peyotl: everything you always wanted to do but weren't allowed in piano lessons

Luk Vaes¹ Orpheus Instituut, Belgium

Abstract: For nearly as long as the piano has existed, composers have been interested in producing sounds for which the instrument was not conceived. Whilst most of us may be at ease with a pianist's fingers gliding over the keyboard, many feel more resistance towards someone who hits the keys with the flat of the hand, or is bent over the keyboard to play directly on the strings. Yet, these techniques have been in use since the 18th century, unlike their common association with 'new music'. In contrast to this extensive repertoire for professionals, pieces that are written to introduce such techniques to children exhibit mostly adult aesthetic preferences. As regards performance technique, the composers have not distinguished between the different pedagogical chronologies and algorithms of learning to play the keyboard and the inside of the piano, nor do they seem to have imagined whether a child always has ready access to the accessories that are sometimes required to do so. In collaboration with composer Hans Cafmeyer, a project was set up at the Orpheus Institute to develop new music through artistic research, catering to children's aesthetic horizons, their technical abilities, pedagogical needs, and personal biotope, and the technological constraints of the instrument. With Hans Cafmeyer's decade-long experience in teaching children, in addition to writing music for them which suits their pedagogical level, as well as Luk Vaes' research into the history and performance practices of extended techniques, "peyotl" was created, a collection of pieces allowing teachers to integrate extended techniques into the protocol of regular keyboard-specific pedagogy. The multimedia publication includes the score as well as online videos of the composer and children performing the music.

Keywords: extended techniques; piano repertoire; teaching

If we specify piano playing as dealing with a dual interface – keys and pedals – in order to operate hammers that strike strings for the production of a particular type of sound, then the act of fully depressing one key/pedal by vertically articulating one finger/foot is a defining property of the instrument's design. In other words, this operative mode - including the resulting sound – is "proper" to the piano. From this perspective, we can consider the commonly called extended techniques as "improper" playing, i.e. not according to those properties. If the piano were designed to facilitate gliding over the keys, half-depressing pedals, hitting the keys or the strings with the flat of the hand, putting objects in between strings, etc., then the instrument would be different in many respects.² Such a focus allows us in turn to nuance our conception of techniques that are so often classified arbitrarily.³ To be able to talk about nuances, then, lets us explore their potential in great detail. Research into this kind of approach to the instrument has shown a surprising richness of material, with three centuries worth of composers liberating their creativity in order to explore this terrain (Vaes, 2009). At the same time, however, the notion of "improper" playing reveals why there is also a distinct resistance to the use of these techniques. Not conforming to design properties can put the integrity of the instrument at risk of being violated. Concrete examples of damage (bending dampers by putting stickers onto them, dropping a screw into the action

² Some builders have explored such avenues, cf. Evert Snel's invention of the *Magnetic Balanced Action*, facilitating a lighter touch and therefore easier glissando playing (Vaes, 2009). The parallel strings of Chris Maene's *Straight Strung* piano model (Maene, n.d.) allows for much easier preparation of and playing on the strings. Both these examples, however, were not developed with extended techniques in mind.
³ For instance, some publications consider live electronics or instrumental theatre as extended techniques, others don't (Vaes, 2009).

¹ luk.vaes@orpheusinstituut.be

when preparing the piano, etc.) are common enough to explain the emotional reactions that can often be expected from performers, teachers, and caretakers of the piano alike.

Children's enthusiasm

Piano technicians and tuners are most understandably perturbed by the potential danger of extended techniques. There are other dispassionate reactions, however. In conservatoires, conservation-oriented students and teachers of piano performance still seem less than eager to embrace extended techniques repertoire, even when its aesthetic range is now proven to include 1790s string playing in classical compositions by Friedrich Wilhelm Rust and Israel Gottlieb Wernicke, extending far beyond the radical modernist experimentation of the 1960s in e.g. Annea Lockwood's *Piano Burning* (Lockwood, n.d.) or LaMonte Young's "1698 bangs at the cluster" (Vaes 2009). By the time aspiring piano professionals enter the conservatoire, their interest in extended techniques depends to a high degree on whether or not they want to direct their career towards the new music scene, still by far the place to program extended techniques pieces. The hope that theoretical, historical, and practical insights make it possible to sensitize piano students, teachers and professionals in favor of these techniques at the conservatoire level (Vaes, 2001), has not yet proven to be particularly effective.⁴

Such disillusions stand in stark contrast to the innocent enthusiasm of children when they hear and see the possibilities of the extended techniques. Visiting music academies with lecture-recitals and workshops⁵ has demonstrated how children are naturally interested in making any kind of sound as long as it somehow connects to the musical interests and skills that pertain to their age. They are not so easily inhibited by ethical conundrums.

