a glissando effect. The glissando can be ascending or descending depending upon which direction the gong is going, up or down." (Beck 2007, 105).

Performer (1959) for a performance on the Italian TV show *Lascia o Raddoppia*. In one of his manuscripts, Cage even named this piece *Water Music Nº. 2* (Bittencourt 2012). Virtually all the instruments and utensils used are related to water, including a rubber duck, a bathtub filled with water, a pressure cooker (where water vapor is released), ice cubes and an ice crusher, a rubber duck, a garden watering can, and a siphon. Notably, water plays a significant role in Cage's oeuvre, extending beyond the discovery of new sonic possibilities or the creation of works that employ aquatic sounds:

Water produced a variability within percussion that, as Cage understood in retrospect, was already characterised by variability. Thus, an inability to control pitch was added to the already noisy status of percussion. Most important, water produced the most marked instance of the variability that "prepared me for the renunciation of intention and the use of chance operations."⁶ (Kahn 2001, 250)

In the more recent decades, composers, performers and sound artists have been exploring the instrumentality of water not only as a sound source or sound device, but also as a new canvas and medium for musical performance, recording, reproduction, and listening. Examples of this fusion is the [Aquasonic](#), a captivating performance by the Danish collective *Between Music*, or the Underwater Concerts⁷ organized by the French composer Michel Redolfi, for example. The "underwater music" genre, pioneered by Redolfi, emerged during his research on sound diffusion in liquid environments between 1973 and 1984. He introduced the idea of underwater concerts, allowing audiences to float or dive to experience music performed underwater. *Sonic Waters*, the first concert of its kind, took place in 1981 in the Pacific Ocean. Redolfi continues to present these concerts in various aquatic environments such as lakes, pools, and oceans.

3. *Water Music* (2004) by Tan Dun (1957)

Water Music is a musical and visual work that explores the potential of water as a musical instrument or, in other words, the instrumentality of water. The work was originally composed for percussion quartet, and its performance lasts about 20 minutes. *Water Music* was premiered by the *Talujon Percussion Quartet* in the Ocean Life Hall of the American Museum of Natural History in New York, USA, on June 8th, 2004. An interesting fact is that *Water Music* can also be performed as a solo work, as Tan Dun explains in the score that "for the solo version the soloist is free to choose any portions of the work to present" (Dun 2004, performance notes). This flexibility in the presentation modes of the performance of *Water Music* is one important aspect of the work, which will be further discussed at a later time in this article.

Conceived as "music that is for listening to in a visual way, and watching in an audio way"⁸, *Water Music* features a variety of unusual sounds produced by the manipulation of water through various types of techniques and gestures. In addition, visual elements such as lighting, color and shadow are blended with peculiar sounds of water percussion, creating a unified result that places the piece in the intersection between music and other art forms. *Water Music* is a singular work, not only because it presents water as a

⁶ Richard Kostelanetz, *Conversing with Cage*, 1988. New York: Limelight Editions, 1988. 60-61

⁷ An example can be accessed in [this link](#). Consulted in December 27th of 2023.

⁸ Cited at <https://www.wisemusicclassical.com/work/33596/Water-Concerto-for-Water-Percussion-and-Orchestra--Tan-Dun/> and consulted in 2020/11/08.

musical instrument but especially because of its interdependence with the performer's creativity. In fact, *Water Music* is embedded with creativity at different levels, from the composition (Tan Dun's original approach to the instrumentality of water) to performance (the materialisation of general ideas from the score into sound and music by the performer).

From the compositional viewpoint, Dun was certainly not the pioneer in using liquid water in the context of a Western art musical work; as above mentioned, Satie probably was, by using it to tune the notes of a *bouteillophone* in his ballet *Parade* (1918). John Cage also deserves credits for his pioneering ideas on the instrumentality of water, which includes the invention of the water gong (Bittencourt 2012) and the exploration of the liquid in different ways in his works, from the use of ordinary sounds of water—as an element of everyday life used in his theatrical work *Water Music* (1952)—to the liquid's wondrous ability to alter and amplify the sound of other sound sources⁹.

Nevertheless, Dun was likely the first composer to propose a careful systematic exploration of water as a real percussive musical instrument, in the context of a Western art music. And he did this by taking the instrumental potential of the water to another level: differently from other composers, Dun has innovated by requesting the performer to literally approach a bowl of water as drum, and by asking for different types of techniques to produce sound in the liquid — both in the context of chamber and orchestral music with his works *Water Music* and *Water Concerto*, respectively. Using a theoretical perspective from the studies on creativity by Boden (2011), Dun's water percussion works involve what Boden would call "transformational creativity", which is a type of creativity that "leads to 'impossibilist' surprise" (Boden 2011, 73).

