Research Paths in the Ukulele

Edited by
Giovanni Cestino
and Giovanni Albini

Milano University Press

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Research Paths in the Ukulele / Edited by Giovanni Cestino and Giovanni Albini. Milano: Milano University Press, 2024.

ISBN 979-125-510-135-2 (print)

ISBN 979-125-510-140-6 (PDF)

ISBN 979-125-510-142-0 (EPUB)

DOI 10.54103/milanoup.133

Published by Milano University Press
Via Festa del Perdono 7 – 20122 Milano
Web Site: https://milanoup.unimi.it
e-mail: redazione.milanoup@unimi.it

The print edition of this volume can be ordered from all physical and online bookstores, and is distributed by Ledizioni (www.ledizioni.it)

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In memory of Donald Bousted (1957-2021)

Introduction: Four Strings for Many Questions

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This book is the result of the *First Ukulele International Conference* (UIC 2021) – *Interdisciplinary Perspectives on Performance, Composition, and Organology*. The event took place online on December 3-4, 2021, hosted by the Department of Cultural Heritage and Environment of the University of Milan (Italy), and co-directed by prof. Giovanni Albini (Conservatory "A. Vivaldi" of Alessandria) and myself. This initiative represented the first academic event ever dedicated to the instrument. Livestreamed on YouTube with speakers virtually presenting on Zoom, the conference was an unexpected success, attracting a wide audience of more than 500 spectators from all over the world.[1] Perhaps in spite of the nature of the event, the feeling we grasped was that of a large and lively community of people, interested in—or just curious about—the many aspects and discourses on and around the ukulele.

Our conference was intentionally designed to open up Pandora's box with some caution and method. On one hand, the "conference-by-invitation" format was an effective way to sketch a precise itinerary through a set of themes we envisioned as more relevant—but not necessarily conventional. On the other, we made sure to have speakers from different (or with multiple) professional backgrounds: researches in the instrument's cultural history, musicologists with scholarship in performance and instrumentality issues, composers (or composer-performers) of music for ukulele, performers engaged in scholarly research and the popularization of the instrument, and professionals involved in the technological innovation of the instrument—like the Italian string manufacturer Mimmo Peruffo (Aquila Corde Armoniche).[2] Throughout, we gradually recognized how many aspects went underrepresented or overlooked during the event, to no surprise. Secondary topics on which the speakers touched upon in their papers, as well as comments and questions raised by our virtual audience,

1 The conference program and the YouTube videos of the whole event will be kept available through the conference YouTube channel: https://www.youtube.com/@ukuleleinternationalconfer2475, accessed January 27, 2023.

2 For his contribution in this volume, see p. 141 ff.

both stressed the need and the desire to follow on with following editions of the *Ukulele International Conference*.[3]

Such a vibrant response to this initiative seemed to us to highlight a rare situation. The "public" of the ukulele is not only consistent, but also made up of professionals and amateurs to whom a *scholarly* event can talk more directly than to aficionados of other instruments. If this happens for the ukulele, it is due to a bundle of reasons, just scarcely linked to the inner contents of our conference. To begin with, the ukulele is an instrument living an exceptional variety of identities. Any common category by which we classify the research perspectives on an instrument are evidently plural for the ukulele, more so than for many other instruments. An ending "s" is to be added to concepts like naming, building techniques, performance practice, repertoire, usage context, history, and geographical location.[4]

Not even the name of the instrument is a constant, since alongside the traditional Hawaiian writing '*ukulele* (with the 'okina), the Americanized and today international writing *ukulele* is widespread all over the world. As goes the Latin motto, "*Nomina sunt consequentia rerum*" [Names are the consequences of the things],[5] so no naming is semantically neutral. In our case, the choice of one version over the other is enough to reveal an emphasis either on the origins of the instrument, or on its later Americanization and subsequent internationalization, by no means more "neutral" and unproblematic.[6] For this reason, we encouraged their coexistence in this book, according to each writer and each essay. (For example, Hawaiian scholar Jim Tranquada, in his chapter on the "invention" of the instrument,[7] coherently uses the first version.)

The transculturation process at root of the instrument's inception—adequately provided with a customary "foundation myth"[8]—is nothing but the beginning of various historical paths in the histories of the ukulele.[9] Thanks to its simplicity, handiness, and portability, it is rare to find another instrument that

3 The second edition of the conference took place at the Conservatory "Antonio Vivaldi" of Alessandria from October 27-28, 2023, and was organized in collaboration with the Department of Cultural Heritage and Environment of the University of Milan, with the editors of this volume serving as organizing committee. More information are available on the web page <https://www.ukuleleresearch.org/> (last access: February 4, 2024).

4 I refer here to the now historical scheme proposed by Ernst Emsheimer, "The Handbook of European Folk Music Instruments," trans. Elizabeth Slater, *Ethnomusicology* 7, no. 2 (1963): 111–12, https://doi.org/10.2307/924547.

5 Justinian, *Institutiones* 2.7.3.

6 It's clear that the decision to opt for this latter version of the spelling in the title of this book is motivated by the presence of the adjective "international" alongside "conference."

7 See p. 21 ff.

8 See Jim Tranquada and John King, *The 'Ukulele: A History* (Honolulu: University of Hawai'i Press, 2012), 37.

9 The concept of transculturation is derived by Tranquada after the classical work of historian Fernando Ortiz, *Cuban Counterpoint: Tobacco and Sugar*, trans. Harriet De Onís, introduction by

has such widespread distribution, and in a relatively small amount of time. The guitar and piano might be suitable competitors, but only if we apply a quantitative analysis. If we take a more musically-oriented approach, then the ukulele stands out for an exceptional "plasticity" that overcomes the now historical derivativity of the instrument, too frequently paralleled to the guitar as a sort of small-scaled imitation. If we look at the relationship between organological characteristics and the context of its usage or its musical repertoire, then the first is way more fixed for the ukulele than it is for the guitar. A classical guitar and an acoustic guitar are two *similar* instruments, but the genres in which we find them are not always identical and are sometimes exclusive. (For instance, an acoustic guitar cannot be used to play Rodrigo's "Concierto de Aranjuez.") If organological characteristics appear more constant, the playing techniques of the ukulele are more "fluid." The piano is played somehow similarly for jazz and Western art music; the guitar, on the contrary, has quite exclusive techniques for each style. Instead, the playing techniques of the ukulele can easily be combined together within the same piece, or mastered all equally by a single player.

A generally syncretic identity of the ukulele performer results from the clear absence of a leading caste that defines or defends rules for authenticity in terms of repertoire, playing standards, or educational methods. As for today, the ukulele is an instrument still living outside the academia. Not only are written methods and self-teaching practices largely diffused, but no academic institution is currently offering an official degree in ukulele, no matter which country in the world we look at. The few musicians who graduated as ukulele players got their degree in another principal subject (music pedagogy or performance).[10] Reference players, therefore, are not identified as having a specific institutional pedigree, and the common teacher-student "lineage" we have for

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Bronisław Malinowski, prologue by Herminio Portell Vilà, new introduction by Fernando Coronil (Durham, NC: Duke University Press, 1995).

10 Interestingly, Italy stands as the sole exception, being the first country to formally approve a Bachelor of Arts program in ukulele studies. The bureaucratic process was initiated by Giovanni Albini at the Conservatory of Alessandria, and the course officially commenced in November 2023. According to current legislation, this program falls under the category of DCPL65 courses in "Musiche Tradizionali" [Traditional Musics]—a classification typically assigned to courses focusing on Italian folk instruments or non-Western musical traditions (e.g. Indian music). This categorization was chosen to facilitate the recognition of the ukulele as a subject worthy of a structured curriculum in music education. However, the curriculum places particular emphasis on improvisation and similar extemporaneous practices, along with providing students with a basic foundation in ethnomusicology. Beyond practical considerations, labeling the ukulele as "traditional" is nothing but neutral; it also serves to illuminate two sensitive issues: the stance of music education institutions in Italy towards specific musical traditions and the role of the ukulele as a "meta-instrument"—contrasted with a *local* instrument—in aiding students' comprehension of key cultural processes such as music mobility, genre definition and overlap, and the influence of mass culture and media on music consumption and performance.

many other instruments and genres is not a standard. The act of identifying one or more "reference players," for professional ukulelists, comes from an autonomous process of identity construction where the exchange often happens at a more mediatized level. As in many repertoires including much of popular music, recordings and mediatized performances play a fundamental role in shaping a players' roots and "their own identities as musicians, their musical personae."[11] But for the ukulele, this is still more likely to happen independently from a mentor's influence.

Even without a top-bottom structure, the ukulele community is rich in initiatives, associations, magazines, web platform, and events. The popularization of the instrument remains as a stable aspect of the very history of the instrument. Since its diffusion outside the Hawaiian context, the ukulele has been—and still is—a mediatized and massified instrument. Here again, some features like simplicity and portability act as a trigger for endless diversification. Even if the more essential organological elements are kept in place,[12] it is hard to find an instrument whose external appearance is more influenced by the market or the phantasy of the makers. If we draw a comparison with the almost unchanging exteriority of a violin, the ukulele looks like a person who is constantly chasing the latest fashion trend, unsatisfied with their existing clothes. There is no construction material (from wood to plastic), shape, decoration and color that could not enter the visual history of the instrument, and the whim of the factories seems endless. A visit to any of the makers' websites normally displays a large catalogue of models for each taste, and with an interesting breeding between cabinetry and instrument making.[13]

The ukulele can be regarded as the quintessential souvenir-instrument—a musical counterpart of the Venetian mask, in which the quality shines through the persuasiveness of its good-looking surfaces, rather than for the effectiveness of its function. The naïve idea that an instrument should be "as beautiful as the beauty of its sounds" does not translate, in the case of the ukulele, with a simple and codified look resulting from a quasi-Darwinian selection.

11 Philip Auslander, "Musical Personae," *TDR* 50, no. 1 (2006): 102.

12 In the history of the instrument, there has been only one standardization initiative for commercial purposes, which was initiated by US ukulele makers in 1926 during a special session of the National Association of Musical Instrument and Accessories Manufacturers annual meeting in Buffalo, NY. The resulting report, dated October 4, documents a recent meeting session during which the standard features and sizes of the ukulele were approved. The text of the report is available on the following web page, albeit without explicit bibliographic references: "Standard Approved," Ukulele Corner, April 23, 2023, https://ukulelecorner.miraheze.org/wiki/Standard_Approved (last access: October 18, 2023).

13 It's unsurprising that woods such as zebrano (or zebrawood) are commonly used for furniture or parquet flooring rather than musical instruments. Additionally, the term "zebrano" is somewhat ambiguous, as it can refer to the wood of various trees within the same family—a ambiguity that would be deemed unacceptable in the crafting standards of handmade guitars or violins.

Cremonese violins or Torres guitars set a visual standard for their sounding qualities, influencing homologation and imitation. The variety of patterns and models in the ukulele market suggests an opposite perspective, in which differentiation helps to improve sales and to allow manufacturers to reach a larger number of buyers. In this sense, a paradigmatic example is the recent commercialization by the famous factory Martin & Co. of the exact replicas of the Dick Konter's ukulele—the instrument belonging to one of the members of the famous expedition to the North Pole in 1926, covered with signatures and inscriptions by Konter's fellows.[14] The mass production of a "false," understood as a cult object to be replicated in the smallest details, proves and highlights how far ukuleles are made as objects to be seen, as artifacts that must appeal first the eye and then the ear.

A massified process of production—in which professional luthiers are not so much diffused—has long had impacts on the quality of the instruments in terms of sound, comfort, and reliability. If badly made instruments are extremely easy to find, a handmade, high quality concert instrument is much more difficult to obtain, since there is not an established manufacturing tradition. Professional players are often endorsers of a specific brand, and have a signature instrument within its catalogue. Some rare luthiers, expert in plucked instruments and pushed by specific performers, are currently experimenting with building top-quality, handmade instruments. The issues they face are interesting, because they reveal the gap between a "manufacturer culture" and a "luthier culture." In fact, they avoid making models to be imitated *in toto*—in terms of measures, shapes, thickness—because the commercial instruments are not always reliable for professional use. The time-consuming design work they embark on thus imposes to cope with a "miniaturized" instrument whose exact calibration (string action, tuning, etc.) is more difficult to achieve than in bigger instruments, and with a relatively small amount of engineering. However difficult the task may be, they still attract a very small number of professional players, while the majority of them—and the endless pool of amateurs—still prefer the industrial (or semi-industrial) brands. Exteriority, again, wins over sound qualities and the prestige of the one-man made, unique instrument.

Similarly, historical instruments (maybe 80 or 90 years old) are equally rare to find in use, because they come from the same "manufacturer culture," and so they are usually not so reliable for a concert use. The ukulele is an instrument without its Stradivaris, and old instruments are played only for affective reasons or fascination. The frailty and the technical trade-offs of historical instruments cannot meet the goals of the industries, which seems to push their instruments to look more and more sparkly, and to sound louder and louder. Even if the

14 A more detailed description of the instrument can be found on the maker's website: https://www.martinguitar.com/ukuleles/all-ukuleles/Konter-Uke.html, accessed January 28, 2023.

timbre of old ukuleles can be particularly intriguing or pleasant, it is rare to find them being played in front of an audience. Their beauty often remains trapped in informal playing situations—maybe in the solitude of the player's or collector's home, when no audience is listening to the instrument.

Whatever the type of ukulele, intimacy is an extremely relevant feature of the instrument, acting as a trigger for different musical practices. Unobtrusive, small and gentle sounding, the ukulele is the perfect "comfort instrument"—the pun with "comfort food" is intended—that does not require players to undergo a demanding training to get "something" out of it. The ukulele is easy to play, fast to tune, ready to use, inexpensive to buy, and versatile in different musical situations—solo performance, vocal accompaniment, ensemble music. Because of its versatility, the contrast between extreme intimacy and the mediatic exposure it has had over time is perhaps one of the most fascinating aspects of the instrument's cultural history, and one of the most constant elements of its various identities.[15]

Dichotomies like these or the abovementioned contrasts contribute to enhance a sort of intrinsic ambiguity about the ukulele, as an omnipresent and "omnivorous" instrument whose boundaries are increasingly multiplying—in this sense, the recent introduction of the ukulele into so-called contemporary music, discussed here by Fabrizio Nastari (p. 109 ff.), or the search for a "classical" repertoire as presented by Samantha Muir (p. 53 ff.) both speak for the contemporary continuity of a longstanding pattern. The ukulele can easily be assimilated without being annihilated in many musical genres, and such processes reinforce its value as one of the most musical boundary objects—"objects which are both plastic enough to adapt to local and the constraints of the several parties employing them, yet robust enough to maintain a common identity across sites."[16]

The ukulele works as a boundary object, not only as a mere musical instrument, because of its adaptability to different musical genres and playing techniques. On a broader level, it can also be used as an instrument for musical cultivation and education, and its employment in music teaching can definitely be increased, as long as we overcome any distinction towards first-class and secondary instruments in music teaching.[17] Moreover, the ukulele can be useful

15 On the history of the ukulele in media and popular culture, see Tranquada and King, *The 'Ukulele*, chaps. 7–9.

16 Susan L. Star and James R. Griesemer, "Institutional Ecology, 'Translations' and Boundary Objects: Amateurs and Professionals in Berkeley's Museum of Vertebrate Zoology, 1907-39," *Social Studies of Science* 19, no. 3 (1989): 393, https://doi.org/10.1177/030631289019003001. The concept, which originated in Science and Technology Studies, has been applied in various ways to musicology, e.g. in Peter McMurray, "Archival Excesses: Sensational Histories Beyond the Audiovisual," *Fontes Artis Musicae* 62, no. 3 (2015): 262–75.

17 Despite the ukulele being widely used in various educational contexts and the existence of study and working groups among teachers, its use has only recently come under criticism.

in music teaching not only as an introductory instrument to music—with the enormous benefit of its small scale—but also as a side-instrument for players of different kinds. As the lute or the theorbo are more and more often adopted by "native guitarists" to improve their knowledge in harmonizing (learning the *basso continuo* praxis), improvising, or accompanying, thus the ukulele can work as a valid aid for the same goals, but in different musical genres. At an even broader level, the importance of arranging in ukulele literature—as is put well by Giovanni Albini in his chapter (p. 101 ff.)—could be used by students in composition as a "constraint exercise" to analyze the essential elements of a piece, condensing them into the relatively small sonic space of the instrument.

To such an extent, the ukulele represents a kind of Swiss Army knife for unpacking theoretical concepts about instrumental playing, composition, and improvisation. It not only works as an instrument in the traditional sense, as the sound-producing element in a relationship with a performer, but also as an *instrument* (in a more etymological sense), a scientific tool to carry out research about different topics in music-making. In this regard, Johnathan De Souza's chapter about ukulele's affordance (p. 79 ff.), which is more than just a study in the affordance *of* the instrument, represents a clear attempt to go in this direction, using the ukulele as a case study for broadening a more general understanding.