The repertoire

The existing extended techniques repertoire for pre-conservatory levels⁶ is limited in different ways. Firstly, there is a noticeable dichotomy between atonal pieces in determined notation, and those notated in playful graphics. The former, from the black and white note glissandi in Vincent d'Indy's *Pour les Enfants de tout âge* opus 74 (1919) to Alain Louvier's many innovative volumes of Études pour Agresseurs (1964-1983), look and sound like music for grown-ups made technically easy rather than that they cater specifically to what distinguishes the needs of children from those of adults. Furthermore, whilst their notation is detail-oriented, there is no indication that the pedagogy for improper playing is aligned with that of proper playing. The second broad category, with pieces from György Kurtág's *Játékok* (1973-2017), Alice Code's *A Mad Tea-Party* (2012), and some of Piotr Lachert's *Études Improvisantes* (1973-74) as typical examples, allow the student to apply the greatest available creativity in the greatest possible freedom. However commendable, the teaching of

⁴ Although the freely downloadable dissertation (Vaes, 2009) can be seen as somewhat of a success (Vaes, 2011), and the presence of extended techniques in YouTube videos makes the repertoire especially accessible to today's performers, the programs of concert houses clearly show that extended techniques are still designated to the specialised new music festivals and series.

⁵ Between 2010 and 2017, I have presented the existing relevant extended techniques repertoire to children and teachers in two dozen music academies, conservatories, and EPTA conferences in Belgium, The Netherlands, and the UK. In attendance were young students, their teachers, and aspirant teachers.

⁶ With pre-conservatory levels I mean music schools where children are trained who may or may not go on to a conservatory, and adults who wish to learn music making at an amateur level.

extended techniques through the stimulus of the young performer's sense of freedom remains a weak link in the pedagogy of extended techniques. Such a creativity-oriented learning process provides little room for a controlled and gradual increase in children's technical management of the techniques. Indeed, that control is difficult to capture in a graphically notated composition, as concrete details are sacrificed in favor of more personal input from the performer. Moreover, the general child-oriented pedagogy is in part set up to prepare for professional repertoire, which is proportionally much less involved with such types and degrees of freedom. Indeed, the conservatory repertoire requires a virtuoso level of control, made all the more complicated through the mutual integration of proper and improper playing. The pursuit of this particular pedagogical objective will remain obstructed for as long as the student's notion of extended techniques remains stuck with the impression that these only serve as an introduction to certain levels or to certain forms of music making. It is as if extended techniques are merely of interest for learning to improvise, or for the extremely young who cannot read notes yet and can hardly control their individual fingers.⁷ An emphasis on exotic sound effects can obscure the interest in developing the performance skill. In her collection Travels Through Sound (Marlais, 2012), the intention of Emma Lou Diemer - "above all, the composer was most interested in creating music that excites the imagination" - is clearly reflected in the individual titles of those pieces that appeal to extended techniques, such as Wind in the West (dampened strings), Old Spanish Town (percussion on keyboard cover), and Jazz Echoes (sympathetic resonance). Equally omnipresent is the association of clusters with loud aggression, as is demonstrated, for example, both by the dynamics of the *ffff* forearm clusters and the title of Rick Robertson's Argument (2016).