Importantly, transformational creativity is grounded in what Boden calls a "conceptual space"—some previously existing, and culturally accepted, structured style of thinking (e.g. a board game, like chess, or a particular type of music or sculpture). According to Boden, the reason that transformational creativity leads to impossibilist surprises is that some defining dimension of the style, or conceptual space, is altered — so that structures can now be generated which could not be generated before (Ibid.). In *Water Music*, Dun departs from a conceptual space (e.g. the performance of Western art music) and changes some dimensions of it (e.g. proposing an unusual instrumentality of water). Consequently, this transformation culminates in the generation of novel structures (e.g. water percussion, which also dares our understanding of what a musical instrument may be).

From the performative viewpoint, Dun's transformational creative approach to the instrumentality of water infuse the performer with the underlying demands of learning a new instrument (water percussion) and a site-specific (or "instrument-specific") music notation and; of obtaining, through experience, the ability to improvise with it; of building unusual sonic devices required for the performance, and of actively reflect and re-arrange the music to compose a solo performance from the percussion quartet. These are some issues that I intend to discuss further in the subsequent pages.

⁹ Other composers, like Willy Corrêa de Oliveira (1938), also creatively explored water as a tool for altering pitch in a cymbal in his work *Materiales* (1980) for soprano and percussion ensemble.

3.1. The score of *Water Music*: instrumental investigation through performance

The score of *Water Music* features distinct types of musical notation, which combines standard musical notation with textual instructions, graphics and drawings created by the composer specifically for some performance techniques and sonorities of the work. In some of the sections, the notation assumes characteristics of indeterminacy, which might produce, unpredictable sonic and performative content, to some extent. I would argue that when using this type of mixed notation, Tan Dun is also producing music that is, at least from the performer's point of view, inherently investigative and experimental — not experimental in its compositional methods (e.g. John Cage's chance procedures) nor in its artistic outputs, but in its performative means or artistic practice.

By using indeterminate elements, Tan Dun is also producing some undefined spaces in the score, and this compels the interpreter to make decisions about the creation of certain parameters and contents of the work. The excerpt below (Fig. 2) illustrates this argument, which the performer should produce water dripping sounds during about 50 seconds:

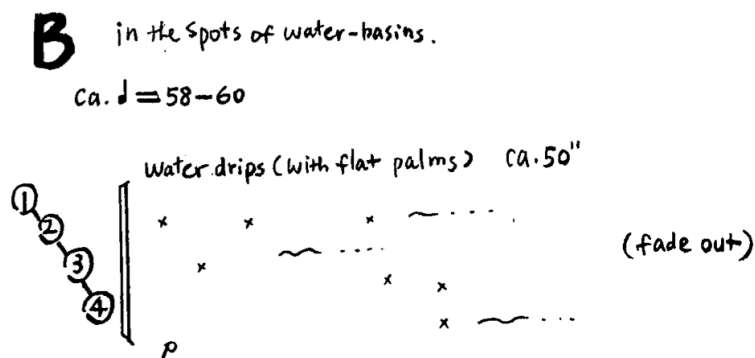


Figure 2: Excerpt of Tan Dun's *Water Music* (2004), page 2. Published by G. Schirmer Inc. Used with permission.

It is important to notice that musical works with standard notation may also lead the performer to make decisions, although some works with an extreme degree of details in their notation might probably miss or reduce the possibility of creative interference by the performer. These thoughts are also shared by pianist David Tudor, who probably is the single most important performer in the history of experimental music, when reflecting on the performance of works with indeterminate notation:

When I play a piece that is notated, even though I may have a freedom of choice, for instance as in Stockhausen, I feel ... er ... it's a curious, er ... sensation that I'm trying to describe, but the whole thing is ... whatever you do, is like a stream of consciousness. And if I play something which is so notated I notice now, after having done it for several years, that it has the tendency to put me to sleep. It wants all the time to ... er ... recede into an area where my feelings are called upon more and more. And all the features which seemed to be so striking when the works were first composed now become much less striking. They don't seem so important and so the whole thing recedes into a stream which is mainly of feeling. Whereas if I play music which doesn't have any such requirement, where I'm called upon to make actions, especially if the actions are undetermined as to their content, or at

least let's say undetermined as to what they're going to produce, then I feel like I'm alive in every part of my consciousness. (Tudor¹⁰ in Thomas 2009)

In Tudor's experience, it seems that indeterminate notation is responsible for producing an aliveness feel on him while performing. This is very similar to my experience in the performance of Tan Dun's *Water Music* concerning the relationship between performer and notation, and this brings the performative act closer to the idea of creation, instead of execution. Another aspect that I observed, from my own artistic practice, is that the score of *Water Music*, with its open-ended notation, also seems to create an opportunity to deepen the focus on the ways and physicality involved in the sound production, that is, technique. In other words, these apparently empty spaces in the score, to be filled by the creative interference of the performer, foster the experimental scrutiny of sound, resulting in a broader understanding of water as a musical instrument, or of its potential as such. More than learning the score and decoding its symbols — inasmuch that any notated musical work in the western art-music tradition may imply these tasks in different levels — the performance of *Water Music* is more the negotiation of a score as the territory for instrumental and sonic investigation through performance.