This kind of approach is not limited to the more "musical" domain of research, but can be extended to more anthropological and historical approaches. The presence (or the absence) of the instrument in different cultural contexts can highlight how some specific practices are carried out by individuals or communities through different forms of social performance. Using the ukulele as the narrative focus about a genre or a musical scene can turn a discrete, easy-to-underestimate presence into a telling indicator. In addition to that, the choice of central or peripheral geographical contexts—as Davide Donelli puts here in sketching the presence of the ukulele in Italy (p. 127 ff.)—can reinforce the value of such an approach, and present alternative narratives.

The many possible topics of ukulele research cannot be summed up at the present state of research, which is nothing but in its infancy. Nevertheless, it is worth expressing a guiding concept, and this is the need for an interdisciplinary approach. As this book implicitly states from its index, it will require the cooperation of different academic disciplines to delve into a meshwork of questions related to the cultural and musical practices surrounding the instrument. A better understanding of the ukulele can be achieved only if organology, historical musicology, ethnomusicology, music theory and their respectively related disciplines (performance studies, cultural anthropology, material culture studies,

An example is Emma Yeomans, "Guitar Teachers Fret about Rise of the Ukulele," *The Times*, December 30, 2021, https://www.thetimes.co.uk/article/guitar-teachers-fret-about-rise-of-the-ukulele-kzb8dnkg3 (last access: February 4, 2024)

etc.) are working side by side, and hopefully together. This approach might easily become transdisciplinary, where artistic disciplines will contribute to shed light on aspects that a merely scientific knowledge cannot handle or predict. In this respect, artistic research will be extremely important to produce new information and insights, as well as to shed light on new directions.

Differently from other instruments, the positioning of the ukulele in a gray area which exceeds many traditional boundaries, encourages a fruitful exchange between performers, researchers, and the hopeful blending—in some cases—of the two figures. Almost in a paradigmatic way, the ukulele could easily become a *locus* for analyzing the synergy and the convergence of different professional characters and their interaction, in order to provoke a discussion on the methods of scientific and artistic research.[18] What is gathered in this book is just the first attempt to shed light on the possible configurations of this idea, and to reinforce the need for research that the ukulele can invoke.

One last, general *tenet*, is about the highest aims of the research, which always transcends the contingent space of its questions and its objects, and teases a glimpse at broader issues—sometimes intentionally, but every time when unintentionally. In the case of organology, for example, the broader question *beyond* and *through* musical instruments has aptly been introduced by John Tresch and Emily I. Dolan:

> instruments … have changed in their material configuration, their mode of activity, their relations to other objects and people, and their aims. These changes have had consequences for how humans understand themselves.[19]

Therefore, in our research, the ever present and bigger question becomes: how do we understand or represent ourselves through the ukulele? And after all, why? The following pages are for anyone wishing to get started in asking those questions.

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18 Regarding the writings collected in this volume, one can discern a reflection of this aspect in the distinction between Essays and Contributions (see Contents). In the latter group, the writings of Davide Donelli and Mimmo Peruffo have been included. This naturally does not imply a disparity in scientific value compared to the essays. Rather, it underscores the distinct authorial perspectives of the two contributors and how, in line with their respective professions, they offer reflections grounded in firsthand data, substantiating their arguments with subjective experiences.

19 John Tresch and Emily I. Dolan, "Toward a New Organology: Instruments of Music and Science," *Osiris (Bruges)* 28, no. 1 (2013): 283, https://doi.org/10.1086/671381.

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Essays

The "Invention" of the ʻUkulele

Jim Tranquada
Independent scholar – US

Abstract
Since December 1909, when Manuel Nunes of Honolulu first claimed that he was the inventor of the ʻukulele, credit for the invention/introduction of this iconic Hawaiian instrument has been widely contested. Most origin stories did not emerge until after 1915, spurred by the explosive popularity of the ʻukulele on the U.S. mainland—stories that credited everyone from shipwrecked 18th century Portuguese sailors and unnamed Germans to an anonymous Yale undergraduate. Hawaiian naming practices prior to 1888, when the name ʻukulele first appeared in print, and speculation over tuning changes have fueled the confusion. However, all of the contemporary evidence that has come to light, including surviving instruments made prior to 1900 by original makers Nunes, Augusto Dias and Jose do Espirito Santo, provide little support for the idea that the ʻukulele was "invented" in Honolulu. Wide acceptance of the invention story reflects the need of manufacturers and retailers to overcome the awkward fact that the instrument so closely associated with Hawaiʻi was not really Hawaiian. Other factors at play included a profound ignorance of Hawaiian history and culture, as well as American racism, on display in 1922 when the death of Nunes prompted mainland press coverage proclaiming that the ʻukulele was invented by a white man. Ultimately, it may be more helpful to regard the ʻukulele as Ernest Kaʻai did in 1906—as a creation, not an invention, the product of what Cuban sociologist Fernando Ortiz called the process of transculturation.

Keywords
ʻUkulele History, ʻUkulele Organology, Hawaiian History, Hawaiian Culture, Transculturation

In December 1909 the *Pacific Commercial Advertiser* of Honolulu published what was then known in the newspaper trade as a "puff"—an advertisement disguised as a news story—about ʻukulele maker Manuel Nunes (see Fig. 1). The ad identified him as a craftsman "who has been making ukuleles for the trade almost continuously since he invented it in 1879"—the year that he and his family arrived in Honolulu as contract plantation workers.[1] Repeated throughout the United States as part of the advertising campaign associated with a national distribution agreement Nunes subsequently signed with Southern California

1 "M. Nunes. Inventor of the Ukulele," *Honolulu Advertiser*, December 29, 1909, 11.

Music Co. of Los Angeles, Nunes' reputation as inventor of the 'ukulele has been remarkably persistent (see Fig. 2).[2]

However, Nunes was not the first to claim he was Hawai'i's original 'ukulele maker. Three years earlier, in 1906, an article about Hawaiian music in *Paradise of the Pacific*—today's *Honolulu Magazine*—put forward Jose do Espirito Santo as the man who "made the first ukuleles and taro-patch fiddles in Hawaii," and whose "workmanship was afterwards imitated by other Portuguese as well as natives."[3] Santo—who arrived in Honolulu with Nunes and fellow cabinetmaker Augusto Dias aboard the immigrant ship *Ravenscrag*—was not in a position to capitalize on this favorable press, however, as he had died suddenly the year before.[4]

These two contradictory accounts mark the beginning of a century-old debate over who should get credit for the "invention" and introduction of the 'ukulele to Hawai'i. It is a debate that has been inextricably entangled with the equally persistent "revelation" that the national instrument of Hawai'i was not Hawaiian at all, but a Portuguese import—a critique that first surfaced when San Francisco's Panama-Pacific International Exposition made the 'ukulele a popular sensation in the mainland United States in 1915.[5]

Two years later, when many professional music teachers in the U.S. had adopted the 'ukulele as a lucrative source of new students and instrument sales, *Cadenza*, the national fretted instruments magazine, ran an editorial titled "Origins." "Here is a fairly modern instrument (at least its fad is modern) whose acknowledged origin and identity now seems open to question," the editorial stated. "Probably the majority of us have always regarded the ukulele as being a product of Hawaii and supposedly native, yet in a recent issue of a New York daily of repute it is pronounced to be the invention of a Portuguese…"[6]

More than a century later, while the Portuguese origins of the 'ukulele are now regarded as an established fact, the argument continues over whether the 'ukulele was indeed invented or simply evolved from the machete, the small four-stringed instrument of the Portuguese island of Madeira. In one version, the 'ukulele was invented by reconfiguring the larger five-string Madeiran rajão

2 For the Southern California Music Co. distribution agreement with Nunes, see "Local Brevities," *Honolulu Advertiser*, September 12, 1911, 8. One of the most recent arguments that the 'ukulele was invented in Hawai'i can be found in Gisa Jähnichen, "The History of the 'Ukulele 'Is Today'," in *A Distinctive Voice in the Antipodes: Essays in Honour of Stephen A. Wild*, ed. Kirsty Gillespie, Sally Treloyn, and Don Niles (Acton: Australian National University Press, 2017), 375–405.

3 "Native Hawaiian Music," *Paradise of the Pacific* XIX (February 1906): 10–11.

4 "Local Brevities," *Honolulu Advertiser*, November 16, 1905, 12.

5 See, for example, "Hawaiian Music," *Anaconda* [*Montana*] *Standard*, November 18, 1915, 9; "Fact and Comment," *The Youth's Companion* 90 (October 26, 1916): 43; "Comment on Passing Events Heard in Washington Hotels," *Washington Post*, November 12, 1916, ES4.

6 "Origins," *Cadenza* 24 (March 1917): 14.

into a smaller instrument.[7] In another version, the act of invention included altering the size and shape of the machete, changing its tuning, and replacing gut strings with steel strings.[8]

So was the 'ukulele invented, or is it a product of evolution over time? Do the various published accounts hold up? What is the current state of the evidence? And what does that evidence tell us about the broader cultural, economic, and political contexts in which the 'ukulele emerged? These are some of the questions I propose to explore, keeping in mind the admonition of French historian Marc Bloch in his well-known book *The Historian's Craft*: "In popular usage, an origin is a beginning which explains. Worse still, a beginning which is a complete explanation. There lies the ambiguity, and there the danger!"[9]

'Ukulele Historiography

Unfortunately for the 'ukulele historian, there is no equivalent of the C.F. Martin & Co. guitar archive, a collection American historian Philip Gura has called "unsurpassed in its depth and richness" and on which an extensive literature is based.[10]

Had there been any early 'ukulele archives, they would have been lost in the 1886 and 1900 fires that destroyed Honolulu's Chinatown and with it the shops and inventory of Nunes, Santo and Dias.[11] But it is unlikely that there were any archives to begin with, given that Madeiran literacy rates were so low, in sharp contrast to literacy rates of the *kanaka oiwi*, or native Hawaiians. In turn-of-the-century Funchal, the hometown of the three original makers, 80 percent of

7 Lorrin Thurston, "Hawaii As a Center of Music, Not a Prophecy, But a Vision," *Honolulu Advertiser*, September 15, 1919, 5; Frank L. Littig, "The Hawaiian Ukulele," *Crescendo* 12 (October 1919): 6; "Leonardo Nunes Sketches the History of the Origins of the Hawaiian Ukulele," *The Music Trades*, January 17, 1920, 39; Marquette A. Healy, "Which Musical Instrument Do You Like Best?," *The American Magazine* 1 (April 1, 1920): 21; Dan Scanlan, "All About the Father and Son Reunion: The Braguinha Meets the Ukulele," 1999, www.oro.net/~dscanlan/reunion.html, accessed November 1999. Jähnichen makes the same argument (see Jähnichen, "The History of the 'Ukulele 'Is Today'," 384–385).

8 Cheryl Chee Tsutsumi, "Ukulele: The Strings That Bind," *Aloha* 9 (April 1986): 32; Jim Beloff, *The Ukulele: A Visual History* (San Francisco: Miller Freeman, 1997), 16; Gavin Pretor-Pinney and Tom Hodgkinson, *The Ukulele Handbook* (London: Bloomsbury, 2014), 16.

9 It's important to note that I'm a descendant of Augusto Dias, one of the three original 'ukulele makers. My family has been a party to this debate over the years, and the reader should keep that in mind as I try to answer the questions I have laid out in this article.

10 Philip F. Gura, *C.F. Martin and His Guitars 1796-1873* (Chapel Hill: University of North Carolina Press, 2003), xii.

11 Richard A. Greer, "Sweet and Clean: The Chinatown Fire of 1886," *Hawaiian Journal of History* 10 (1970): 33–41; James C. Mohr, *Plague and Fire: Battling Black Death and the 1900 Burning of Honolulu's Chinatown* (Oxford: Oxford University Press, 2005), 125–141.

the population was unable to read and write.[12] Dias and Nunes could at least sign their own names. But as seen in Santo's 1894 Oath of Allegiance to the Provisional Government, installed after the illegal overthrow of the Hawaiian monarchy, he could not: he signed with an "X" (see Fig. 3).[13] This means that the ʻukulele historian must rely on whatever they can find in contemporary newspapers, magazines, books, and other records.

What's striking about the picture that emerges is that almost all ʻukulele origin stories does not appear until 1915 or after. Most of the earliest ʻukulele methods and songbooks published between 1910 and 1915 said nothing about the history of the instrument—including those published by native Hawaiian musicians (see Fig. 4).[14] The ʻukulele methods of George Nahaolelua Kia and Mekia Kealakai were silent on the subject, and even Ernest Kaʻai said nothing of the instrument's origin in the 1906 and 1910 editions of his pioneering method, *The Ukulele: A Hawaiian Guitar and How to Play It* (see Fig. 5).[15] It was not until the third edition was published in 1916 that Kaʻai—a savvy entrepreneur who was fully invested in the identity of the ʻukulele as a Hawaiian instrument—wrote with careful ambiguity,

> It can be safely said that the UKEKE was the first in a series of stringed instruments which the ingenuity of the younger generation of Hawaiians have modulated to what is popularly known as the UKULELE. … The UKULELE is therefore not an invention but rather a creation.[16]

The two most popular early methods published by mainland musicians, N.B. Bailey's *Practical Method for Self Instruction* and Will Moyer's *National Self Teacher*, also say nothing about the origin of the ʻukulele (see Fig. 6).[17]

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12 Robert White and James Yate Johnson, *Madeira: Its Climate and Scenery* (Edinburgh: Adam & Charles Black, 1860), 123; Francis M. Rogers, *Atlantic Islanders of the Azores and Madeira* (North Quincy: Christopher Publishing House, 1979), 345.

13 Santo signed his oath by mark on Sept. 3, 1894; Dias signed his eight days later. See Oath 44, Oath Book 24, and Oath 20, Oath Book 28, Hawaiʻi State Archives.

14 The one exception seems to be the *Self Instruction Book for the Ukulele* published by Christy's Music House of San Jose, CA (no date, but ca. 1915), which tells the story of Nunes as inventor, likely because Christy's stocked Nunes instruments.

15 George Kia, *Self Instructor for the Ukulele and Taro-Patch Fiddle* (Los Angeles: R.W. Heffelfinger, 1914); Major Kealakai, *Self Instructor for the Ukulele and Taro-Patch Fiddle* (Los Angeles: Southern California Music Co., 1912-14); Ernest K. Kaʻai, *The Ukulele: A Hawaiian Guitar and How To Play It* (Honolulu: Wall, Nichols Co., 1906).

16 Ernest K. Kaʻai, *The Ukulele and How It's Played* (Honolulu: Hawaiian News Co., 1916), 8. See also Fig. 5.

17 N.B. Bailey, *A Practical Method for Self Instruction on the Ukulele* (San Francisco: Sherman, Clay & Co., 1914); Will D. Moyer, *National Self Teacher for Hawaiian Ukulele* (Chicago: Chart Music Co., 1915). By June 1925, Sherman, Clay claimed sales of 2 million for Bailey's method. Moyer's method remained in print until at least 1935.

The result of all this was widespread confusion, with newspapers and magazines confidently publishing accounts that credited the introduction of the ʻukulele to everyone from Manuel Nunes to shipwrecked 16th century Portuguese sailors, early Spanish missionaries, immigrants from the Canary Islands, and unidentified Germans.

These spurious accounts came from such "experts" as Ogilvie Mitchell, the London-based associate editor of *Talking Machine News* (he's the one who reported that the ʻukulele was introduced by early Spanish missionaries) and Gene Ahern, the then-well-known American newspaper cartoonist from Chicago, who claimed that the ukulele was a German invention.[18]

Hollywood actors and screenwriters were another source of unreliable information about Hawaiian music. It was Oscar-nominated actress Bessie Love—who to her credit was an enthusiastic ʻukulele player and collector—who once informed the public that the ʻukulele was introduced to Hawaiʻi by an unnamed Yale undergraduate.[19] Prolific screenwriter Josephine McLaughlin spent two months in the Islands in the spring of 1930 and reported that it was shipwrecked 16th century Portuguese sailors who brought the ʻukulele to Hawaiʻi.[20]

Confusion reigned even among followers of the banjo, mandolin and guitar movement of the period, where one might reasonably expect to find a more knowledgeable audience. In 1917 music magazine columnists were answering questions from puzzled readers about the difference between a Hawaiian steel guitar, the taropatch fiddle and an ordinary guitar. In a February 1917 editorial, *Crescendo* magazine noted that "There seems to be considerable misunderstanding on the part of the general public in reference to the steel guitar and ukulele. The public doesn't seem to know which is which."[21]

That confusion was also reflected in the sheet music of the period. The hula girl on the cover of the 1916 song "Honolulu Lulu," who in the lyrics makes merry music on her ʻukulele, is holding what is clearly a bowl-back mandolin. On the cover of another Tin Pan Alley composition from 1915, "When Old Bill Bailey Plays the Ukalele," Bill's ʻukulele looks more like a Japanese samisen—which is perhaps not surprising when one considers that the artist, Andre de Takacs, was a Hungarian immigrant living in New Jersey (see Fig. 7).[22]

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18 Ogilvie Mitchell, *The Talking Machine Industry* (London: Sir Isaac Pitman & Sons, n.d. [but 1922]), 93; Gene Ahearn, "Ain't Nature Wonderful?," *Charlotte* [*NC*] *Observer*, June 8, 1917, 12. For the ʻukulele as a German invention, see also "Not the Genuine Hawaiian Ukulele," *Boston Globe*, April 25, 1920, 68. For the ʻukulele as a product of the Canary Islands, see Alvin D. Keech, "Hawaiian Musical Instruments and Their Origin," *BMG* 28 (December 1931): 45.