The confusion between a technique and the sound that it produces, visible in compositions at all levels of proficiency (Vaes, 2009, p. 4-7), may play a role in how we are conditioned to think in terms of sound effects rather than of the precise actions necessary to make those sounds. Such conditioning in turn leads to the exploitation of simple techniques without further pedagogical development.⁸ Thus, sympathetic resonance, for instance, is presented almost exclusively in its most effective but least nuanced form: the strings of a palm- or armfull of silently depressed keys in a low register are guaranteed to produce a noise-like resonance when triggered by any sounds produced properly on the keyboard. Equally striking is the fact that the arsenal of techniques is rather small: palm clusters on the keyboard, sympathetic resonance, simple actions on strings such as muting and gliding - the latter, for example, in Ruth Perdew's Guitar Chords (Clarke, 1972) - are apparently the alfa and omega in the pedagogy of extended techniques. The taboo of touching the strings with the fingers or to insert objects in between them, as well as the problems of metal struts or crossing string sections obstructing accessibility, may contribute towards the neglect of the many musical possibilities extended techniques can offer, even though some creativity from the part of the composer could go far in circumventing such issues. Jacki Alexander's Extended Piano Ensemble score is an exception in that there is a part for string piano, but

⁷ Cf. in volume 1 of *Játékok*, where there is often little difference between Kurtág's pieces and those of a 6-year old improvising at the piano. Or consider the Suzuki Young Musicians School in Cambridge (Power, n.d.), of which Stephen Power introduces the young students to contemporary music via improvisation (Kubik. 2016).
⁸ An exception could be the way Diemer follows her *A Harp in the Sky* (everything with dampened strings) by *Wind in the West* (Marlais, 2012), in which some undamped strings provide diversity. The pedagogical development is minimal, however.

the material (five pizzicati on neighboring string choruses) remains undeveloped. All in all, it is clear that the existing repertoire for pre-conservatory students is very limited in terms of the extended techniques' musical, technical, and pedagogical potential, as well as their place in the training program of proper piano playing. In other words: there does not seem to be a method for teaching extended techniques.

peyotl

The conflict between the historical wealth of extended techniques in the professional repertoire and the resistance to this material by those who are responsible for stimulating students in becoming professional pianists and teachers, leads to diminished children's enthusiasm and extended techniques' musical potential. To resolve this, Hans Cafmeyer and I teamed up in a project to develop new music for students in the pre-conservatory piano class circuit. Hans had taught children for forty years; I had taught students at music academy and conservatoire levels, as well as teachers in their training programs. Together, we started the research project $peyot^{\theta}$, a series of newly composed pieces that aim to introduce children to a wide variety of extended techniques by systematically exploring their musical potential with a pedagogical rationale. Throughout different volumes - the first of which is now available - a plan was carefully conceived in order to compensate for the different types of shortcomings in the existing repertoire. Most specifically, we wanted to take into account the biotopes of the classroom and of the student-the need to synchronize the learning curve of improper playing into the proper plano playing training trajectory, whilst deepening the techniques' potential in order to connect to the conservatory repertoire at the end of the school cycle.

Volume 1

The first of the anticipated three volumes of *peyotl* introduces percussion techniques, playing directly on the strings, sympathetic resonance, clusters, and gliding from black to white keys.¹⁰

Percussion is in itself an introduction to improper piano playing, as it exploits the often complex coordination of the limbs involved in producing all types of movements to play on all kinds of piano parts, the exception being vertical finger articulation. The flat of the hand and different knuckle techniques are used to hit the fall-board cover and the bottom of the keyboard (# *4 someone's knocking*); accessories (e.g. a toothbrush in #*2 reco-reco*) serve to glide over the keys; the foot stomps on the ground (# *1 four corners*). All these techniques can be found in the professional repertoire, with sometimes challenging arm and leg movements to and away from their interface.¹¹

Psychologically, the most distant playground – the strings – is reached by the simple technique of muting a set of strings with the palm of the hand (#*3 are you sleeping?*). Visually locating a raised hammer (Figure 1.) serves to identify the right string for a pizzicato

⁹ Hans insisted on not using capitals, for the title of the project as well as for the individual pieces' titles. The idiosyncrasy is meant to link to the improper character of the music-pedagogical topic in question.
¹⁰ All references to and excerpts from Cafmeyer and Vaes (2016).

¹¹ In compositions by George Crumb, e.g. *Makrokosmos I* (1972) and *II* (1973), there is often the requirement to very rapidly switch between string- and keyboard playing. In Frederic Rzewski's *Steptangle* (1984), the foot stomping is far more difficult than it looks at first glance.

or for gliding over a string chorus (# 7 syn-co-pa-tion).



Figure 1. Locating a specific string by way of silently depressing the related key so that the raised hammer points to the right direction.