3.2 Performing water percussion

For a percussionist who is willing to perform *Water Music*, to learn how to play water percussion is *de rigueur*. The use of water as a percussive instrument in Dun's *Water Music* has its own and distinct complexity, with a technical demand to be mastered by the percussionist in the performance of the work. Some performance techniques are adapted or transposed from other percussion instruments, while others are particular to water percussion. Two examples are the [tremolo patting](#)¹¹ and the [water flick](#)¹² techniques respectively (Fig. 3). The former technique aims to produce a continuous sound and involves a fast alternation of hands over the liquid's surface, while the latter involves striking the water with one or more fingers using quick, snapping motions.

¹⁰ David Tudor and John Cage interviewed by Mogens Andersen in a broadcast of Danmarks Radio on 3 June 1963. Featured on the CD *David Tudor – Music for piano*, ed. RZ 1018-19 (2007).

¹¹ Similar to the "roll" in membrane percussion instruments, the tremolo patting technique seeks to replicate a continuous sound through the repetition of successive notes. However, this technique has distinctive features. Unlike membranophones where the hands are parallel to the surface, in tremolo patting, they are positioned perpendicular to the liquid's surface. This creates a sweeping motion over the water's surface instead of a striking action. The perpendicular hand position results in a more legato and continuous sound compared to the parallel position, which imparts a rhythmic and percussive character, as in the water slap technique, for example. (Bittencourt 2012)

¹² Its performance comprises two distinct mechanisms: initially, the inner side of the thumb acts as a trigger or lock, creating tension on another finger (such as the index, middle, or ring finger); subsequently, releasing the thumb causes the other finger to be propelled, striking the water.

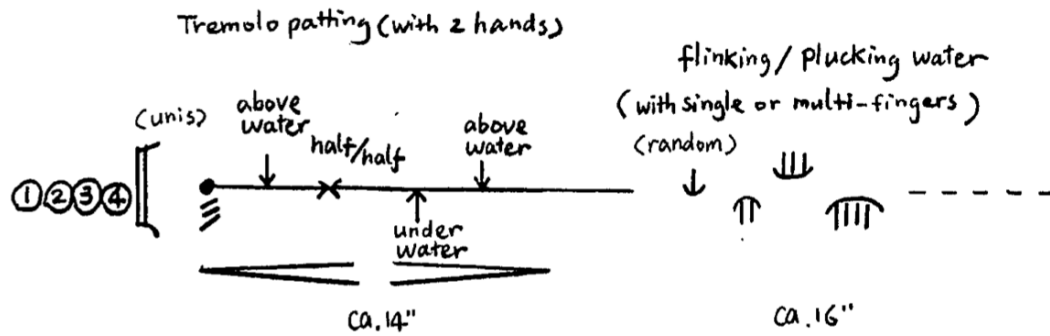


Figure 3: Excerpt of Tan Dun's *Water Music* (2004), page 2
Source: G. Schirmer Inc. Used with permission

Similar to the "roll" in membrane percussion instruments, the tremolo patting technique seeks to replicate a continuous sound through the repetition of successive notes. However, this technique has distinctive features. Unlike membranophones where the hands are parallel to the surface, in tremolo patting, they are positioned perpendicular to the liquid's surface. This creates a sweeping motion over the water's surface instead of a striking action. The perpendicular hand position results in a more legato and continuous sound compared to the parallel position, which imparts a rhythmic and percussive character, as in the water slap technique, for example (Bittencourt 2012). The water flick, or the flicking, can be seen as a transposition of a performance technique used in some hand drums. Its performance comprises two distinct mechanisms: initially, the inner side of the thumb acts as a trigger or lock, creating tension on another finger (such as the index, middle, or ring finger); subsequently, releasing the thumb causes the other finger to be propelled, striking the water.

However, it is important to highlight that, even in the apparent simplicity that exists in transposing a technique from a standard percussion instrument to water percussion, several other parameters are changed and reconfigured (e.g. the resulting sonority, the type of response generated after the stroke, the extent of technical control, among others). Furthermore, we cannot forget that the main musical instrument of the *Water Music* is a liquid substance, that is, inconstant and frequently unpredictable, and these characteristics will undoubtedly imply a singular instrumental approach. Percussionist David Cossin has made some comments about the idiosyncrasy involved in performing water percussion:

The way you can approach playing those [water] instruments...you wouldn't play marimba the same way you would play water, you know? But you would play vibraphone and marimba the same way, or you would play multiple percussion set up...you can tell this to the same person...but sometimes with the water percussion you really change the approach of playing percussion. (Cossin in Bittencourt 2012, 205).