19 "Bessie Love Has Ukuleles From Many Countries," *Los Angeles Times*, September 17, 1929, A9.

20 "Old Legends of Hawaii to Be Told Anew," *Los Angeles Times*, April 18, 1930, A8.

21 "Editorial," *Crescendo* 9 (February 1917): 8.

22 See Bill Edwards, "André De Takacs," *Ragpiano.com* (website), n.d., http://ragpiano.com/artists/detakacs.shtml, accessed September 2020.

The confusion persisted even as late as 1921, after the full impact of the first wave of ʻukulele popularity had been felt and ʻukuleles were available in music stores across the United States. It appears the hula maiden drawn by Leo Feist artist John Van Buren Ranck—another New Jersey resident—for the sheet music of "Underneath Hawaiian Skies" has somehow mistaken a cello for a ʻukulele (see Figs. 8-9).

Origin Evidence

When one examines the available evidence from Hawaiʻi prior to 1909, there are no shipwrecked sailors or Spanish missionaries. What we find in Honolulu, beginning in 1884, are three Madeiran entrepreneurs who identify themselves as guitar makers in the city directory, in newspaper advertisements, and on the labels they placed in their instruments (see Figs. 10-11). What their customers and the Hawaiian public made of their guitars of different sizes is a little more complicated.

Initially, people in Honolulu did not know what to make of the machete and the rajão. The first account of the instruments, published in the *Hawaiian Gazette* two weeks after the arrival of the *Ravenscrag*, refers to them as "… strange instruments, which are kind of a cross between a guitar and a banjo …."[23] The confounding strangeness of the Madeiran imports lasted for some time. In March 1887, when the joint shop of Santo and Dias was burglarized, the *Gazette* referred to their "banjo factory" on Nuuanu Street.[24] Two years later, Fanny Stevenson, the wife of novelist Robert Louis Stevenson, described what she called "a native instrument something like a banjo, called a taropatch fiddle" during a visit to the Islands.[25]

The earliest published references to the machete and rajão refer to them as guitars, as in a January 1883 description of newly arrived Portuguese immigrants in Hilo who on New Year's Eve formed serenading parties that "appeared after the manner of Portugal, accompanying with guitar their salutations."[26] This frame of reference was shaped by what historian John Troutman calls Hawaii's distinctive guitar culture, which had begun to develop more than 40 years prior and, in his words, "was thus fully realized and palpable in all parts of the Islands

23 "Portuguese Musicians," *Hawaiian Gazette*, September 3, 1879, 3. In England, the ʻukulele was described as "a kind of banjo" as late as 1914. See F. Cartwright, "Honolulu of To-Day," *The Field* 123 (January 17, 1914): 147.

24 "Reformatory Boys on the Rampage," *Honolulu Daily Bulletin*, March 9, 1887, 3.

25 Robert Louis Stevenson, *The Letters of Robert Louis Stevenson*, ed. Sidney Colvin, vol. 3 (New York: Charles Scribner's Sons, 1911), 144.

26 "Island Notes," *Pacific Commercial Advertiser*, January 13, 1883, 2.

by the 1880s."[27] Unfortunately, this makes it impossible to determine which specific instrument is being referred to.

The first known application of the term taro-patch fiddle to the Portuguese imports appeared in 1884, in a newspaper report about a police officer who was a "musical fiend who plays on a 'taro-patch fiddle' for 27 hours of the 24."[28] Pila, the Hawaiian word that today refers to any musical instrument, is derived from the Hawaiian pronunciation of "fiddle," its original musical meaning.[29] With a full-sized standard violin measuring 23 or 23.5 inches long, it is understandable how the similarly sized machete and rajão could have picked up a "fiddle" nickname.

The earliest known explanation of how the taro-patch fiddle acquired its name appears in an 1888 short story published in Philadelphia-based *Peterson's Magazine*: "Taro is a weed that the natives cultivate. It grows like a beet in marshy land. The people live in and about their taro patches and use this little instrument, and so it is called a taro-patch fiddle."[30] This has long since been the standard explanation. But there is considerable evidence that suggests the intent behind the name was anything but benign.

From the start, the newly introduced instruments were seen as a symbol of what Syed Hussein Alatas, the late Malaysian sociologist, famously called "the myth of the lazy native"—a threat to the puritan work ethic of the largely white Hawaiian business community and its unrelenting demand for cheap, compliant labor.[31] "Taro patch" was used as a derogatory term tied to the ugly racial stereotype of Hawaiians as lazy and ignorant.

One of the earliest of the many examples of this usage came in April 1884, in Judge Albert Judd's speech as retiring president of the YMCA of Honolulu: "The vital question for us to consider is whether we shall yield to the seductive influence [of the tropics] and live the dreamy life of the sybarite. … Is the white boy of Honolulu to succumb to the tendency, and prefer the lei and the Portuguese guitar to the school book or the implements of the artisan?"[32]

Subsequently, taro patch was a term frequently used to express white anxiety about the public school system's ability to produce competent workers. During an 1888 legislative debate over school attendance rules, legislator H.S. Townsend urged that the national Board of Education "ought to have the power to revoke

27 John William Troutman, *Kīkā Kila How the Hawaiian Steel Guitar Changed the Sound of Modern Music* (Chapel Hill: The University of North Carolina Press, 2016), 24.

28 "Local & General News," *Honolulu Evening Bulletin*, April 10, 1884, 3.

29 Mary Kawena Pukui and Samuel H. Elbert, *Hawaiian Dictionary* (Honolulu: University of Hawaii Press, 1971), 303.

30 Olivia Lovell Wilson, "A Knight of the Garter," *Peterson's Magazine* 94 (July 1888): 47, 52.

31 Hussein Alatas, *The Myth of the Lazy Native: A Study of the Image of the Malays, Filipinos and Javanese from the 16th to the 20th Century and Its Function in the Ideology of Colonial Capitalism*. (London: Frank Cass & Co., 1977).

32 "The Y.M.C.A. Annual Report," *Daily Pacific Commercial Advertiser*, April 18, 1884, 2.

any excuse from attendance at school which they find is only adding one to the number of loafers and taro patch fiddle players."[33]

As late as 1919, the *Honolulu Advertiser* editorialized that "If the Hawaiian boys will learn that twanging the ukulele is not the chief object and aim of life, and will grasp every opportunity offered them to become skilled mechanics, … the community as a whole will be better off."[34]

The irony here was that musical proficiency opened up the prospect of a musical career that paid better than most jobs available to *kanaka oiwi*.

Adding to the confusion, taro patch was a term that early on was used not just for the larger five-string rajão but also for the smaller four-string machete (see Fig. 12). For example, in 1892 an Ohio tourist described the taro-patch fiddle as "a diminutive guitar of four strings," and an 1893 account of Hawaiian music in the New York-based *Literary Digest* said the taro-patch "is shaped like a miniature guitar, is played upon with the fingers, not a bow, and its four strings are not picked like a banjo, but, being held in position guitar fashion on the lap, the four fingers of the right hand are brushed lightly or move heavily, as occasion requires, backward and forward over the strings."[35] The earliest known appearance of the name 'ukulele in print did not come until December 1888, in a newspaper account of a church concert in Lihue, Kauai.[36]

Curiously, taropatch is a term that Nunes, Santo and Dias seem to have been slow to adopt. In the earliest advertisements yet found, which appeared in 1885, Nunes and Dias say nothing about taropatches or 'ukuleles. They identify themselves as makers of guitars, machetes, "e o todo o instrumento de corda"—that is, all stringed instruments (see Fig. 13).[37]

In their subsequent English-language advertising, Nunes, Santo and Dias referred themselves exclusively as guitar makers (see Figs. 14-15-16). It was not until 1895 that Santo became the first to advertise himself as a guitar maker who made "Taro Patch and Ukulele Guitars Made of Hawaiian Woods" (see Fig. 17).[38] Nunes seems to have followed suit in 1899, but Dias held out until after the turn of the century before identifying himself in his advertising as a maker of 'ukulele.[39]

A Santo business card printed in Hawaiian around 1898, judging from the address listed, provides an important piece of evidence that Nunes, Santo and

33 "The Legislative Assembly," *Hawaiian Gazette*, August 7, 1888, 3.

34 "Hawaiians as Mechanics," *Honolulu Advertiser*, August 26, 1919, 4.

35 Charles C. Burnett, *The Land of the O-O: Facts, Figures, Fables, and Fancies* (Cleveland: The Cleveland Printing and Publishing Co., 1892), 96; "Hawaiian Music," *The Literary Digest* VII (May 13, 1893): 11.

36 "A Rural Fete," *Hawaiian Gazette*, December 11, 1888, 1.

37 *O Luso Hawaiiano*, August 15, 1885.

38 *Honolulu Evening Bulletin*, October 19, 1895, 3.

39 For Nunes, see advertisement in the *Evening Bulletin*, March 7, 1899, 4; for Dias, *Hawaiian Star*, January 3, 1906, 5.

Dias may have had a strong motivation to call themselves guitar makers. The business card presents Santo as a maker of guitars of different sizes—*pila gita nunui* (big guitars), *pila gita li'ili'i* (small guitars) and *pila ukulele*, suggesting that in this case their sales vocabulary reflected that of their customers (see Fig. 18).[40]

This multicultural vocabulary that varied over time helped give rise to the jumbled and sometimes outlandish origin stories that followed the 'ukulele's explosive popularity after 1915. One 1922 U.S. encyclopedia entry, based on the misunderstanding that the taro-patch fiddle was literally a violin, told its readers that the 'ukulele "was designed by a white man who used as his model the 'taro-patch fiddle,' a Portuguese instrument adopted by the Hawaiians and played by them for more than a century. It differs from the taro-patch violin in that it is much smaller and has only half as many strings."[41]

The following year *Presto*, a U.S. musical merchandise journal, reported that "The original ukulele was but a strip of bamboo with two or three strings of cocoanut fiber. From this developed the tarpotch [sic], invented about 1879, which had the shape of a guitar and was equipped with five strings. Then followed the modification, the present ukulele, which reduced the number of strings by one and reduced the length from 25 to 17 inches." This helpful story was published under the unintentionally accurate headline of "An Erroneous Ukulele Idea."[42]

Organology

Another important source of evidence to evaluate claims of invention are the surviving instruments of the early period. This body of evidence should be approached with caution. The number of pre-1900 instruments is small, and it is not clear if they are a representative sample. Many are fairly elaborate, upper-end instruments, and likely are not typical of the bulk of instruments made and sold by Nunes, Santo and Dias. An additional difficulty is the lack of street addresses on most vintage ukulele labels—when those labels are present—which makes it impossible to precisely date many early Hawaiian 'ukulele by comparing labels with Honolulu city directory listings.

The shape of the earliest known 'ukulele, not surprisingly, resembles that of the machete—an elongated body with a narrow waist and neck and a 17-fret fingerboard extended over the soundboard. All of the 'ukulele brought forward as the "first" or "earliest" all conform to this body type (see Fig. 19). Over its first decade, from roughly 1884 to 1895, while its length remained roughly the

40 Jim Tranquada and John King, *The 'Ukulele: A History* (Honolulu: University of Hawai'i Press, 2012), 44. It is worth noting, however, that by 1897, many Honolulu music houses were advertising 'ukulele without referring to them as guitars, including Wall, Nichols, Hawaiian News Co., and the Golden Bazaar.

41 "Ukulele," in *Compton's Pictured Encyclopedia* (Chicago: F.E. Compton & Co., 1922), 3575.

42 "An Erroneous Ukulele Idea," *Presto*, May 19, 1923, 21.

same, the ʻukulele's body expanded, with the bouts growing wider, the lower bout growing more curvy, and the neck getting wider.

Many early ʻukulele have features that speak less of invention and more of experimentation: different peghead designs and tuner configurations, for example. Of the three original makers, Santo was the most likely to go for the unconventional: elaborate pegheads borrowed from American banjos, a rajão built like a five-string banjo from the Jack Ford collection, or the elaborate bound button bridge and what you might call an inlaid rainbow on the lower bout of a ʻukulele from the Andy Roth collection (see Fig. 20-21). However, an examination of their interior construction shows very little variation over time: the simple bracing and other details are almost identical.

Other changes, I would argue, have nothing to do with invention and everything to do with practical production issues and the reality of having to make a living. (It is worth keeping in mind that each of the original makers all had large families to support.) It is cheaper to eliminate the fingerboard and install the frets directly into the neck. Why build an extended 17-fret fingerboard in the first place when very few musicians ever play that high up? Twelve frets will do. Similarly, why go to the trouble of creating fussy button bridges when slotted bridges are far easier to make and work just as well?

The single most important innovation in the transformation of the Madeiran machete into the Hawaiian ʻukulele, I would argue, was the original makers' decision to build instruments out of koa—the native Hawaiian acacia that had long been associated with Hawaii's royal family. The ʻukulele's remarkably rapid rise to iconic status came at a time of profound political ferment that culminated with the illegal overthrow of the monarchy in 1893. Trained in European techniques, Nunes, Santo and Dias used spruce, pine and fir for the tops of their earliest instruments. But koa, a symbol of *aloha aina*, or love for the land, appealed to the ardent patriotism of their customers, the *kanaka oiwi*. This was a period when playing a koa ʻukulele was a political statement.[43]

Need for Invention Story

At this point, let me pose an impertinent question: why does the ʻukulele have to have been invented? Why have so many argued for so long over this point?

Because competing claims of inventors often end up in court, it can be useful to look at the legal literature devoted to this subject. In a 2012 article, "The Myth of the Sole Inventor," Mark A. Lemley, Neukom Professor of Law at Stanford University and director of the Stanford Program in Law, Science and Technology, writes that "Invention appears in significant part to be a social, not

43 Tranquada and King, *The ʻUkulele*, 52–53.

an individual, phenomenon. Inventors build on the work of those who came before, and new ideas are often either 'in the air' or result from changes in market demand or the availability of new or cheaper starting materials."[44]

Lemley echoes the conclusion of the author of the leading American patent treatise of the 19th century, Yale Law Professor William Robinson, who wrote in 1890: "With very few exceptions, every invention is the result of the inventive genius of the age, working under the demand of its immediate wants, rather than the product of the individual mind."[45]

The wide acceptance of the invention story reflects the need of the tourism and music industries in Hawaii and on the mainland to overcome the awkward fact that the instrument so closely associated with Hawai'i was not really Hawaiian. Even if the 'ukulele was not native to Hawaii, it allowed for the argument to be made that it had been invented there.

It also appealed to the inherent racism of the American public, an ugly reality exposed when Manuel Nunes did in 1922. His death triggered widespread news coverage announcing the "fact" that the ukulele had been invented by a white man (see Fig. 22).[46]

It was a repetition of a familiar pattern. The 'ukulele, one story goes, was named after Edward Purvis, vice chamberlain to King David Kalakaua—a white Englishman.[47] Minstrel singer Matt Keefe of Missouri claimed to have introduced the 'ukulele to the mainland stage in 1898. (He did not.)[48] Press agent and photographer William F. Sesser was hailed as "the man who was responsible for the introduction of the ukulele in America" when he died in 1923. (He was not.)[49] There were also actors and songwriters—all white—who claimed their music and their performances triggered the popularity of the 'ukulele.[50]

After examining the available evidence, I have reached the same conclusion that longtime Honolulu newspaper columnist Bob Krauss reached in 1975, when competing claims from Nunes, Santo and Dias descendants prompted him to conduct his own investigation. "The ukulele was not 'invented' until

44 Mark A. Lemley, "The Myth of the Sole Inventor," *Michigan Law Review* 110 (2012): 711.

45 William C. Robinson, *The Law of Patents for Useful Inventions*, vol. 1 (Boston: Little, Brown and Co., 1890), 46.

46 For example, see "The Lost Singer," *Los Angeles Times*, August 1, 1922, 14.

47 Tranquada and King, *The 'Ukulele*, 43.

48 "Pioneer on Ukulele," *Philadelphia Evening Public Ledger*, January 11, 1919, 10; "Matt Keefe and Ukulele's History," *Los Angeles Evening Post-Record*, June 13, 1919, 11.

49 "Man Who Made Ukulele Popular in U.S. Buried," *Honolulu Advertiser*, November 21, 1923, 7.