The cluster pieces present the classic fist cluster (# 10 waves) and the newly-developed "phalanx cluster" (# 8 song). Unlike the fist, which can be positioned on two black or three white keys, the phalanx cluster permits enough flexibility to perform more precise intervals than the traditional flat-of-the-hand cluster. Regardless of the hand's size, the thumb is used to change the interval. (Figure 2.)



Figure 2. Closed (5th) vs. open (6th) phalanx clusters in #8 song.

Although the detailed prescriptive character of the notation is emphasized throughout the collection, care has been taken to offer the player the freedom to develop personal preferences. For the phalanx cluster, the player can decide to play with the medial phalanx (i.e. the second digital bone) rather than with the distal phalanx (i.e. the first digital bone, as in Figure 2).

Volume 1 of *peyotl* offers only two cluster types, leaving room for nuancing their musical application. The subdued fist cluster sound contradicts the traditional bias of the loud and aggressive cluster, the phalanx clusters are used with staccato and non-staccato articulation, and in harmonic and semi-melodic accompaniment. For the same purpose,

different (combinations of) parts of the fingertip are put to use for the simple technique of sliding over string sections in *# 11 roller-coaster*: with the soft flesh of the index finger or thumb, with the flesh of two fingers simultaneously, with two nails, and with the nail of the index finger and the flesh of the thumb. The contraintuitive prescription of legato for connecting the consecutive glissandi enhances the learning process necessary to bring the dynamic and timbral characteristics of the different string sections to the same level.

Gliding from black to white keys (# 6 circus) will not immediately be recognized as an extended technique but learning to control the act of depressing a key while sliding off another one (taking into account the fast movement of the arm towards the body) helps on the wider improper playing terrain. Similarly, activating a key with more than one finger (# 9 big ben) – the opposite of the cluster, from the perspective of performance practice – is more of an ephemeral phenomenon within the confines of this topic. Although it is uncommon in the rest of the piano pedagogy, the distinction between 2+3 and 1+2+3 can efficiently introduce the student to notions of ergonomically worked out fingerings.

a basic technique, famously known in the step by step releasing of the chord at the end of Schumann's opus 2. But the organized cutting off of sympathetically sounding strings requires proactive listening to, and adjusting the balance of, the built-up resonances. (Figure 3.)





Proactive listening returns throughout the set of *peyotl* pieces. It is ideally suited to teaching the student control over his or her sound, from balancing the pizzicato sound with that of the muted strings in # 3 are you sleeping? to the slow releasing of the right pedal to its half-way position in order to distort the string-cluster sound in # 11 roller-coaster.

References to known repertoire are built into several pieces, though not always by way of an extended technique that is common to both *peyotl* piece and the one referred to, as with the filtered resonances in *Papillons* and *#5 black*, or the "Aeolian harp" technique in Henry Cowell's piece of that name and *#7 syn-co-pa-tion. #9 big ben* has a melodic near-quote from – as well as some harmonic and fingering references to – Debussy's *Préludes*. The

songs that are quotes in most pieces will likely be known to children in a Western geocultural context. The timbre differentiation (proper sound vs. dampened string sounds) in #3 *are you sleeping*? is structured in such a way as to align with the canon form in which the song is traditionally performed. Some of *peyotl* is programmatic, e.g. #4 someone's *knocking*, with actual knocking to link to the text of the children's song, or #11 roller-coaster, which plays out a dream.

Even though the first volume of *peyotl* is introductory to the in-depth treatment of the techniques, it can already involve rather virtuoso engagement with sound. In *# 7 syn-co-pa-tion*, the syncopated gliding over string choruses must be dynamically proportional to the keyboard melody; the step-by-step crescendo on the strings is developed with different fingertip techniques (fleshy part, nail, combinations); the left hand plays hemiolas in relation to the right hand, and the finger and pedal work complicates the musically simple but subtle ending. (Figure 4.)



Figure 4. Ending of #7 syn-co-pa-tion.

The bodily aspect of the techniques is soon treated beyond the introductory stage as well. If the opening piece (# 1 four corners) requires only one arm to move in one way (and then only at the end and in combination with one foot), the follow-up #2 reco-reco has the foot stomps competing with the toothbrush gliding (both left and right) and with one or more knuckles touching the keyboard cover; all of this in sometimes deceptively simple patterns. In #4 someone's knocking, a flexibility is expected that not only allows quick switching between keyboard and percussion playing, but also integrates it into a musically varied environment with nuanced dynamics as well as hemiolas (Figure 5).