On one hand, there is a technical demand involved in the performance of a virtually unexplored instrument in the contemporary Western art music. On the other hand, there is an opposed learning path involved in water percussion, if compared to the acquisition and mastering of performance techniques in other standard or traditional musical instruments, since the performer of *Water Music* cannot rely on the traditional set of sources usually available (e.g. books, methods, recordings, articles, etc.). To put it concisely, all the specialised apparatus — technical, reflective, scholarly — about the ways of playing an instrument are non-existent; similarly, it would be unthinkable to even discuss possible traditions or aesthetic currents of the

performance of water percussion. So in a new instrumental domain such as water percussion, with so much to discover, what then would be the skills or the foundations of its technique? According to percussionist Beibei Wang, the quality of the sound produced seems to be a key aspect in the performance of unusual instruments such as those used in Tan Dun's water percussion works:

I think there are certainly...there are skills for unconventional percussion repertoire. It depends on each repertoire, each music. So every music has a different instrumentation and different "atmosphere" of its instruments, you have to try to do what this music should be. So, for example the *Water Concerto*: at the beginning, when you play the waterphone. So the waterphone is a new invention, then there are so many people playing it differently. You have to find beautiful sounds by bowing and beautiful sounds by knocking on the instrument, or using different mallets to tap it. Each mallet, each touching has different qualities. So you can find the best quality for each sound. This is one technique I think, for me, to produce the best quality of the sound. (Wang *in* Bittencourt 2019)

It is worth to notice that both the technical demand and the scarcity of specialised knowledge about water percussion practices could be understood as characteristics that would restrict the performer's creativity in the relationship with this new instrument. Nevertheless, it is the implicit limits of a given material or task that seems to enhance creativity, eventually becoming, themselves, paths to possibilities (Ceruti *in* Montuori 2003, 249).

3.3. Improvising on water percussion

The ability to improvise with water percussion is also required in *Water Music* — there are some specific sections of the work in which musical improvisation is needed (Fig. 4), including a soloist *cadenza* in the style of classical concerto from the Western art-music tradition (Fig. 5).

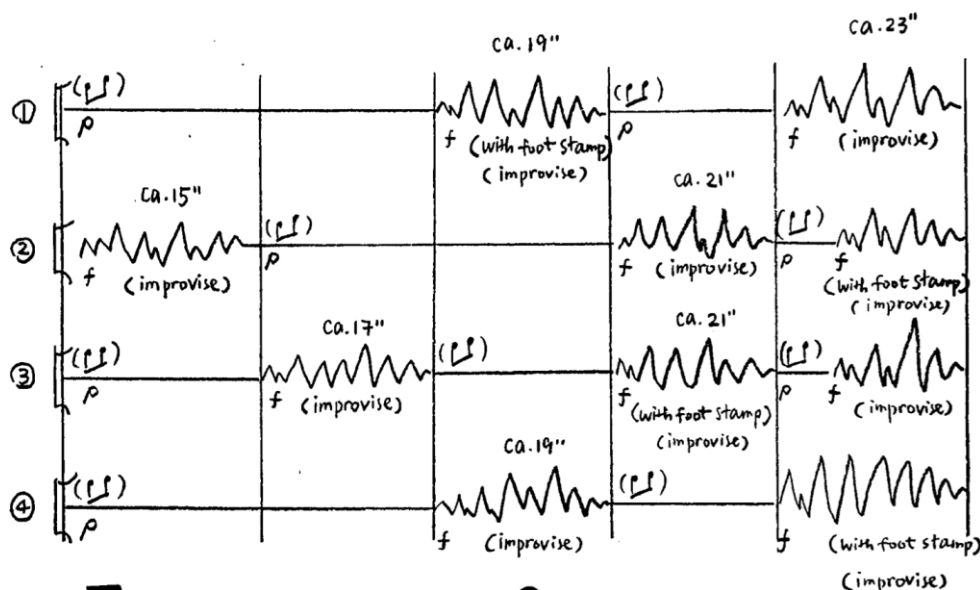


Figure 4: Excerpt of Tan Dun's *Water Music* (2004), page 4
Source: G. Schirmer Inc. Used with permission

Musical performance and musical improvisation are specific areas of expertise within musical practice, and, independently of the level of excellence of the instrumentalist, mastering the former does not necessarily imply the acquisition of the latter (Azzara 1999). According to The New Grove Dictionary of Music and Musicians, the term "improvise" is defined as "the creation of a musical work, or the final form of a musical work, as it is being performed. It may involve the work's immediate composition by its performers, or the elaboration or adjustment of an existing framework, or anything in between" (Nettl in Sadie 2001, 94). Improvising requires spontaneous creativity — even though this creativity emerges within restrictions that range from musical conventions to the musician's physical or psychological limitations (Berkowitz 2010, 2). Similarly, Csikszentmihályi (1997, 51) argues that the act of improvising in music depends heavily on tacit rules and implicit musical traditions, despite its spontaneous nature. Moore reinforces this idea of pseudo-freedom and relates improvisation to other creative and structured activities, such as a conversation between individuals: "In an important sense, improvisation is not free. It is just an effective means of expression when incorporating a vocabulary, whether cognitively or intuitively understood, common to a group of individuals" (Moore 1992, 64).