50 For musician E.S. "Ukulele" Hughes, see "Stimulating Ukulele Sales," *Music Trade Review*, November 5, 1921, 27; for comedian Joe Cook, see "Joe Cooks Returns to Los Angeles in Film," *Los Angeles Times*, September 7, 1930, B18; for Broadway actor Ann Orr, see "In the Spotlight Glare," *New York Times*, March 23, 1930, X3; for songwriter Carl C. Hankenhof, see "Bill Bailey Dies in Florida; Popularized Ukulele in U.S.," *Toledo Blade*, March 19, 1952, 23.

31 years after it was first played in the Islands," he wrote. "… [It is] a typical Hawaiian product of historical fact, economic necessity, Island romance, and tourist promotion."[51]

Transculturation

Ultimately, it may be more helpful to come full circle and regard the 'ukulele as Ernest Ka'ai did in 1906—as a creation, not an invention. In the final analysis, I think the 'ukulele is an example of what Cuban sociologist Fernando Ortiz called the process of transculturation, in which the blending of cultures is understood as producing something entirely new.[52]

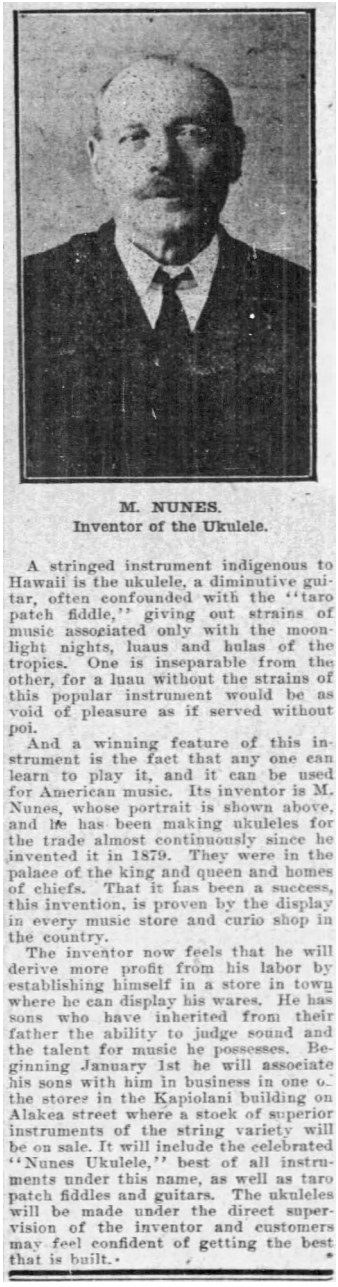
In 1909, the 'ukulele had iconic status as the Hawaiian national instrument, a key component of Hawaiian music and the island tourist trade. 1909 was the year that an estimated 200 Hawaiian musicians were performing in vaudeville circuits across the U.S. mainland; the year that recordings of Hawaiian music were available from both Victor and Edison; the year that the first mainland 'ukulele method was published in Boston; and marked the second year of a pioneering experiment by a Los Angeles music retailer convinced there was a market for the 'ukulele on the mainland.

In other words, the 'ukulele was beginning to make a name for itself in the mainland United States. There was real market value in being the creator of this increasingly valuable musical commodity. It was the commercial realities, rather than historical facts, that Manuel Nunes was addressing in 1909 when he claimed to be the inventor of the 'ukulele.

51 Bob Krauss, "Uke's Strum a Long Way," *Honolulu Advertiser*, October 15, 1975, 1.

52 Fernando Ortiz, *Cuban Counterpoint: Tobacco and Sugar*, trans. Harriet De Onís, introduction by Bronisław Malinowski, prologue by Herminio Portell Vilà, new introduction by Fernando Coronil (Durham, NC: Duke University Press, 1995), xxvi, 97–103.

Figures



M. NUNES.
Inventor of the Ukulele.

A stringed instrument indigenous to Hawaii is the ukulele, a diminutive guitar, often confounded with the "taro patch fiddle," giving out strains of music associated only with the moonlight nights, luaus and hulas of the tropics. One is inseparable from the other, for a luau without the strains of this popular instrument would be as void of pleasure as if served without poi.

And a winning feature of this instrument is the fact that any one can learn to play it, and it can be used for American music. Its inventor is M. Nunes, whose portrait is shown above, and he has been making ukuleles for the trade almost continuously since he invented it in 1879. They were in the palace of the king and queen and homes of chiefs. That it has been a success, this invention, is proven by the display in every music store and curio shop in the country.

The inventor now feels that he will derive more profit from his labor by establishing himself in a store in town where he can display his wares. He has sons who have inherited from their father the ability to judge sound and the talent for music he possesses. Beginning January 1st he will associate his sons with him in business in one of the stores in the Kapiolani building on Alakea street where a stock of superior instruments of the string variety will be on sale. It will include the celebrated "Nunes Ukulele," best of all instruments under this name, as well as taro patch fiddles and guitars. The ukuleles will be made under the direct supervision of the inventor and customers may feel confident of getting the best that is built.

Fig. 1: The first claim to be the inventor of the 'ukulele appears in print, *Pacific Commercial Advertiser*, December 29, 1909. Private collection of the author.

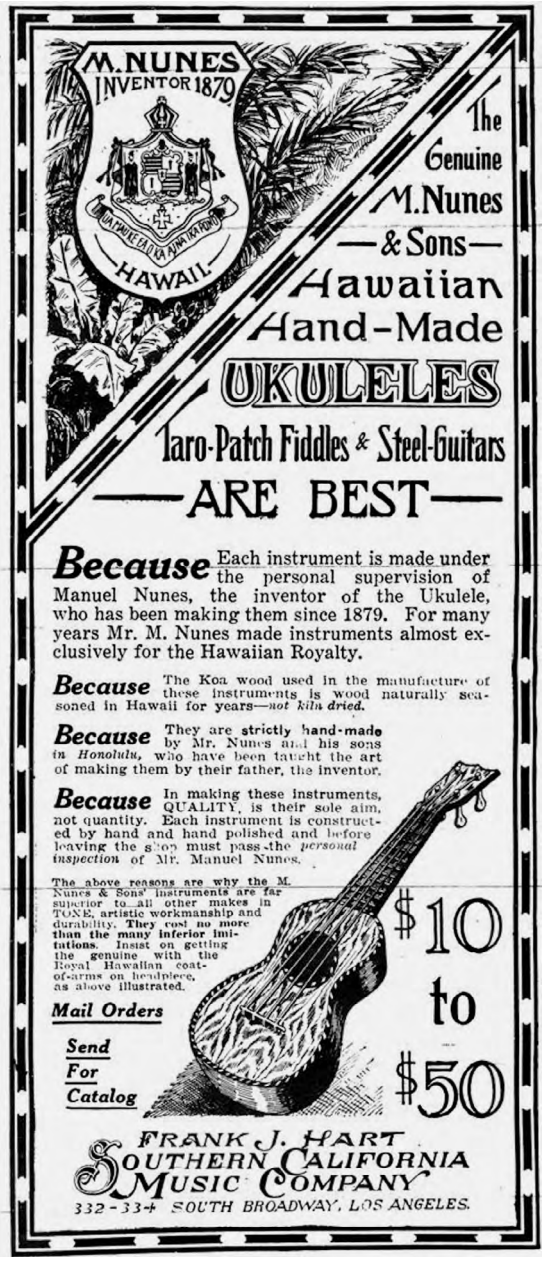
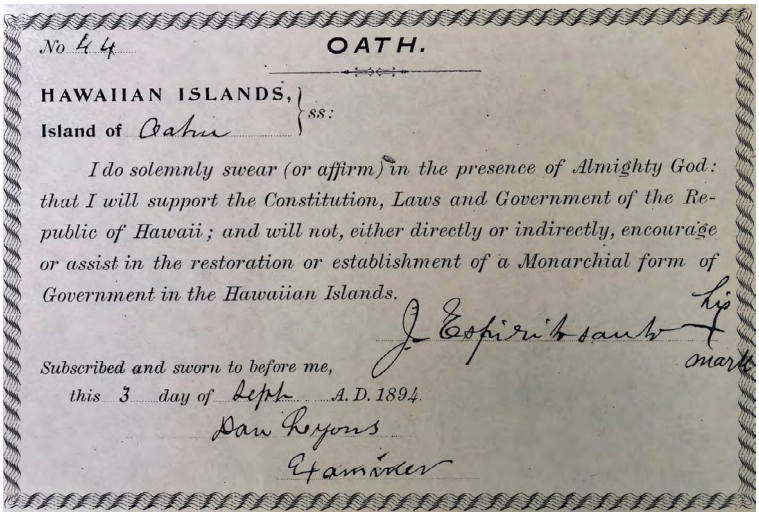


Fig. 2: *Southern California Music Co.* newspaper advertisement, 1916. Private collection of the author.



No 44 OATH.

HAWAIIAN ISLANDS, } ss:
Island of Oahu

I do solemnly swear (or affirm) in the presence of Almighty God: that I will support the Constitution, Laws and Government of the Republic of Hawaii; and will not, either directly or indirectly, encourage or assist in the restoration or establishment of a Monarchial form of Government in the Hawaiian Islands.

J. Espiritusanto his mark

Subscribed and sworn to before me,
this 3 day of Sept A.D. 1894.
Dan Lyons
Examiner

Fig. 3: Santo loyalty oath to the Provisional Government of Hawai'i, September 3, 1894. Private collection of the author.

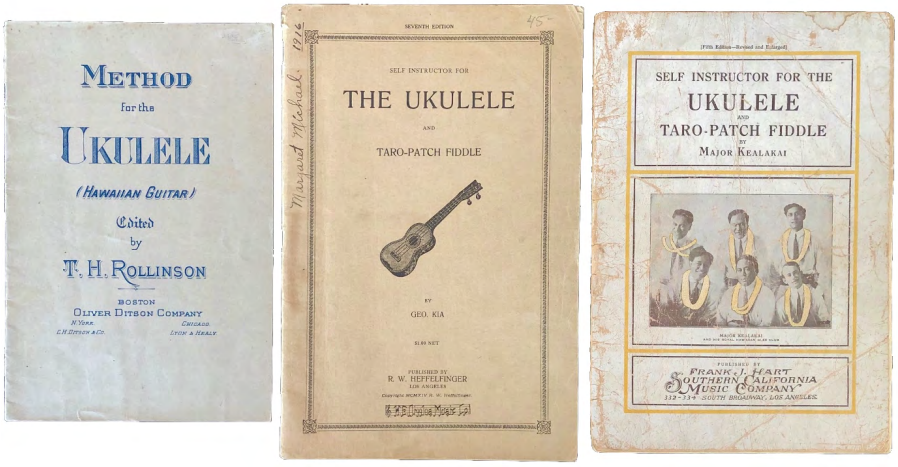


Fig. 4: Early 'ukulele methods: Rollinson (Boston, 1909), Kia (Los Angeles, 1914), and Kealakai (Los Angeles, 1912). Private collection of the author.

Fig 5: Caricature of Ernest Kaʻai from the cover of *Kaʻai's Photographic Illustrations For Handling & Playing the Ukulele: Holding-Stringing-Stroking* (1917). Private collection of the author.

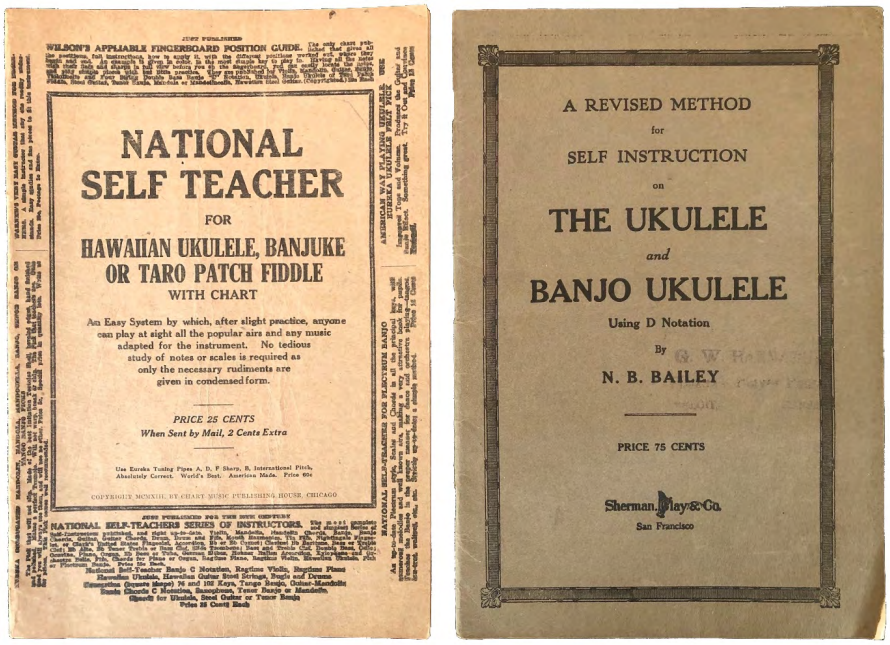


Fig. 6: *National Self Teacher* (Chicago, 1915) and Bailey's *Self Instruction on the Ukulele* (San Francisco, 1914). Private collection of the author.

Fig. 7: "When Old Bill Bailey Plays the Ukalele." Private collection of the author.

Fig 8: "Underneath Hawaiian Skies." Private collection of the author.

Fig 9: "Underneath Hawaiian Skies" closeup.

Fig. 10: Manuel Nunes, ca. 1917 from The Ford Motor Co.'s short film "The Making of a Ukulele." Private collection of the author.

Fig 11: Augusto Dias, ca. 1887. Private collection of the author.

Fig. 12: This illustration from Helen Mather's *One Summer in Hawaii* (1891) shows instruments popular in Hawai'i at the time of her visit: violin, banjo, guitar, 'ukulele and five-string taro-patch. Private collection of the author.

Fig. 13: Dias and Nunes advertise in *O Luso Hawaiiano*, one of the first of Honolulu's Portuguese-language newspapers, August 15, 1885. Private collection of the author.

Fig. 14: Dias advertisement in the *Pacific Commercial Advertiser*, July 14, 1886. Private collection of the author.

Fig. 15: Nunes advertisement in the Honolulu *Evening Bulletin*, January 24, 1889. Private collection of the author.

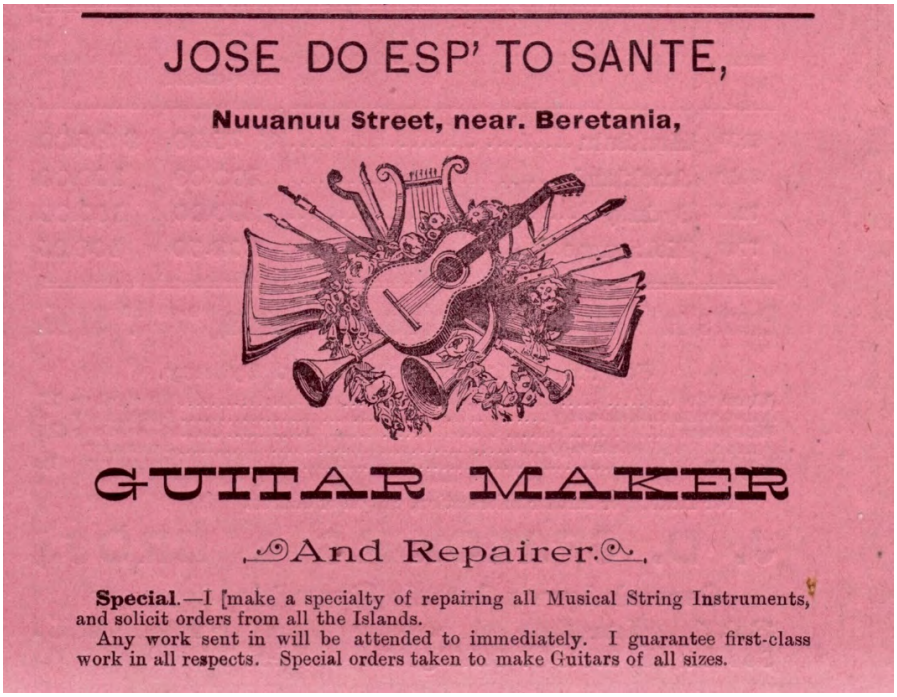


Fig. 16: Santo advertisement in the 1888-89 *Honolulu City Directory*. Private collection of the author.