Figure 5. Final bars of #4 someone's knocking.

To make it possible for the student to fully focus on the development of the new skills, these are often combined with simple and familiar melodies that are easy to play and memorize. The level of mastering the proper keyboard playing is carefully considered in relation to the difficulty of the extended techniques, so that traditional learning thresholds – e.g. thumb crossing – do not complicate the learning process for the extended technique(s) at hand. Virtuosity requires detailed notation. However, there is still no real consensus about the way in which many of the individual extended techniques are best notated.¹² Furthermore, the lack of an adequate arsenal of symbols to express interpretative subtleties is mostly compensated for by verbal explanations in between staves or in introductory texts. Some techniques still do not even have an adequate notation (e.g. preparation positioning¹³ or "aeolian harp" playing¹⁴), or do not provide for performer's individual bodily specifics¹⁵.

Naturally, the techniques that await invention do not have a proper notation at all, yet. It was therefore inevitable that the visual vocabulary designed for *peyotl* is accompanied by introductory explanations. The decision to minimize the explanations, and reserve them for the individual pieces rather than in a volume-based introduction, was inspired by the difficulty of verbally communicating essentially symbolically notated actions, an issue that is experienced by teachers just as much as by students. We therefore resisted the temptation

¹² See also Vaes 2009, p. 901 on the 1975 *Report on New Musical Notation*. Admittedly, much time has passed since then, but the repertoire that showed how "everyone invented his or her own notation for musical phenomena and playing techniques" is still the reference to today's composers. Many use Henry Cowell's thick vertical lines to indicate clusters (with or without top and bottom note heads), others write out every note in the cluster. Some use George Crumb's mixed overtone notation (one staff with the keyboard note; another staff with the actual sound to be produced), others verbally indicate where on the string the finger needs to depress the string.

¹³ John Cage's method to indicate where precisely on the length of strings a preparation should be inserted – notating the measured distance from the damper – is ineffective due to the different sizes of dampers and strings, which influence the position that Cage was thinking of when composing.

¹⁴ Henry Cowell's writing out the chords to be silently depressed, with an arpeggio sign in front of them meaning the other hand to glide over the relevant string section, is only adequate in e.g. a composition where no properly arpeggiated chords are needed.

¹⁵ E.g. a forearm cluster notated with the outer notes specified may be envisioned too large or small to be comfortable for a pianist with a different size body. Similarly, the distance from the keyboard to e.g. the centre of the strings on a concert grand is not necessarily reachable for just any young performer.

to cater the language to children and add colorful drawings in order to once again emphasize imagination rather than the practical skill of creating sounds. As with traditional notation, the scores are aimed at addressing the performer who is acquainted with or can acquaint him- or herself with symbolic and verbal vocabulary. The youngest students who need help in that respect, will rely on the teacher. Hence the inclusion of the compositional background and the pedagogical aim explicated in the introductory text per piece.

On the other hand, great care was taken to relate to the circumstances in which the student practices. S/he does not necessarily have a grand piano at home, and, even when this is the case, the way in which the model differs from that in the classroom or from the one at the composer's home can easily prohibit playing on the inside, e.g. when a metal strut is in the way of gliding over the prescribed strings. When composing *peyotl*, such issues have been taken into account as much as possible. Each piece was tested in relation to an overview of how the string sections and struts are designed for common grand piano models¹⁶. The majority of *peyotl* pieces, even including some with string playing¹⁷, are composed specifically to allow performance on an upright piano. In the case where a digital instrument is the sole one available, those pieces with percussion techniques can be taught. For pianos that do not have a sostenuto pedal, a simple alternative is developed, e.g. inserting folded pieces of paper in between the fall-board and the particular key(s) that need(s) to be locked in depressed position (Figure 6). The accessories were chosen so that any child can obtain them without assistance of grown-ups, e.g. a toothbrush instead of a wire brush.



Figure 6. Fixating silently depressed keys for #7 syn-co-pa-tion.