The image shows a musical score for an improvisation section. It features three staves. The top staff is for a Waterdrum, with instructions '(I. with mallets) (II. with hands)'. The middle staff is for a Watertube, with instructions 'gliss.' and '4x gliss.'. The bottom staff is for a vocal line, with circled numbers 1, 2, 3, and 4. The score includes dynamic markings such as *ff*, *f*, and *pp*, and various musical notations including notes, rests, and slurs.

Figure 5: Excerpt of Tan Dun's *Water Music* (2004), page 8
Source: G. Schirmer Inc. Used with permission

From my experience as a performer and improviser in *Water Music*, I came to realise that improvisation, in addition to being a very personal and emotional artistic form, seems to rely on a different involvement between performer and instrument — especially in the case of using water as a musical instrument, an element that embodies several symbologies for human life. This involvement implies a deeper knowledge of the instrumental potential of the liquid, in order to understand its possibilities, limitations and to project possible future configurations. Only through a deeper knowledge of the instrumentality of water, one will be able to develop a personal repertoire and create a form of expression with water percussion. I have found an echo of this type of involvement in the words¹³ of Fayga Ostrower:

¹³ "Assim, através das formas próprias de uma matéria, de ordenações específicas a ela, estamos nos movendo no contexto de uma linguagem. Nessas ordenações a existência dessa matéria é percebida num sentido novo, como realizações de potencialidades latentes. Tratam-se de potencialidades da matéria bem como potencialidades nossas, bem na forma a ser dada configura-se todo um relacionamento nosso com os

Thus, through the specific forms of a matter, with specific orderings to it, we are moving in the context of a language. In these ordinances the existence of this matter is perceived in a new sense, as realisations of latent potentialities. These are the potentialities of matter as well as our potentialities, and in the form to be given, a whole relationship between us and the means and with ourselves is configured. For all these reasons, imagining—this experimenting imaginatively with forms and means—corresponds to translating in mind certain dispositions that establish a greater order of matter, and our inner order (Ostrower 2004, 33-34).

3.4. Creating sonic devices and a poly-instrumental unity for *Water Music*

The instrumental setup of *Water Music* includes several ordinary or found objects for the manipulation and amplification of water, such as cups, bottles, a spaghetti strainer, gourds, springs, cylindrical tubes, among others. In a similar manner of the Dadaist artists, Dun takes this collection of common artefacts and, through the performer's creative endeavour, assigns new functions and meanings to them — a cup, turned upside down, becomes a drumstick to hit the water and to produce a low-pitch, bass drum sound; a gourd (calabash) is transformed in a drum by placing it on the surface of water.

The score of *Water Music* contains only some general information about the found objects required for the performance of the work, which provides considerable freedom to the performer to choose certain characteristics of them. It is necessary the commitment of the musician in the search, selection or even construction of some of these objects. An interesting example of the instruments used is the slinkyphone, a sonic device that apparently is the result of the creative mind of the composer Tan Dun and that is not easily found. In fact, there is no explanation in the score about what a slinkyphone might be. The term, as it is written in the score, is not found in any specialized English-language dictionaries, and it is only possible to find the terms separately (slinky or phone). The word slinky refers to a trademark of a famous toy¹⁴ in the 80's, which consists of a flexible coil that walks in somersaults. The union between the term "slinky" and the suffix "phone" — the latter comes from the Greek *phonê*, which expresses the notion of sound (e.g. xylophone, telephone, etc.) — suggests the creation of a new sonic device from an assemblage of two distinct objects, a metallic spring and a resonating body. According to percussionist Maria Flurry, who is also specialist in Tan Dun's water percussion works,

There are a couple of interpretations of what a "slinky-phone" is. Most of them were too quiet, so my husband and I designed a new one. We took a kids' drum made by Remo, ordered a couple of slinkies online (in case we made a mistake), made a tiny slit in the head, passed the end of the slinky through it and glued it on both sides. We drilled a hole in the

meios e conosco mesmo. Por tudo isso, o imaginar — esse experimentar imaginativamente com formas e meios — corresponde a um traduzir na mente certas disposições que estabeleçam uma ordem maior da matéria, e ordem interior nossa." (Ostrower 2004, 33-34).

¹⁴ The Original Slinky® Walking Spring Toy. Accessed in <https://www.target.com/p/the-original-slinky-walking-spring-toy-metal-slinky/-/A-14778533> and consulted at January 12th, 2020.

shell and mounted it on a cymbal stand. The drum acts as a resonator. (Flurry 2010, personal communication through email).