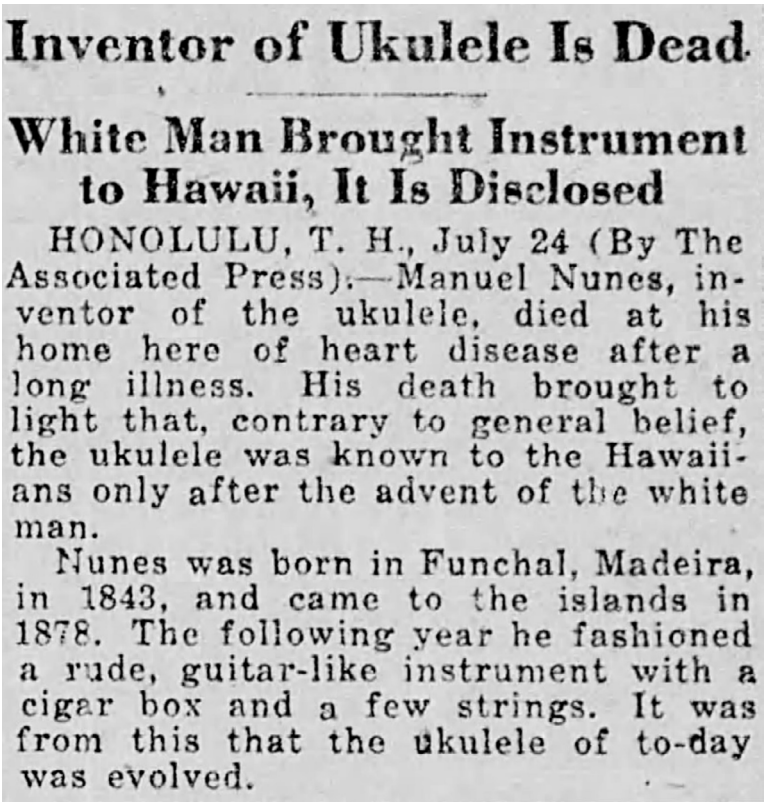
Fig. 17: Santo advertisement in the October 19, 1895 edition of the Honolulu *Evening Bulletin*. Private collection of the author.

Fig. 18: Santo's business card, ca. 1898. Private collection of the author.

Fig. 19: This ca. 1886 Dias uke from the Shawn Yacavone collection shows the elongated shape typical of the earliest 'ukulele. Photo courtesy of Shawn Yacavone.

Fig. 20: Two Santo instruments from the Jack Ford collection, both with pegheads modeled after American banjos. The fifth string of the rajão on the left has its tuning peg halfway down the fingerboard in the style of a five-string banjo. Photo by the author.

Fig. 21: A unique Santo 'ukulele in the Andy Roth collection. Photo by the author.



Inventor of Ukulele Is Dead

White Man Brought Instrument to Hawaii, It Is Disclosed

HONOLULU, T. H., July 24 (By The Associated Press).—Manuel Nunes, inventor of the ukulele, died at his home here of heart disease after a long illness. His death brought to light that, contrary to general belief, the ukulele was known to the Hawaiians only after the advent of the white man.

Nunes was born in Funchal, Madeira, in 1843, and came to the islands in 1878. The following year he fashioned a rude, guitar-like instrument with a cigar box and a few strings. It was from this that the ukulele of to-day was evolved.

Fig. 22: The *New York Tribune* reports Manuel Nunes' death, July 25, 1922. Private collection of the author.

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Classical Approaches to the Ukulele: From John King to Ernest Ka'ai

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Abstract
The term classical ukulele seems to have first been used by John King in 2004 with the publication of his book/CD *The Classical Ukulele*. Since then the classical ukulele style has grown to become a vibrant and dynamic part of the ukulele scene. But what exactly did King, who came from a classical guitar background, mean by 'classical ukulele' and was his 'classical' vision really a new approach to playing the ukulele? Sadly, King passed away in 2009. His legacy was a small, but significant, body of arrangements. This paper will, therefore, look at the origins of the term 'classical ukulele' and King's application of it in order to better understand his vision. It order to determine if King's 'classical' vision was a totally new and pioneering approach to playing the ukulele this paper will explore early ukulele methods from the period 1894 to 1920. What emerges is the influence of guitar techniques and how many of the early players were pursuing a vision that was fundamentally classical in nature. King, who was an academic as well as a virtuoso, clearly realized this and, through *The Classical Ukulele,* was able to rekindle, revitalize and reimagine the early classical vision.

Keywords
Ukulele History, Classical Ukulele, John King, Ernest Ka'ai

Introduction

Today the term classical ukulele is widely used to denote a technique and a repertoire which finds its roots in western classical music. The first known use of the term 'classical ukulele' was by John King with the publication of his book/CD *The Classical Ukulele* in 2004.[1] Undoubtedly King drew on his classical guitar background, not only in his choice of title but in his technical, musical and historical approaches to the ukulele. King's arrangements of works by masters including Bach, Chopin, Mozart and Beethoven parallel those of classical guitar masters Francisco Tárrega (1874-1909) and Andrés Segovia (1983-1987) who, in their efforts to extend the repertoire of the guitar and establish it as a concert instrument, arranged works by composers including Chopin, Bach,

1 John King, *The Classical Ukulele* (Los Angeles; Milwaukee: Flea Market Music, 2004).

Granados and Albéniz. But was King simply applying his classical guitar knowledge to the ukulele or was he seeking a new 'classical' vision for the ukulele? And if so, what exactly was this vision? Sadly, King passed away in 2009 and *The Classical Ukulele* and *Famous Solos and Duets for the 'Ukulele* also published in 2004, remain his only two publications.[2] Nevertheless, both of these books, particularly *The Classical Ukulele,* have had a major impact on the ukulele scene; classical ukulele has grown into a thriving movement of players, teachers, arrangers and composers. Many of these players, like King, come from a classical guitar background and have applied classical guitar techniques and repertoire to the ukulele. Although this has proved hugely popular it has also led to the suggestion that such players are simply using the ukulele as a small guitar. This paper will, therefore, explore the classical approach to the ukulele in order to determine what it is, when it was first initiated and whether it should be viewed as a new approach or an integral part of the ukulele's rich and varied history.

John King and the "Classic Aesthetic"

King was quick to point out in his introduction to *The Classical Ukulele* that playing classical music on a little four string instrument was nothing new.

> With the recent discovery and publication of a manuscript of duets for machete and guitar the argument against the validity of performing classical music on the little four string instrument has been rendered moot.[3]

He was referring to the *machete de braga*, one of the Madeiran instruments taken to Hawaii in 1879 and subsequently transformed into the ukulele. The discovery in the 1990s of a manuscript of duets for machete and guitar by Candido Drummond de Vasconcelos dated 1846 proved that the machete, once regarded as a simple folk instrument, had also been used as a sophisticated society instrument which featured in concerts and other musical events both in Madeira and in England in the mid to late nineteenth century. Only in recent years has the machete's unique repertoire and its historical importance started to become known.[4]

King was, in fact, one of the first people outside Madeira to perform the Drummond repertoire on a machete. Despite the machete being a traditional

2 John King, *Famous Solos and Duets for the 'Ukulele* (Pacific: Mel Bay Publications, 2004).

3 King, *The Classical Ukulele*, 4.

4 Samantha Muir and Lara Taylor, *A Música de Cândido Drumond de Vasconcelos*, CD (Madeira: Loja do Conservatorio - Escola Profissional das Artes da Madeira, 2018).

instrument of Madeira[5] the majority of pieces in the collection were composed in the form of European ballroom dances including waltzes, polkas, marches, bolleras and quadrilles. Robert White, a British visitor to the islands, described the machete's repertoire in his guidebook of 1859 as "the fashionable music of our ballrooms."[6] The word "fashionable" being an important reminder that it is necessary to view Drummond's music in historical context. He was, in fact, composing the contemporary music of his time in order to appeal to current tastes. Furthermore, while based on popular dance forms, Drummond's music was original and idiomatic to the machete. King, on the other hand, arranged historic repertoire that had originally been composed for instruments such as the piano, the harpsichord and the cello in order to create a *new* repertoire for the ukulele. In so doing he demonstrated the potential of the ukulele as a classical instrument, but was creating a "classical" repertoire retrospectively. As innovative as his arrangements were, the material in *The Classical Ukulele* was neither original nor contemporary.

Publisher Jim Beloff offered a different perspective in his foreword by heralding *The Classical Ukulele* as a "first-of-its-kind book."[7] While ukulele players often included one classical piece in their repertoire as a novelty item, Beloff explained, King had created an entire collection of classical pieces for the ukulele. Nevertheless, the collection was not entirely classical in its repertoire selection. Traditional tunes from Japan ("Sakura"), England ("Greensleeves"), Ireland ("Danny Boy") and Hawaii ("'Alekoki," "Pūpū A'o 'Ewa" and "Ahe Lau Makani") featured prominently. The final piece strayed even further from the classical idiom by offering an arrangement of Scott Joplin's jazz standard "The Entertainer" for ukulele and guitar.

Many pieces in *The Classical Ukulele*, such as "Ah! Vous Dirai-je, Maman" by Mozart and "Für Elise" by Beethoven, fit neatly into the genre of classical music. Others, however, are decidedly un-classical and more accurately described as traditional. While this may seem at odds with the notion of classical ukulele, it further reflects the trend of classical guitarists to incorporate arrangements of folk, pop and traditional tunes in their repertoires. Even classical guitar purist Andrés Segovia performed arrangements of traditional tunes. One of his most popular pieces being Miguel Llobet's arrangement of the traditional Catalan tune "El Noi de la Mare." Numerous other classical guitarists, from John Williams (b.1941) to Miloš Karadaglić (b.1983), have included

5 The machete is related to the Portuguese *cavaquinho* and is thought to have originated in the Braga region of Portugal, hence its full name "machete de braga." Since the twentieth century the name "braguinha" has been used in Madeira with the name "machete" used to refer to instruments from the nineteenth century.

6 R. White, *Madeira, Its Climate and Scenery, Containing Medical and General Information for Invalids and Visitors* (London: Cradock & Co, 1851), 38.

7 King, *The Classical Ukulele*, 2.

instrumental arrangements of Beatles songs, folk songs and other popular hits in their concerts and recordings. While this may be a deviation from the purist view of classical music it also highlights how the term 'classical' is not always genre specific but is an approach often defined by the arrangements themselves and the performance style.

One of the most important aspects of classical guitar practice in King's work was his clean and precise picking hand technique and use of the nails to pluck the strings. King made a point of stressing the importance of sound in his introductory notes. "The most important aspect of the right-hand technique is tone production. A round, clear tone free from extraneous noise is central to the classic aesthetic."[8] The pursuit of the "classic aesthetic" is a key concern of the classical ukulele style. This is reflected in the recent development of more ukulele literature dedicated to the improving finger picking techniques and tone production.[9] It would, however, be disingenuous to suggest that sound quality is only a feature of classical ukulele players as it also an attribute found in other ukulele instrumentalists such as Herb Ohta-San (b.1934) and Jake Shimabukuro (b.1976) whose roots are in popular music.

What emerges in any discussion of classical ukulele is the realisation that the boundaries defining it are fluid rather than fixed. At the time of publication *The Classical Ukulele* was a unique and audacious diversion from current trends. Both the title and the content offered something totally different from *Flea Market Music*, a publisher well known for producing ukulele song books. King's book contained no familiar chord charts or lyrics. But while the layout and the repertoire offered largely new and uncharted territory for ukulele players, King was actually making full use of the idiomatic features of the instrument.

During his classical guitar studies King had learnt about the five-course Baroque guitar and how composers such as Gaspar Sanz (1640-1710) and Francisco Corbetta (1615-1681) had utilised that instrument's re-entrant tuning to create novel over-ringing effects called campanellas. The term campanella, also *campanelle* (French) and *campanela* (Spanish), comes from the Italian word meaning "a small bell." By placing the notes of short melodic, or scale-like, passages on alternating strings the over-lapping notes evoke the sound of small ringing bells, hence the term campanellas. (See Fig. 1) Like the Baroque guitar, the original tuning of the ukulele is re-entrant. Realising this King decided to try campanella on the ukulele. His first experiment with campanella is described on his Nalu Music blog.

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8 King, 6.

9 See Daniel Ward, *Arpeggio Meditations for Ukulele* (s.l.: selfpublished, 2017); Rob MacKillop, *Progressive Fingerstyle Studies for Ukulele* (Pacific: Mel Bay Publications, n.d.); Ward, *Arpeggio Meditations for Ukulele*; Samantha Muir, *100 Arpeggio Exercises for Ukulele* (Lévis: Les Productions d'Oz, 2019); Elisabeth Pfeiffer, *30 Fingerstyle Etudes to Develop Your Picking Technique and Sound* (s.l.: selfpublished, 2022).

> I taught myself an appropriate Bach tune using campanella technique and applied it to my mother's pineapple [ukulele]. It was a revelation. The instrument had a voice and when I played, it sang to me.[10]

King's use of campanella highlighted the ukulele's European roots and helped to forge a new vision for the ukulele based on historic performance practices.

King went on to record and entire CD of pieces by Bach arranged in campanella style.[11] The CD also includes a selection of pieces from Bach's cello suites as well as "Jesu, Joy of Man's Desiring." King received wide acclaim for his harp-like sound and virtuosic playing which elevated the ukulele to the realm of classical music. A number of pieces from the Bach CD were included in *The Classical Ukulele,* including "Prelude BWV 846," "Prelude BWV 1007" and "Jesu, Joy of Man's Desiring." One of the most innovative and distinctive features of King's use of campanella was that he applied it to entire pieces. This was a markedly different approach from the Baroque guitarists who used campanella sparingly and only to create a short, novel effect within a piece (Fig. 1).

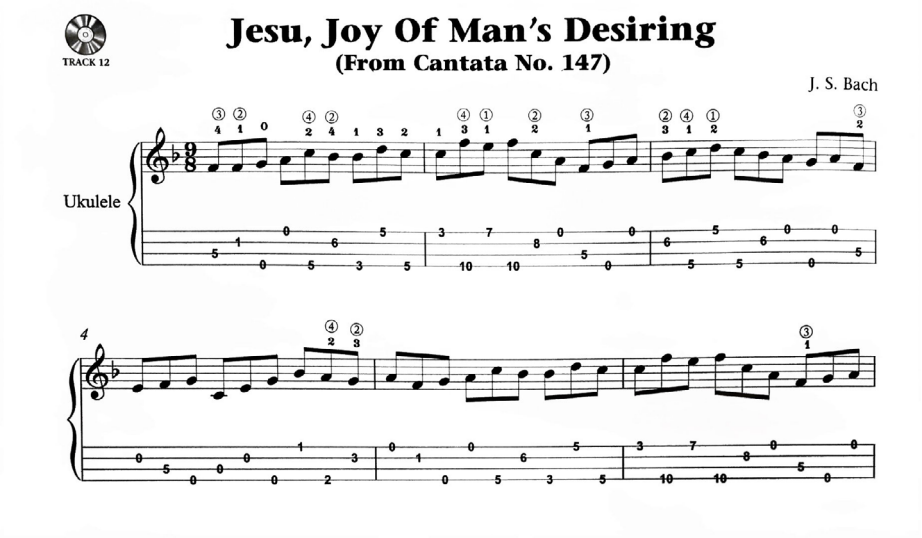

Fig. 1: "Jesu, Joy of Man's Desiring" from King, *The Classical Ukulele*, 28.

What is evident from King's work is that he regarded campanella as an integral part of his classical ukulele vision. The constant movement of notes across the strings and along the full length of the fingerboard, typical of the campanella style, posed new and unfamiliar technical challenges for ukulele players. The

10 To date (February 2024), the blog is no longer available online.

11 John King, *Partita No. 3 BWV 1006 for Unaccompanied Ukulele*, CD (St. Petersburg: Nalu Compact Disc, 2006).

picking hand technique utilises the thumb, index, middle and occasionally ring finger while the fretting hand requires carefully worked out fingerings. For an instrument commonly associated with chords and strumming patterns these technical demands are more typical of the guitar and may explain why so many classical ukulele players come from a guitar background. As the first person to consistently and consciously use campanella style on the ukulele King was a modern pioneer. His arrangements and performances, which can be viewed on YouTube, have influenced a new generation of classical ukulele players committed to furthering the repertoire and status of the ukulele. King was not, however, the first guitarist to promote a classical approach to the ukulele.

The Ukulele in the BMG Movement in America in the Early Twentieth Century

In order to more fully understand King's use of the term classical ukulele it is first necessary to understand the term classical guitar. The term classical guitar was first used in the early twentieth century by guitarists, most notably Andrés Segovia, who sort to distance the guitar from its folkloric traditions and elevate it to a serious concert instrument. Increasingly the term classical guitar was used to replace the Spanish guitar. One of the earliest uses was by Vahdah Olcott-Bickford (1885-1980) in her *Method for Classic Guitar* first published in 1921.[12] Olcott-Bickford was one of the most prominent figures in the Banjo, Mandolin and Guitar (BMG) movement in America. Jeffrey Noonan in his book *The Guitar in America* considers her and William Foden (1860-1947) "the most important American players and apologists for the guitar in the first half of the twentieth century."[13] Olcott-Bickford was well known as a performer, composer, arranger and teacher. At different times she wrote columns for the two most prominent magazines of the BMG movement—*Cadenza* and *Crescendo*. In the early twentieth century it was normal for fretted instrumentalists to play the guitar, the banjo and the mandolin. With the rising popularity of the ukulele on mainland America, particularly following Panama-Pacific International Exposition of 1915, the BMG movement soon adopted the ukulele as a kindred instrument. Vahdah Olcott-Bickford was one of the most prominent guitarists to take up the ukulele.