The student's comfort in accessing the different piano parts was considered at length, as well as its ultimate benefit on the sound production. It was one thing to take into account the (im)possibilities of gliding over string sections in *#11 roller-coaster* (how many string sections can be prescribed on the presumed available piano, until where exactly can one always glide without an arm or wrist or part of the palm hitting a strut, etc.), it was another thing to

¹⁶ See Vaes 2009, p. 951 and 1031-1048

¹⁷ This does depend on the design of the upright piano's inside. The so-called "apartment" or "practice" pedal can obstruct accessibility to the string sections.

consider which types of strings the imagined sound would be guaranteed to come out of well.

The eleven *peyotl* volume 1 pieces were selected from more than thirty. The ones chosen went through many versions. *#1 four corners* saw experiments with accessories to hit the fall board with, such as toothbrush, AA battery, and marbles, before settling on a pencil or marker or the flat of the hand. At one point, gliding fingers, double notes, and more complex rhythms were added, only to conclude that there were too many skills to be developed at once, and that the extended technique risked losing its priority. For *#2 reco-reco*, points of pedagogical consideration included gliding with finger nails rather than with objects; not hitting the side wood of the keyboard at the end of an extended glissando; the technique of switching accessory between hands without disturbing the musical flow; the question of whether to let the performer chose with which foot to stomp would be pedagogically preferable to specifying it in the score; and whether a crescendo on the last glissando would be asking too much in one piece. More general concerns comprise, for instance, whether or not hitting the fall-board with the knuckle might be painful, or if tempo indications always represent an added pedagogical value.

All of the first *peyotl* volume's pieces, some in several versions, were tested in piano classes. Video recordings were used to analyze the communicative success or failure of notation and text (from the perspectives of both student and teacher), and the feasibility of technical and musical requirements for students of different ages and levels (children as well as adults). Finally, video recordings were made available with performances by the composer and by some of the students (Cafmeyer 2018). A second and third volume are in preparation, with pieces that further the performance practice of techniques from volume 1, and others that introduce more techniques, e.g. prepared piano.

Acknowledgements

For their interest, time, hard work, perseverance, and feedback, I thank teachers Hilde Van Cleemput, Zoé Vanhellemont, and Véronique Vanhoucke, and students Amaury (age 11), Anaïs (7), Audrey (9), Babette (9), Estée (15), Johan (60), Julie (9), Lisa (9), Liselotte (9), Noélyse (10), Romy (10), Rutger (10), Satine (9), Sophie (11), Victoria (9), and Yasmine (11).

References:

Cafmeyer, H. (2018). Video's. Retrieved from http://tinyurl.com/hanscafmeyer

Cafmeyer, H., & Vaes, L. (2016). Peyotl. Retrieved from https://tinyurl.com/peyotlforsale

- Clarke, M.E. (1972). Contempo 1. An Introduction to 20th century idioms for the pianist. Colorado, US: Myklas Music Press.
- Kubik, S. (2016). La musique contemporaine et les jeunes : où est la dissonance? Retrieved from https://www.francemusique.fr/musique-contemporaine/la-musiquecontemporaine-et-les-jeunes-ou-est-la-dissonance-693

- Lockwood, A. (n.d.). *Scores for Piano Transplants.* Retrieved from http://www.annealockwood.com/downloads/piano_transplant_scores.pdf
- Maene, C. (n.d.). *The Straight Strung Grand Piano*. Retrieved from https://www.chrismaene.be/nl/the-straight-strung-grand-piano/
- Marlais, H. (2012). *Travels Through Sound. Early Intermediate through Late Intermediate*. Florida, US: The FJH Music Company.
- Power, B. & S. (n.d.). Suzuki Piano / Kodály Musicianship Programme. Cambridge, UK. Retrieved from http://www.suzukipianocambridge.org.uk/index.html
- Robertson, R. (2016). *Argument. Showcase Solo for Intermediates.* Piano Pronto Publishing, Inc.
- Vaes, L. (2009). *Extended Piano Techniques in Theory, History, and Performance Practice.* Retrieved from <u>https://openaccess.leidenuniv.nl/handle/1887/15093</u>

Vaes, L. (2001). Extended techniques in de pianoliteratuur. Alles wat nooit mocht op pianoles. *EPTA Piano Bulletin*, 29/1, 30.

Vaes, L. (2011): "Who's gonna read this?" Retrieved from http://artisticresearchreports.blogspot.com/2011/10/whos-gonna-read-this.html