Based on this information, I understood that the slinky-phone is a new sonic device that need to be created by the performer. Basically, it is a metallic spring attached to a resonating body — the sound is generated through the percussion of the spring, and its vibration is amplified by the resonating body. In my performative choice, I created a slinky-phone from a metal spiral for book binding, attached to the plastic cap of cylindrical tin can as a resonator.



Figure 6: Performance of Tan Dun's *Water Music*, with the slinky-phone at left side, Coimbra, Portugal, May 2019
Photo by João Duarte

What is fascinating about the processes of searching for materials, and the construction of my own instruments, is that the performer must get involved in a personal adventure of looking for vulgar objects, while simultaneously contemplating their potentialities as future musical instruments. A psychological research led by Camic (2010) has identified a found object process that involves the interaction of aesthetic, cognitive, emotive, mnemonic, ecological, and creative factors in the seeking, discovery, and utilization of found objects. According to Camic,

People who make use of found objects initially do so in response to what is evoked by the object's physical and aesthetic properties, but equally important for some is "the hunt" for the object, their response to the place where the object is found, its contemplated history, the personal meanings projected onto the object by the finder, and the creative challenge of how the object might be transformed or put to a new use. [...] The encounter with the found object can "create a breach in predictability of what is expected," which in turn generates a creative response "that seeks to imagine a new use—or a new life"—for the

object. This active cognitive–emotional progression, where an object is seen to have the potential to be “transformed, transfigured and reconfigured,” is part of a creative engagement that begins when the object is removed from its found place and placed in a new circumstance or environment. (Camic 2010, 88)

Importantly, the quest and construction of instruments for the performance of *Water Music* must inevitably start before the learning of the score, since the music can only be practiced after the instruments are available. In short, the performer gets involved with the work even before knowing its musical content. In addition, the creative process may also continue during the study of the score, and can even be extended later after the performance, in order to improve or rebuilt the instruments, or search for new ones with different sound characteristics.

Another importante aspect is that all the instruments and sonic devices must be organised in a percussion setup optimised for performance. Sense of unity and cohesion are some of the principles to consider in the configuration of instrumental setups of works composed for multiple percussion instruments. That is, a set of individual instruments must be organised in such a way that the percussionist can access them as a single poly-instrumental unit (Schick 2006, 16). Percussionist David Cossin commented on this stage of the process: “I think just the idea of putting the setup together...it is incredible, there is so much work you have to do that is not playing.” (Cossin in Bittencourt 2019). For percussionist Beibei Wang, the composition and arrangement of the percussion setup is also an important technique regarding the performance of water percussion works by Tan Dun:

You have to prepare the instrument setup. You have to design a good setup for your playing, this is also a lesson for us, for percussionists. This is, I think, part of the technique as well. You have to manage it and arrange where the instruments should be, where should be after or before, which one looks better to put on this side or the other side, just thinking visually, more like you are going to perform on the stage. So, there is a lot of things which are part of the technique, I think. (Wang in Bittencourt 2019)

In the case of absence of instructions about how the percussion setup must be organised, which is the case in *Water Music*, the configuration of the instruments will depend on the creativity of the performer to conceive a poly-instrumental unity that will work efficiently, according to both the demands of the piece and her/his physical characteristics. In summary, to configure a multiple percussion setup for the performance of *Water Music* is a creative task that cannot be ignored or underestimated, as it truly is about designing a new complex and diversified poly-instrumental unit.

3.5. Composing the performance of *Water Music*

As above-mentioned elsewhere in this article, *Water Music* was originally composed for percussion quartet, and a complete performance of the work lasts approximately 20 minutes. Notwithstanding the fact of being conceived as chamber music work, *Water Music* can also be performed as a solo version. If the work is presented this way, the composer Tan Dun challengingly allows that “the soloist is free to choose any portions of the work to present” — in any order (Dun 2004, performance instructions). This freedom of choice includes not only distinct portions but also musical content from different instrumentalists or players

(e.g. to perform the part of the percussionist 1 or of the percussionist 3, or even combining musical parts from different players altogether). And, once again, all of these choices may be presented in any order, at the discretion of the soloist. It is a challenging task and, more than simply choosing between parts, it is also about structure and musical cohesion, and it would be more appropriate to name it "the composition of a performance".

By establishing these possibilities for the composition of the solo version, Tan Dun offers an enormous freedom to the performer, which simultaneously presents itself as a catalyst for creativity and a menace to the coherence of the work, regarding the relation of its parts as a composition. Confronted with the challenge of composing my own solo version of a work originally written for four musicians, I started by posing some preliminary questions:

1. What portions of the work should I present?
2. Should I play only one part or switch between more than one? Moreover, would it be possible to perform two or more parts simultaneously?
3. Which one of the four parts (percussion players) should I choose to perform?
4. How to compose a performance that remains coherent with the ideas and compositional form originally conceived by the composer?
5. Would it be possible to perform all sections of the work in a solo version?
6. How to keep, in a solo version, the complexity of a musical structure created for four musicians?