In 1920, the year before the publication of her guitar method, Olcott-Bickford and her husband Zahr Myron-Bickford (1876-1961) published the *Bickford Method for the Ukulele*. Their aim was to "present all of the various styles of

12 Vahdah Olcott-Bickford, *Method for Classic Guitar* (Boston: Ditson, 1921).

13 Jeffrey Noonan, *The Guitar in America: Victorian to Jazz Era* (Jackson: University Press of Mississippi, 2008), 148.

playing."[14] This included the "ordinary Stroke Method" used by the Hawaiians, "the guitar, or picking style, and the use of the plectrum or felt pick."[15] The Bickfords' comments are a salient reminder that as a new instrument this was a time of development and experimentation. The three most common techniques in use were strumming, finger picking and the use of the felt pick. Even the tuning of the ukulele was not standardised with both the original C6 tuning and the D6 tuning in use. The *Bickford Method* uses the D6 tuning.

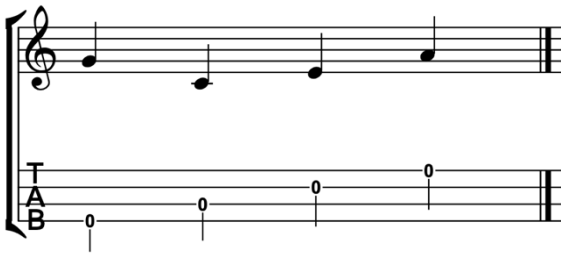

Fig. 2: The C Tuning.

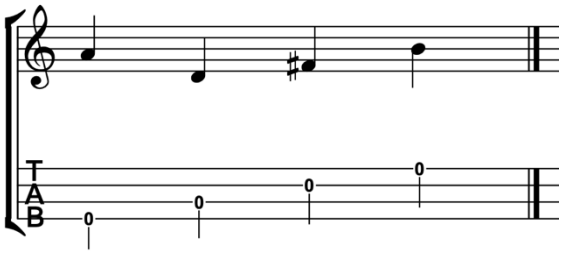

Fig. 3: The D Tuning.

Although much of the method is dedicated to strumming techniques, referred to at the time as the strokes, it also reflects the influence of the guitar and the desire for a more rigorous, classical approach to the ukulele. This can be seen in the Bickfords' determination to present a "real system of study."[16] The method begins with a detailed section on the rudiments of music as well as brief sections on how to hold and how to tune the ukulele. The method only uses staff notation. Diagrams, such as tablature and chord boxes, were viewed as "a great detriment to the musical advancement of the pupil."[17] An advertisement in the *Crescendo* in September 1920 cited no less than eighteen reasons

14 Zahr Myron-Bickford, *Bickford Method for the Ukulele* (Boston: Oliver Ditson Company, 1920), 3.
15 Myron-Bickford, *Bickford Method*, 3.
16 Myron-Bickford, *Bickford Method*, 3.
17 Myron-Bickford, *Bickford Method*, 3.

why the Bickfords' regarded their method "superior to all the others."[18] One of the first points was that the "guitar, or finger style of playing is thoroughly explained and illustrated, a feature almost entirely lacking in existing Methods."[19] The importance of the guitar, or finger style of playing, was stressed in the introduction to the method. "This is a very effective manner of playing the ukulele and should be thoroughly cultivated."[20]

The Bickfords' were keen to draw a parallel between the guitar and the ukulele as illustrated by the piece "Little Guitar" on page fifty-eight. The introductory text provides a brief instruction on using the third, or ring finger of the picking hand. "The third finger is often very effective in the guitar style of playing and its use should be cultivated."[21] When using the third finger the player is instructed to avoid placing the little finger on the top of the instrument "since it would interfere with the freedom of the fingers."[22] In "Little Guitar" the picking hand plays an arpeggio pattern with the thumb, index and middle fingers. The melody is then played by the ring finger on the 1st string in a technique which is often used on the guitar (Fig. 4).

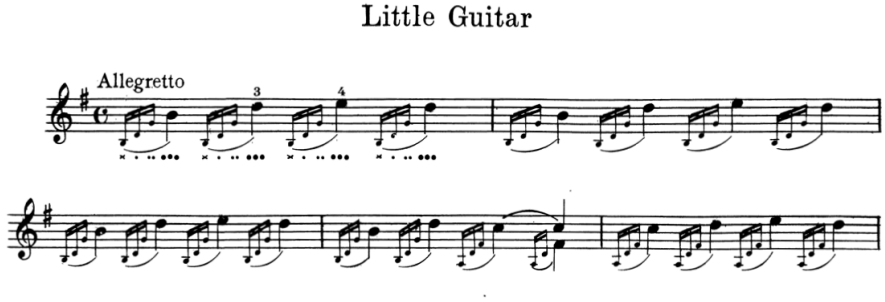

Fig. 4: "Little Guitar" from Myron-Bickford, *Bickford Method*, 58.

"Little Guitar" is followed by a short piece that utilizes another guitar technique. "Special Study for Right Hand" is a three note tremolo study for thumb, middle and index fingers (Fig. 5).

18 *Crescendo* 13, no. 3 (September 1920).
19 *Crescendo* 13, no. 3 (September 1920).
20 Myron-Bickford, *Bickford Method*, 9.
21 Myron-Bickford, *Bickford Method*, 57.
22 Myron-Bickford, *Bickford Method*, 57.

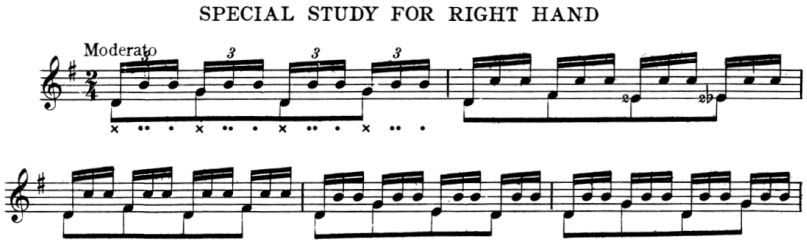

Fig. 5: "Special Study for Right Hand" from Myron-Bickford, *Bickford Method*, 58.

Other pieces, such as "Cupid's Pranks" (see Fig. 6) and "Dance of the Dolls," incorporate both melodic and chordal passages; the chords being plucked rather than strummed. Other pieces such as "Queen of the May" utilize arpeggio techniques, once again typical of the guitar.

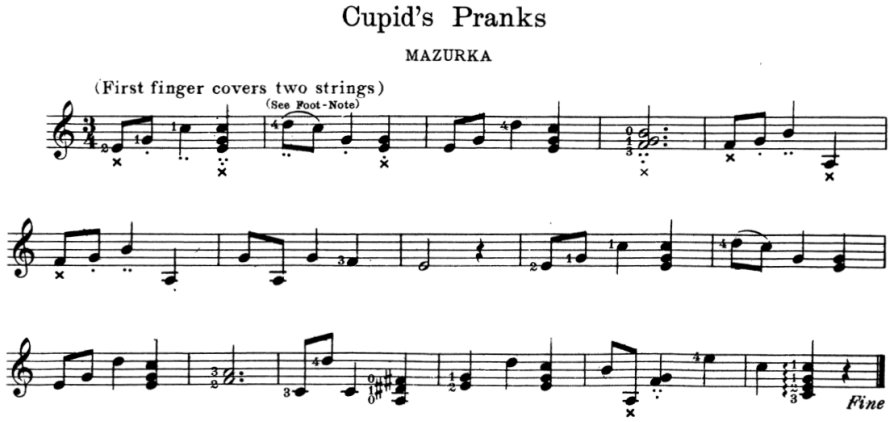

Fig. 6: "Cupid's Pranks" from Myron-Bickford, *Bickford Method*, 21.

The *Bickford Method* represents an important early work for the ukulele both in its vision of promoting the ukulele as a serious instrument and the fact it was co-written by one of the pre-eminent guitarists of the time. At over seventy pages long the method is comprehensive. The authors tackled some of the challenges and controversies which the ukulele faced, most notably in regard to notation systems, and still faces today. The Bickfords' were unequivocal in their support of staff notation.

> Any instrument which is worthy of having an instruction book written for it, is of course worthy of being written for in the legitimate musical notation, hence the

> diagrams so frequently given in connection with ukulele music and methods, have been eliminated from the technical part of the Method.[23]

The question of how best to notate for the re-entrant tuned ukulele is still debated today, principally because the fourth string notes often create anomalies in the voicing. The Bickfords', as with several other methods of the time, used the D6 tuning but chose to notate the fourth string A an octave lower than it sounds (see Fig. 7). Their reason for this was "to avoid confusion in reading, particularly in connection with chords employing all four strings."[24]

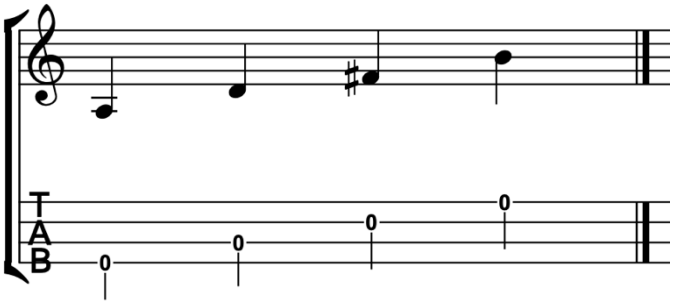

Fig. 7: Notating the A an octave lower that it sounds.

The A written below the staff certainly clarifies the position of the fourth string notes but its use was not without controversy. Charles S. DeLano of Los Angeles, a well known ukulele and steel guitar teacher as well as a columnist for the *Crescendo* magazine, considered this method unsatisfactory.

> This style of writing the fourth-string notes one octave lower was first introduced by a Native Hawaiian in his published book.[25] Many purchased it and, not being able to understand it, came to me for instruction. Not in a single case were they satisfied with this way of writing the fourth string, as they all preferred the notes at actual pitch.[26]

DeLano was one of the first BMG members to capitalize on the growing popularity of the ukulele and the steel guitar on the mainland. His correspondence course *Instructions for Playing the Hawaiian Ukulele* (1914) was frequently advertised in the *Crescendo*. Realizing his target clientele were largely BMG teachers

23 Myron-Bickford, *Bickford Method*, 3.

24 Myron-Bickford, *Bickford Method*, 8.

25 He is most probably referring to George Kia, *Self Instructor for the Ukulele and Taro-Patch Fiddle* (Los Angeles: R.W. Heffelfinger, 1914).

26 *Crescendo* 10, no. 4 (October 1917): 8.

DeLano promised that "You can increase your business 100% by teaching them [ukulele and steel guitar]."[27] In 1916 when the *Crescendo* committed to the ukulele and the steel guitar by launching its *Hawaiian Round Table* DeLano became the main advocate for the ukulele. In his article of November 1917 he mentioned Ernest Kaʻai as being "one of the foremost of all ukulele players and teachers of the Islands [Hawaii]." On one of Kaʻai's trips to the Pacific coast DeLano had "had the pleasure of being with him [Kaʻai] and secured from him many of his fancy strokes all of which are published in my ukulele instructor."[28]

Despite DeLano's willingness to plagiarize Kaʻai's work, he disapproved of Kaʻai's method of teaching the ukulele.

> He has manuscript paper with a staff of four lines representing the four strings of the instrument. Crossing these diagrams are lines indicating the frets. Dark dots on the vertical lines give the location of the fingers on the strings. An open note represents an open string.[29]

DeLano went on to say that Kaʻai had admitted "his book was not satisfactory and had no published solos in note form… He informed me he was going to publish a new one, but to the present time I have no knowledge of such a publication."[30] This article was written in 1917 and appears to be referring to Kaʻai's original method of 1906 (revised 1910) *The Ukulele: A Hawaiian Guitar and How To Play It* which used a rudimentary form of tablature. What DeLano omits to say in his article of 1917 is that Kaʻai had in fact released a new and updated method in 1916, *The Ukulele and How It's Played*.[31] This method used both tablature and staff notation and included a number of Kaʻai's solos, which will be discussed shortly. DeLano was, therefore, either oblivious to this new method or deliberately omitting to mention it in order to protect his own business interests. By this time DeLano was firmly established as one of the most prominent teachers and players on the Pacific coast.[32] The DeLano Hawaiian Steel Guitar and Ukulele Sextet had played in nearly all the principal cities on the Pacific coast from San Francisco south and had also given a recital at the Panama-Pacific Exposition of 1915. Despite regarding Kaʻai as "a fine singer and expert ukulele player," DeLano concluded his article with a further swipe at the Hawaiian's early method.

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27 *Crescendo* 7, no. 8 (February 1915): 3.

28 Charles S. DeLano, "Hawaiian Round Table," *Crescendo* 9, no. 10 (April 1917): 6.

29 DeLano, "Hawaiian Round Table," 6.

30 DeLano, "Hawaiian Round Table," 6.

31 Ernest K. Kaʻai, *The Ukulele and How It's Played* (Honolulu: Hawaiian News Co., 1916).

32 The DeLano Hawaiian Steel Guitar and Ukulele Sextet played in nearly all the principal cities on the Pacific coast from San Francisco south and also gave a recital at Panama-Pacific Exposition of 1915. See *Crescendo* 9, no. 3 (September 1916).

> The point I wish to make is that the solos by the diagram system in this case were total failures and led the pupil to believe the ukulele could be mastered in three or four lessons. This resulted in a complete misunderstanding of the possibilities of this popular instrument.[33]

Numerous early ukulele methods including the *Bickford Method* (1920), the *Kamiki Ukulele Method* (originally published in 1915), the *Eureka Method* (1924), Geo Kia's *Self Instructor for The Ukulele and Taro-Patch Fiddle* (1914) and DeLano's correspondence course (1914) were published in staff notation only. They did, however, often include diagrams for chords. As Edward C. Holstein had noted in his *Chords of the Taro-Patch Guitar* (1894) the use of chord diagrams presented "A new system for learning to play the chords of the taro-patch guitar without a teacher."[34] Even those who rigorously supported the use of staff notation, such as the Bickfords, obviously agreed that chord diagrams were a useful shortcut as despite their insistence on using "legitimate musical notation"[35] they included chord diagrams in the appendix of their method.

Holstein's method is the earliest known method for either the taro-patch or the ukulele. Although it is really just a book of chord charts it is of interest as it was published at the time when the taro-patch was, in fact, the Hawaiian name for the Madeiran five-string rajão and not the later version of the taro-patch, referred to in Kia's method of 1914, which had four sets of double strings. As Holstein's method confirms the taro-patch to which he refers had five single strings tuned D4-G4-C4-E4-A4 (Fig. 8).

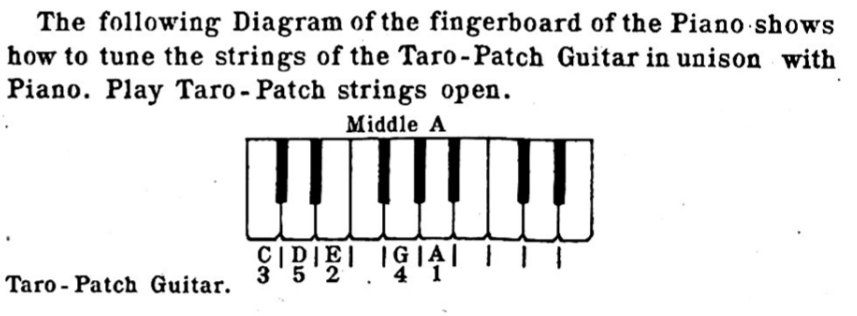


Fig. 8: Diagram showing the taro-patch guitar tuning from Holstein, *Chords of the Taro-Patch Guitar*, 3.

33 DeLano, "Hawaiian Round Table," 6.

34 Edward C. Holstein, *Chords of the Taro-Patch Guitar* (Honolulu: Hawaiian News Co., 1894), 2.

35 Myron-Bickford, *Bickford Method*, 3.

The D and G were both re-entrant. DeLano actually refers to this instrument in one of his first articles. In a discussion on the origins of the ukulele he noted that, "The taro patch, a single five-stringed instrument of larger size was first in use."[36] He goes on to say, "A little later the fifth string was omitted and then the present sized ukulele was chosen as much more convenient in size and sweeter in tone."[37] No mention is made of the Madeiran machete although both Manuel Nunes and Augusto Dias are known to have made machetes in Hawaii from as early as 1885.[38] Today it is a widely accepted theory that the tuning of the ukulele comes from rajão while its diminutive size comes from the machete. Holstein's introduction clarifies the differences between the original taro-patch and the ukulele. "The Ukulele Guitar is smaller than the Taro-Patch Guitar and has but four strings, the tuning of which is the same as [the] Taro-Patch deprived of the fifth string."[39] Around 1914 the original taro-patch was phased out and it became an eight string instrument comprising four sets of double strings tuned G4-C4-E4-A4.