In my process of composing the *Water Music*'s solo performance, I decided to present all sections of the piece, in its original sequence of events (musical narrative), a decision that I took after an in-depth performative analysis of the work. In addition, I created my own ways to play different parts simultaneously, both acoustically and with the support of digital sound devices (e.g. looper pedals), and other strategies that, for a matter of space, cannot be discussed here, but are fully described in previous publications (Bittencourt 2012). It was a long and exhausting process, which required a great creative, personal and, to some extent, financial investment. An omnipresent question in this process was how the freedom offered by Tan Dun contributes or hinders the process of composing *Water Music*'s solo performance. In my view, the autonomy granted by the composer is also a kind of invitation to a co-composition and creative expression of the performer. Percussionist David Cossin also supports this opinion — when asked about the freedom to compose the performance of *Water Music*, Cossin answered the following:

I think it facilitates, I mean, if you really want to write a solo, solo piece. But the fact that is a... giving that liberty...I think it helps because...he is just...asking the performer to also kind of arranging and compose, you know? And then puts it in a different space...and I think that helps...to bring out creativity of the performance, because of the freedom. Because all of a sudden, you have to make your own work, you know? It is not just like "ok, I will order the music, and I will learn the notes, and then I will play the piece" ... It's like: "I will learn the music, and I will think for a long time what I am going to do. And I will put it together,

and, by trial and error, I will try to make a piece". Yeah, I think it is just like an invitation and that is what I like...it is even similar to John Cage's *Composed Improvisations*. You could just improvise, or you can put all the work into...like...figuring out, *I-Ching*...Like "ok, well, this section I have to do this..." But then, when you play it, since you put all that investment into preparing the score, you play it so much differently than if you just freely improvising on a couple of things that came from that, you know? I guess it is just like an investment, you know? You put an investment into it, a creative investment, then you are going to approach it differently. So it helps the piece. (Cossin in Bittencourt 2012, 94).

In conclusion, the freedom offered to the performer, to compose the solo version of the work, may work as a catalyst for creativity. However, in order to creativity emerge as an epiphenomenon of that freedom, the performer must be committed to dedicate time and reflection in the process of composing the performance of *Water Music* as a solo work. Most importantly, the composition of this performance is, in fact, dependent on the musician's reflection, choices and personal intellectual investment.

4. Final reflections

Water Music constitutes a microcosm with a singular demand of performative challenges, which are permeated by creativity. To create is one of the premises involved in the performance of *Water Music*: its musical score is designed in such a way that some of its sections present performative gaps that seems to depend on the musician's creative input. These gaps do not constitute just an interpretive freedom to be careless approached by the performer; the composer is, in fact, asking the musician to investigate and, in a creative way, to perform some musical ideas that are outlined on the score. In addition, the performer cannot avoid the creative demands of the work, namely, the reflection on the possibilities of its musical notation; the creation and mastering of the performance techniques involved in water percussion; the development of sonic devices and organisation of a multi-instrumental setup; the performance of improvised sections and cadenzas, and finally, the composition of the performance in its soloist version. From this perspective, there is a prominent co-authorship quality that must be assigned to the performer.

Departing from the articulation different types of data, knowledge and viewpoints resulting from my own artistic practice and from those of the interviewees, the findings of this research suggested that the performance of *Water Music* is grounded by 1) the attention to sound and forms of sound production; 2) a sense of experimentation, research and discovery; 3) the ability to listen carefully and to distinguish nuances of sound; 4) instrument-specific learning processes, including contact with peculiar instrumentations and performance techniques; 5) the performer's capacity to adapt towards fragmented and unique performative situations; 6) the knowledge to select, prepare or even construct sonic devices, as well as the capacity to organise them into a single poly-instrumental unit optimised for performance; 7) the ability to improvise and develop a repertoire of musical ideas involving unusual materials and objects.

Presenting the solo performance of *Water Music* constitutes an experimental investigation of sound, which, to me, stands as the true raw material of a performing musician's art. Over the past 14 years, I have had the privilege of delivering multiple renditions of *Water Music* in diverse settings. Each performance unfurls as an opportunity for fresh insights into the domains of sound, music, listening, performance, instrumental

technique, virtuosity, ingrained habits, and the intricate experiential relationships between the human body and musical instruments, among numerous other aspects. This ever-evolving journey invariably uncovers uncharted territories, rendering *Water Music* a truly investigative musical work intrinsically entwined with a unique creative process. As observed by philosopher Gilbert Ryle (2009), it is of the essence of merely usual practices that a performance is a replica of its predecessors, just as it is of the essence of creative practices that a performance is modified by its predecessors. Engaging with Tan Dun's music and the water's instrumentality, I am not only approaching them but also teaching myself how to approach them, a continuous learning process embedded in every moment.