Notation Systems: The Debate Continues

As the first method for either the ukulele or the taro-patch Holstein's method set the precedent for using chord diagrams. Chords diagrams remain popular to this day but the use of tablature remains controversial. The main argument against the use of tablature is its limitation in only showing where the notes are situated on the fingerboard. If the ukulele is to be accepted as a serious instrument worthy of academic study then the ability to read music is essential. There are, however, other considerations which support the use of pictorial forms of notation such tablature and chord diagrams. The accessibility of these systems facilitates ease of learning and enables many ukulele hobbyists of all ages to participate in music making. Currently many composers, arrangers and publishers are including both staff notation and tablature in their scores in order to cater for all players.

Another reason for using tablature is that notating for the re-entrant tuning of the ukulele has, right from the earliest methods, proved problematic. As previously discussed many early methods opted to notate the fourth string an octave lower than it actually sounds; a solution which enabled the score to look correct while allowing the ukulele to maintain its characteristic re-entrant voice. The discrepancy between the notated pitch and the actual pitch can, however, be misleading not only in the sound but the suggestion that the open fourth

36 DeLano, "Hawaiian Round Table," 6.

37 DeLano, "Hawaiian Round Table," 6.

38 Both Nunes and Dias advertised themselves as makers of guitars, machetes and stringed instruments in the Portuguese Hawaiian newspaper *O Luso Hawaiiano*, August 15, 1885.

39 Holstein, *Chords of the Taro-Patch Guitar*, 3.

string G, for Example, cannot be moved to another position on the fingerboard. When the fourth strings notes are notated at the correct pitch, however, other problems arise.

The following example illustrates one of the challenges in determining the role of the high G fourth string when notated at the correct pitch. The first example (Fig. 9)—a passage from "Lesson 2" of Sor's *Progressive Lessons from Opus 31* arranged for re-entrant tuned ukulele—shows how the fourth string notes (tails down) sound higher than the melodic notes (tails up).

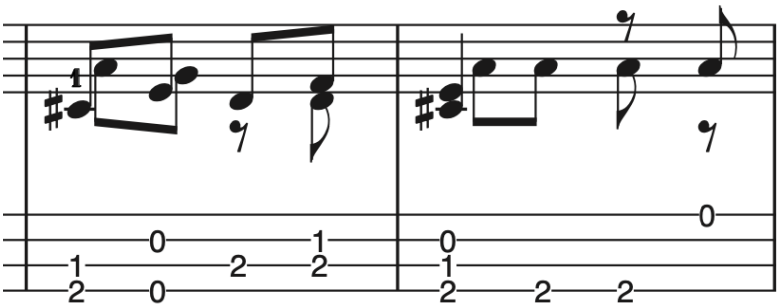


Fig. 9: Example showing one of the problems for notating for re-entrant tuning, from Fernando Sor, *12 Progressive Lessons from Opus 31*, arranged by Samantha Muir (Lévis: Les Productions d'Oz, 2018), 4.

This both looks and *is* technically incorrect as the As and the G should be written, and played, an octave lower in order to create the correct voicing. The re-entrant tuning, however, creates a sound that is both characteristic of, and idiomatic to, the ukulele. While many players do opt to use a low G3 tuning in order to create the correct voicing, others prefer the distinctive and enigmatic sound of the re-entrant tuning.

Furthermore, tablature has been used as a notation system for fretted instruments for many hundreds of years. These instruments include the four-course Renaissance guitar, the five-course Baroque guitar, the vihuela, the lute and the theorbo. Anyone studying these instruments at tertiary level is expected to read both staff notation and tablature. Not only does tablature allow instruments to be tuned at different pitches it clearly illustrates campanella passages. On the ukulele campanella has developed into a unique style with many composers and arrangers using it for entire pieces rather than short passages. Using tablature for campanella pieces avoids the need for detailed and cumbersome fingerings and makes the intentions of the arranger or composer immediately clear (see Fig. 10).

In the example from James Else's "Parting Voices" the tablature clearly shows how the notes, particularly repeated notes, are intended to be played

on different strings to create timbral nuances. The subtle shadings between an open A an A played on the ninth fret of the C (3rd) string are essential to the mood and character of the piece (Fig. 10).

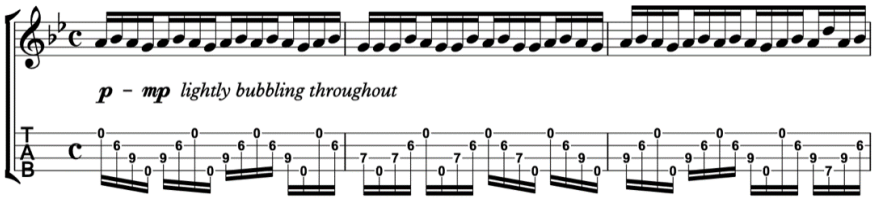


Fig. 10: Example from "Parting Voices" by James Else.

In the third bar of the example the high D is played on the seventh fret of the G (4th) string rather than the fifth fret of the A (1st) string. This means the D is played with the thumb, rather than a finger, creating a different attack and colour. This piece is an excellent example of how the composer is immediately able to communicate their intentions to the performer. While fingering indicators could also be used, the score would become cluttered and less immediate. Thus, another benefit of presenting a score in both tablature and notation is that it tells the performer what the notes are and where they can be played.

Ernest Ka'ai's Use of the Campanella Effect

One of the first ukulele players to use staff notation and tablature was the aforementioned Hawaiian virtuoso Ernest Ka'ai in his 1916 method, *The Ukulele and How It's Played*. As a pioneering player, arranger and composer Ka'ai is often underrated. The solos in his method represent some of the most important early works for ukulele as they present a vision that united strumming and finger picking techniques. Thanks to the tablature we are able to see how Ka'ai utilised the re-entrant tuning to create a campanella effect at the beginning of "Haere" (Fig. 11).

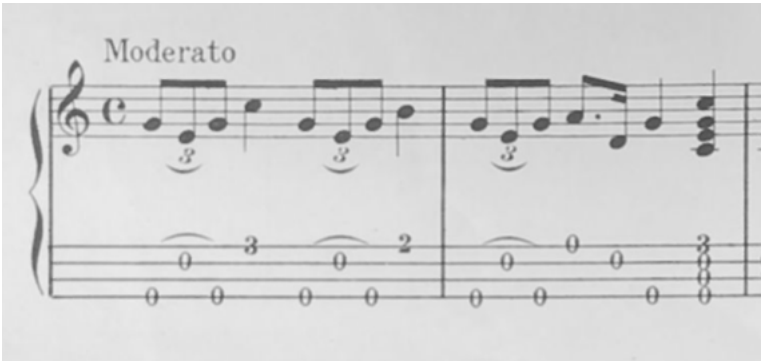


Fig. 11: Opening of "Haere" from Kaʻai, *The Ukulele and How It's Played*, 34.

The opening triplet notes move across the open strings in the pattern 4-2-4, sounding the notes G-E-G. The Gs could be played at the 3rd fret of string 2 but, as the tablature shows, Kaʻai wanted the open string notes to ring on. The triplet figure leads to C played at the 3rd fret of the 1st string, thus forming the tonic triad of C major. By using the notes of the C major triad Kaʻai created an effect that is both harmonic (G-E-G, or 5th-3rd-5th) and melodic (C, or tonic). The triplet idea is repeated three times. Each time the 1st string note falls one step from C to B to A. Although the triplet notes remain the same, the falling top notes create the harmony C, C major 7, C6. The final time the triplet is stated it is followed by a dotted rhythm leading back to the tonic, this time played as a full C major chord. The idea is simple but idiomatic and highly effective.

At this time many methods were using D6 tuning but Kaʻai used the original C6 tuning inherited from the Madeiran rajão, or taro-patch. Many of his pieces, despite having Hawaiian titles, used European forms such as the waltz ("Hene Waltz," "Lauia Waltz"), the schottische ("Banjo Schottische") and the mazurka ("Kawehi"). As such Kaʻai's pieces fall into the category of light classical music and are curiously reminiscent of the works of the Madeiran composer Candido Drummond who also used European dance forms to create his unique repertoire for the machete. Much has been written about how the machete was taken to Hawaii in 1879 and quickly integrated into Hawaiian culture but very little is known about the type of music being played. An article in the *Hawaiian Gazette* in September 1879 confirms the arrival of the Madeiran instruments. "During the past week a band of Portuguese, composed of Madeira Islanders recently arrived here, have been delighting the people with nightly street concerts."[40] The article goes on to describe "their strange instruments" as being a cross between a guitar and a banjo. The music is described as "very sweet" and "soothing." No

40 *Hawaiian Gazette*, September 3, 1879, [3].

machete manuscripts have ever been found in Hawaii but clearly the Madeiran minstrels were performing the music of their homeland.

Echoes of the Machete

An indication of how the machete and its repertoire travelled to the American mainland can be established from an article in the *Crescendo* in 1918. F. Landry Berthoud, who conducted the *Mandolinist's Round Table,* wrote of an encounter with a Portuguese tailor by the name of Mr. Millar. Mr. Millar was born on the island of Madeira and played a small instrument which he called a "treble guitar" or "nachette." The tuning, D4-G4-B4-D5, and description indicate the instrument was in fact a machete. "About the size of an ukulele but simply a miniature guitar, finer and more delicate lines that a ukulele." During the nineteenth century the machete was often spelt "machette" but Berthoud is clearly mistaken in using an 'n'. Mr. Millar's repertoire was played entirely from memory and included "fantasies on various operas, dainty little gavottes and mazurkas, some dashing little polkas, a march or two and a great number of Spanish and other characteristic songs."[41] While the article appeared in 1918 Berthoud concluded by saying that he had met Mr. Millar "twenty years ago" and the tailor had since died. The Drummond collection includes numerous polkas and several marches. Whether Mr. Millar played any of the Drummond pieces is impossible to know but the important point here is that the typical repertoire of the machete, which is known to have been played in both Madeira and England in the mid to late nineteenth century, was also played in America at the end of the nineteenth century. Whether this repertoire was also heard in Hawaii and had any influence on early ukulele players such as Kaʻai remains a matter of speculation. It would, however, seem odd that the machete travelled to Hawaii and not its repertoire. It is not unreasonable to suggest, however, that some of the "sweet music" played by the Madeiran minstrels was typical of the machete's classical repertoire.

Some vestige of the ukulele's Madeiran connection was re-established when in 1915, the year before Kaʻai's second method, A. A. Santos and Angeline Nunes, produced a ukulele method which professed to be "the true and original method on the ukulele."[42] The *Original Method and Self-Instructor on the Ukulele* promised to be of interest to anyone who wanted "to learn to play the Ukulele beyond just the mere strumming."[43] Despite this claim much of the method was dedicated to chords and strumming techniques. Solos consisting of just a single melodic line. While the content falls short of expectation the most

41 F. Landry Berthoud, "Mandolinists Round Table," *Crescendo* 10, no. 7 (January 1918): 18

42 A. A. Santos and Angeline F. Nunes, *Original Method and Self-Instructor on the Ukulele* (Honolulu: Santos-Nunes Studios, 1915), 3.

43 Santos and Nunes, *Original Method*, 3.

remarkable feature of the method was the tuning, Nunes and Santos declared that "the original way of tuning the Ukulele has not been put into print, [and] consequently it is unknown to most people."[44]

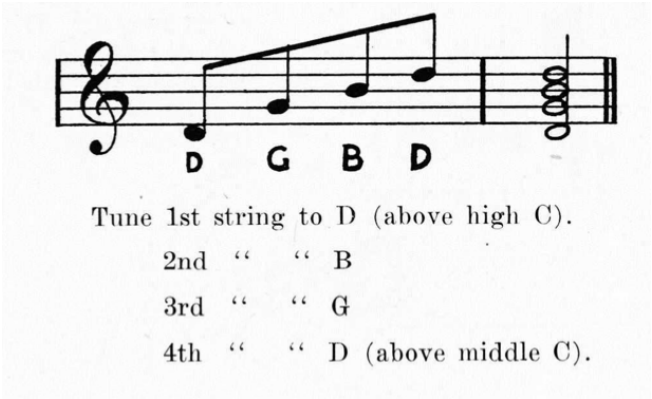


Fig. 12: Example of the machete tuning used in the Santos & Nunes method (from Santos and Nunes, *Original Method*, 5).

This tuning was D4-G4-B4-D5 (Fig. 12), the very same tuning as the machete. Other ukulele methods were, they declared, mistakenly based on the taro-patch method of tuning G4-C4-E4-A4.

Although the Santos and Nunes method never caught on it is an interesting re-affirmation of the ukulele's connection to the Madeiran machete. Angeline Nunes was the daughter-in-law of Manuel Nunes, a Portuguese immigrant from Madeira and one of the first men to make ukuleles in Hawaii. Initially, however, Nunes made machetes and guitars. In 1885 his advertisement in the Portuguese Hawaiian newspaper *O Luso Hawaiiano* offered "instrumentos de corda, violas e machets"[45] [string instruments, guitars and machetes]. By 1909 he had declared himself the "Inventor of the Ukulele"[46] but at he was just about to open a new ukulele shop with his sons this was a marketing ploy rather than a statement of fact. Given the continued and rising success of the ukulele it is not clear why Nunes and Santos decided, in 1915, to return to the old machete tuning. But clearly they saw this as a way of establishing the ukulele as a solo instrument. While none of the pieces in the method are as developed as Ka'ai's solos Santos and Nunes did include a 'note' to say that the authors were "arranging for piano and ukulele famous Hawaiian songs, classical and popular music which they intend compiling into an inexpensive book."[47] Unfortunately, no record of any such book exists.

44 Santos and Nunes, *Original Method*, 3.
45 *O Luso Hawaiiano*, August 15, 1885, [3].
46 *Pacific Commercial Advertiser*, December 9, 1909.
47 Santos and Nunes, *Original Method*, 16.

Jennie Durkee and Her "American Way" of Playing the Ukulele

One of the most interesting and innovative ukulele players who came from a guitar background was Chicago based Jennie Durkee. In 1917 Durkee was described by the *Crescendo* "as one of America's greatest guitar soloists."[48] Her repertoire on the guitar included substantial concert works such as "Il Trovatore" by Mertz and "Grand Valse Caprice" by Foden. As was typical of the BMG movement Durkee also played mandolin, banjo and by 1917 had taken up the ukulele. An editorial in the *Crescendo* of 1918 described her transition from not being able to listen to a ukulele to becoming a ukulele "fiend." Durkee called her approach the American way of playing the ukulele. This involved the use of a thick, felt pick which was moved rapidly across the strings to create a tremolo effect.

Durkee arranged numerous classical pieces for her distinctive tremolo technique including "Barcarole" from *Tales of Hoffman* by Offenbach, "Serenade" by Moszkowski, "Funiculì Funiculà" by Denza and "Sextet" from *Lucia di Lammermoor* by Donizetti. Her performances on the ukulele received wide acclaim. In one concert Durkee reportedly "played Sextet from Lucia on the ukulele before an audience of over five hundred masons and their wives and friends and they were most enthusiastic over her work."[49] Her most popular pieces, including "Sextet" from *Lucia*, were published in 1917 in *The Artist's Collection of Ukulele Songs*. The book was self-published but promoted by Lyon and Healy, a company for whom her father had worked for as an inventor and designer. Lyon and Healy also sold Durkee's special felt picks and, as an advertisement from 1918 shows, were obviously keen to promote her American approach.

> No longer is it [the ukulele] the insignificant "strumming" accompaniment, but rather an interest commanding solo instrument destined to take its place in popular favor with Mandolin, Guitar, etc. Every teacher will unhesitatingly add the Ukulele to his curriculum if he hears the instrument played the "American Way."[50]

In 1919, due to the popularity of her collection of solos, Durkee produced a method called *The American Way: Instructions for Playing Solos*.[51] In 1920 she combined both books to form one publication called *The American Way of Playing Ukulele Solos*. In October 1920 an article in the *Crescendo* declared that "In less than two years her book [which was originally published in 1917] has reached its sixth edition, and Lyon & Healy have sold 45,000 models of the little plectrum

48 *Crescendo* 10, no. 5 (November 1917): 7.
49 *Crescendo* 10, no. 10 (April 1919): 8.
50 *Crescendo* 11, no. 1 (July 1918): 22.
51 Jennie M. Durkee, *The American Way: Instructions for Playing Solos* (s.l.: self-published, 1919).

she devised."[52] In 1921 the *Crescendo* called her "the world's greatest ukulele soloist."[53] In the summer of that year Durkee had had a successful tour of Denver, Colorado, where she reportedly played to packed houses. One concert at the Knight-Campbell Music Store proved so popular that a "second concert was given the same evening, and still hundreds of people were turned away."[54] The program included her popular ukulele solos "Dear Old Pal of Mine" by Rice, "Ave Maria" by Bach-Gounod, "Sextet" from *Lucia* by Donizetti and "Quartet" from *Rigoletto* by Verdi. The accolades continued and in December 1921 the *Crescendo* gave another glowing account of Durkee's ability.