5. References

- Azzara, Christopher D. 1999. "An aural approach to improvisation." *Music Educators Journal* 86 (3): 21-25.
- Beck, John H. (ed). 2007. *Encyclopedia of percussion*. New York: Routledge.
- Berkowitz, Aaron. 2010. *The improvising mind: Cognition and creativity in the musical moment*. Oxford University Press.
- Bittencourt, Luís. 2012. *O uso da água como fonte sonora percussiva: análise de Water Music (2004) de Tan Dun (1957)*. Dissertação (Mestrado em Música, Performance). Aveiro, Portugal: Universidade de Aveiro, Departamento de Comunicação e Arte.
- _____. 2015. "Creative thinking—O papel da criatividade na performance de Water Music (2004) de Tan Dun (1957)." *Post-ip: Revista do Fórum Internacional de Estudos em Música e Dança* 2: 158-167.
- _____. 2019. *Percussão e instrumentalidade: explorando a performance de instrumentos e fontes sonoras incomuns*. Tese (Doutoramento em Música, Performance). Aveiro, Portugal: Universidade de Aveiro, Departamento de Comunicação e Arte.
- Boden, Margaret A. 2011. "Creativity and Conceptual Art." In *Creativity & Art: three roads to surprise*, 70-91. Oxford and New York: Oxford University Press.
- Cage, John. 2011. *Silence: lectures and writings*. 50th Anniversary Edition ed., edited by Kyle Gann. Middletown, CT: Wesleyan University Press.
- Camic, Paul M. 2010. "From trashed to treasured: A grounded theory analysis of the found object." *Psychology of Aesthetics, Creativity, and the Arts* 4 (2): 81-92. <https://doi.org/10.1037/a0018429>.
- Csikszentmihalyi, Mihalyi, and Grant Rich. 1997. "Musical improvisation: A systems approach." In *Creativity in performance*, edited by R. Keith Sawyer, 43-66. London: Ablex.
- Dun, Tan. 2004. *Water Music for solo or four percussionists*. New York: G. Schirmer, Inc.
- _____. 2009. *Water Concerto for water percussion and orchestra*, DVD, Opus Arte, aprox. 67 min.
- Frungillo, Mário D. 2003. *Dicionário de percussão*. São Paulo: Editora UNESP.
- Hardjowirogo, Sarah-Indriyati. 2017. "Instrumentality. On the Construction of Instrumental Identity." In *Musical Instruments in the 21st Century*, edited by Bovermann et al, 9-24. Singapore: Springer.
- Helmreich, Stefan. 2012. "Underwater music: tuning composition to the sounds of Science." In *The Oxford handbook of sound studies*, edited by Trevor Pinch and Karin Bijsterveld, 151-174. New York: Oxford University Press.

- Kahn, Douglas. 2001. "A short art history of water sound." In *Noise, water, meat: A history of sound in the arts*, 245-260. Cambridge, Massachusetts: The Mit Press.
- Kostelanetz, Richard. 1988. *Conversing with Cage*. New York: Limelight Editions.
- Montuori, Alfonso. 2003. "The complexity of improvisation and the improvisation of complexity: Social science, art and creativity." *Human Relations* 56 (2): 237-255. <https://doi.org/10.1177/0018726703056002893>. <http://hum.sagepub.com/content/56/2/237>.
- Moore, Robin. 1992. "The decline of improvisation in Western art music: An interpretation of change." *International Review of the Aesthetics and Sociology of Music*: 61-84.
- Nettl, Bruno. 2001. "Improvisation." In *The New Grove Dictionary of Music and Musicians*, edited by Stanley Sadie, 94-133. New York: Oxford University Press.
- Ostrower, Fayga. 2004. *Criatividade e processos de criação*. Vol. 18ª Edição. Petrópolis: Editora Vozes. 1977.
- Ryle, Gilbert. 2009. *The concept of mind*. London and New York: Routledge.
- Schick, Steven. 2006. *The percussionist's art: same bed, different dreams*. Rochester, NY: University of Rochester Press.
- Thomas, Philip. 2016. "A prescription for action." In *The Ashgate Research Companion to Experimental Music*, edited by James Saunders, 77-98. London and New York: Ashgate.
- Toop, David. 1995. *Ocean of sound*. New York: Serpent and Tail.
- Wong, Deborah. 2008. "Moving: From Performance to Performative Ethnography and Back Again." In *Shadows in the field: New perspectives for fieldwork in ethnomusicology*, edited by Gregory F. Barz and Timothy J. Cooley, 76-89. New York: Oxford University Press.