> Miss Durkee also consented to appear at the noon concerts which are given at the Denver Auditorium, which has a seating capacity of 12,000. Although it is never completely filled at these noon concerts, she did appear before 1,500 people, playing with the big organ, and her ukulele was heard in every part of the hall. She was enthusiastically received here also, and had to respond to two encores. An excellent example of Miss Durkee's artistry; also proof that the ukulele, when properly played, can be heard in the largest halls.[55]

If her ukulele really could be heard in every part of such a large auditorium she must have produced an impressive sound. As well as her public concerts and demonstrations Durkee also appeared on the new medium of radio and on April 27, 1922 Durkee made three trials recordings for Victor. The records of the *Discography of American Historical Recordings* website lists their status unknown.[56] As they were not released to the public presumably the recordings have, unfortunately, been lost. The descriptions are all we have to tell us that "Sextet" from *Lucia* was performed as a ukulele solo with piano accompaniment while "Dear Old Pal of Mine" and "Humoresque" were both ukulele solos. Throughout the 1920s Durkee frequently appeared on the radio. In May 1922 she featured on Chicago K-Y-W in a musical program courtesy of Lyon and Healy. On this occasion she was accompanied by Wayne Wadhams on the guitar. On September 23, 1927 the *Santa Ana Register*, reported that "Louise Howatt, the 'happiness girl of radio' from station KMTR, and Jennie Durkee, ukulele wizard, proved to be the most popular artists on the program presented by Walter Biddick."[57]

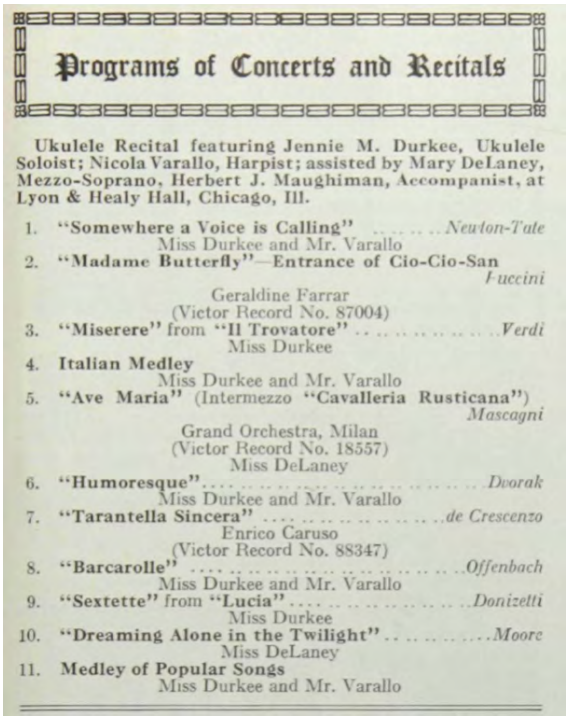
A final mention of Durkee was made in December 1931 when she appeared as the guest artist at the Christmas concert of the Hollywood Conservatory of Music and Arts. The article described her use of the felt pick as "a means

52 *Crescendo* 13, no. 4 (October 1920): 8.
53 *Crescendo* 14, no. 5 (November 1921): 8.
54 *Crescendo* 14, no. 6 (December 1921): 8.
55 *Crescendo* 14, no. 6 (December 1921): 8.
56 See https://adp.library.ucsb.edu/index.php/mastertalent/detail/313265/Durkee_Jennie, accessed February 2024.
57 *Santa Ana Register*, September 23, 1927, 9.

whereby the ukulele can be used as a high-class solo instrument." The article also mentioned her recent tour of Buffalo, Syracuse and Detroit culminating at the American Guild Convention in New York. During the course of the tour Durkee had reportedly played to over seventy-five thousand people.

> Rarely had the public given thought to the interpretation of the work of masters such as Chopin, Beethoven, Mozart and Rossini on such a small instrument as a ukulele, and such a feat accomplished in the delightful manner for which Miss Durkee is noted, is an inspiration to any audience.[58]

Despite her popularity and the many accolades she received Durkee's method of playing the ukulele did not endure. Today she is virtually unknown having been over-shadowed by the likes of May Singhi Breen, Roy Smeck, Cliff Edwards and George Formby. Nevertheless, Durkee remains an important early figure in the history of the ukulele. She was a true pioneer, not only in her use of the felt pick technique but in her arrangements of classical pieces by composers such as Donizetti, Offenbach, Verdi, Dvorak and Rossini (Fig. 13).



Programs of Concerts and Recitals

Ukulele Recital featuring Jennie M. Durkee, Ukulele Soloist; Nicola Varallo, Harpist; assisted by Mary DeLaney, Mezzo-Soprano, Herbert J. Maughiman, Accompanist, at Lyon & Healy Hall, Chicago, Ill.

1. **"Somewhere a Voice is Calling"** ..... *Newton-Tate*
   Miss Durkee and Mr. Varallo
2. **"Madame Butterfly"—Entrance of Cio-Cio-San** *Puccini*
   Geraldine Farrar
   (Victor Record No. 87004)
3. **"Miserere"** from **"Il Trovatore"** ..... *Verdi*
   Miss Durkee
4. **Italian Medley**
   Miss Durkee and Mr. Varallo
5. **"Ave Maria"** (Intermezzo **"Cavalleria Rusticana"**) *Mascagni*
   Grand Orchestra, Milan
   (Victor Record No. 18557)
   Miss DeLaney
6. **"Humoresque"** ..... *Dvorak*
   Miss Durkee and Mr. Varallo
7. **"Tarantella Sincera"** ..... *de Crescenzo*
   Enrico Caruso
   (Victor Record No. 88347)
8. **"Barcarolle"** ..... *Offenbach*
   Miss Durkee and Mr. Varallo
9. **"Sextette"** from **"Lucia"** ..... *Donizetti*
   Miss Durkee
10. **"Dreaming Alone in the Twilight"** ..... *Moore*
    Miss DeLaney
11. **Medley of Popular Songs**
    Miss Durkee and Mr. Varallo

Fig. 13: Program from 1920 featuring Jennie Durkee, in *Crescendo* 12, no. 10 (April 1920): 17.

58 *Van Nuys News*, December 17, 1931, 5.

Changing Attitudes

The influence of guitarists from Ernest Kaʻai to Vahdah-Olcott Bickford and Jennie Durkee is evident in early ukulele methods both in the application of finger style techniques and in their choice of repertoire. The Bickfords were pragmatic in their approach to the ukulele; recognizing its rising popularity and the growing market for methods while remaining lukewarm in their enthusiasm. The foreword makes a point of saying that "No attempt has been made to make more out of the ukulele than its capacity warrants."[59] The ukulele could not, in their opinion, take the place of "an instrument with greater power, tonal and harmonic possibilities."[60] No doubt they were referring to the greater range and volume of the guitar.

Durkee on the other hand embraced the ukulele wholeheartedly to become a "ukulele fiend." Her unique approach and distinctive repertoire suggest an inquisitive and daring nature. By drawing on her background in guitar, mandolin and banjo she created a unique vision for the new and emerging ukulele. From 1915 while many members of the BMG movement embraced the ukulele as a kindred instrument, attitudes were soon to change. With the growing reputation of guitar virtuoso Andrés Segovia, who made his American debut in 1928, more players began to focus specifically on the classical guitar. When Sophocles Papas took over *Cadenza's 'The Guitar and Steel Guitar Round Table'* from Vahdah Olcott-Bickford in March 1929 he promised that "the Hawaiian guitar will receive equal attention and consideration as the Spanish guitar."[61] But, as Noonan pointed out, "Papas encouraged American guitarists to follow Segovia's model, a model that had no use for mandolins, banjos, and ensembles of these instruments."[62] This undoubtedly included the ukulele. As the push towards classical guitar gathered momentum the ukulele found its place in entertainment and comedy with performers such as Roy Smeck (USA) and George Formby (UK).

Virtuosic strumming patterns, novelty techniques such as twirling the ukulele and, in the case of Formby, humorous and risqué lyrics became the new norm for the ukulele on mainland America and the UK. Only in its homeland of Hawaii was the ukulele taken more seriously with notable players including Herb Ohta, Eddie Kamae, Jesse Kalima, Israel Kamakawiwa'ole and more recently Daniel Ho and Jake Shimabukuro. Only Ho, however, has made a foray into the classical ukulele style. In 2016 he teamed up with classical guitar legend Pepe Romero to record the groundbreaking album *Aloha España*. The album featured duet arrangements for guitar and ukulele of guitar classics

59 Myron-Bickford, *Bickford Method*, 3.
60 Myron-Bickford, *Bickford Method*, 3.
61 Noonan, *The Guitar in America*, 166.
62 Noonan, *The Guitar in America*, 169.

such as "Recuerdos de la Alhambra" by Tárrega, "Canarios" by Sanz and "Asturias" by Albéniz. In the liner notes Romero made special reference to John King for "championing classical ukulele [and being] a major inspiration for me to do this project."[63]

Looking Back to Move Forward

John King's *The Classical Ukulele* (2004) has undoubtedly had a huge impact in recent time in once again steering the ukulele towards a finger style approach based on classical guitar technique and a repertoire which finds its roots in Western classical music. In so doing the ukulele has reconnected with the aspirations of some of the earliest players including Ernest Ka'ai, Vahdah-Olcott Bickford and Jennie Durkee. King did, however, take classical ukulele to new levels both in his virtuosic playing and historical knowledge. His campanella arrangements of Bach demonstrated how a Baroque guitar technique could be applied to the ukulele. Although King only ever arranged works for ukulele, composers today including Choan Gálvez, James Else, David John Roche and Samantha Muir have gone one step further by using campanella techniques to create new and original repertoire for the ukulele.

By continuing to explore the ukulele's European roots a fuller understanding of the musical and technical possibilities of the instrument are being made known. Many players, including Davide Donelli (Italy), Elisabeth Pfeiffer (Germany), Donald Bousted (UK) and Samantha Muir (UK), have been performing the repertoire of the four-course Renaissance guitar on the ukulele, thus illustrating the deep historical connection the ukulele has with this sixteenth century instrument. The following example shows the original tablature of "Bransle de Poictou" from Adrian Le Roy's *Tiers Livre De Tablature de Guiterre* published in Paris in 1552.[64] The French tablature uses letters rather than numbers to represent the frets. Once learnt it can be played on the ukulele using the original tablature. It is, however, better suited to low G3 tuning in order to maintain the correct voicing of the open fourth string drone (Fig. 14).

63 See Pepe Romero and Daniel Ho, *Aloha España* (s.l.: self-published, 2016).

64 Adrian Le Roy, *Tiers livre de tablature de guiterre* (Paris: Imprimerie d'Adrian le Roy & Robert Balard, 1552), https://repository.royalholloway.ac.uk/items/bf6e3d91-59ad-61b1-8c19-a01a15159f45/1/.

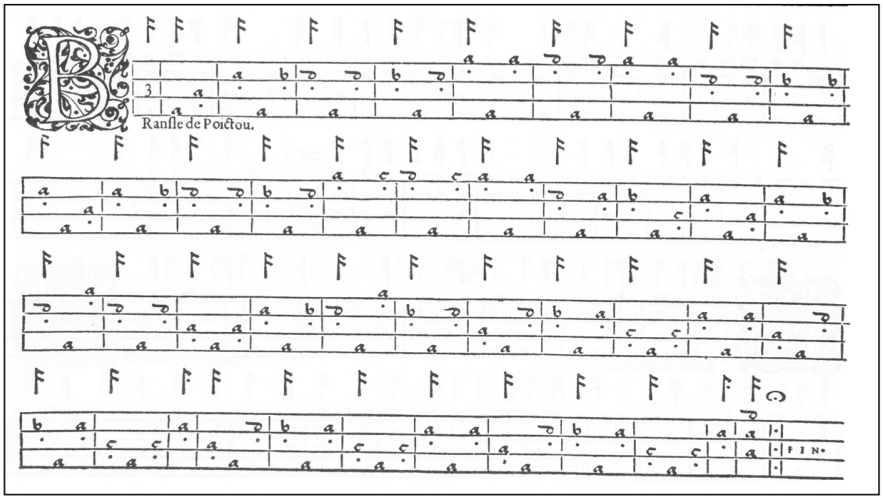


Fig. 14: "Bransle de Poictou" by Adrian Le Roy.

Conclusion

Although the ukulele was only created after 1879 it is the embodiment of an instrument which is both new and ancient, Hawaiian and European, strummed and plucked. The increasing number of classical ukulele players, particularly those with an interest in researching the instrument, are bringing more awareness to the potential of the ukulele as a serious instrument. This is reflected in the development of examination syllabuses and the inclusion of the ukulele in university courses such as the one being conducted by Giovanni Albini at the Conservatory "Antonio Vivaldi" in Alessandria, Italy. The early methods demonstrate how the ukulele has always been influenced by guitarists both in regard to repertoire and technique. In this context the classical ukulele movement is perhaps best viewed as a reawakening, revitalizing and reimagining of old techniques, methods and repertoires, driven by a vision to create new and contemporary works. In its brief history the ukulele has enjoyed waves of popularity followed by periods of ignominy. It is hoped that by establishing a firm foundation for the ukulele through academic study and the development of a robust curriculum the ukulele will continue to enjoy success as both an academic and a popular instrument.

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What Can You Do with the Ukulele? Instruments and Musical Affordances

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Abstract
The term "affordance" was coined by the ecological psychologist James J. Gibson. It describes something that an animal can do with an object. For example, an apple might afford eating, throwing, juggling, and so forth. Gibson's theory of affordances has influenced many fields, including cognitive science, human-computer interaction, design studies, architectural theory, and musicology. This chapter will use the ukulele to reflect on the affordances of music and musical instruments. Music in general seems to have affordances (e.g., for dancing, worship, or social bonding), and musical objects like chords can afford music-specific actions (e.g., diminished-seventh chords afford enharmonic reinterpretation). Of course, musical instruments are more tangible. Instruments convert action into sound, and their affordances are shaped by both physics and culture. Research in music theory, psychology, and neuroscience suggests that players have distinctive responses to their instruments' affordances and that these affordances facilitate a kind of multisensory, auditory-motor experience. Much of this research discusses the guitar, approaching the fretboard as a kind of interface for musical action. But while the ukulele shares certain features with other stringed and fretted instruments, there are also important differences here. With that in mind, the chapter will closely examine the ukulele, considering the instrument's structure, tuning, and dynamic range, and also selected performances and comments from performers. Ultimately, the ukulele has its own set of instrumental affordances, and these relate to its social and sonic possibilities.

Keywords
Affordance, Instrumental Affordance, Musical Affordance, Ukulele Technique, Ecological Psychology

In August 2021, the website *Ukulele Underground* hosted an online discussion titled "Is the Ukulele Underappreciated?" Most commentators felt that the ukulele is widely seen as a toy, not a "real instrument," or as a smaller, more limited guitar. In their experience, many listeners do not take this Hawaiian instrument seriously. One commentator agreed but suggested that ukulele players could also take their instrument more seriously:

> I'd say that to the non-music-making public, the Uke sits towards the bottom of the respect pile and that such people also don't see a Uke. They see a miniature Guitar, and miniatures are toys. Theirs is just a general social mindset, and we're fools to take too much notice of it. …
> How much do Uke players appreciate the Uke, and how well do they know its capabilities and limitations? Many of the players that I know just sing and strum happily on their Uke and are oblivious of fingerpicking and other ways (styles of play) in which a Uke can be used to make music. I've been playing for over five years and have barely scratched the surface of what is possible, yet I play and practice nearly every day.[1]

In this view, attitudes toward the ukulele reflect particular understandings of its musical "capabilities and limitations." For this commentator and others, the instrument is full of possibilities; for those who dismiss the ukulele, its limitations overshadow its capabilities.

The discussion raises general questions about musical instruments. On the one hand, every instrument has varied capabilities. It is always possible to play a new piece or to develop a new technique. On the other hand, every instrument has limits: it is impossible to strum a clarinet, sustain a low C on a snare drum, or play "The Flight of the Bumblebee" on a bugle. How do instrumental possibilities and constraints relate to each other? Which are determined by the structure of the instrument? Which are related to the player's bodily technique? These questions are crucial for understanding instruments in general and specific instruments such as the ukulele.

In this chapter, I will approach these questions by combining music theory and cognitive science. I will argue that instrumental capabilities and limitations are closely interrelated—and that they emerge in interactions between an instrument and a player's body. Further, I hope to show that it is a mistake to think about instruments as "more" or "less" constrained (e.g., to imagine the ukulele as a limited guitar). That kind of ranking is an unproductive way to think about instrumental differences. Instead, I will emphasize that the relations between possibility and constraint, instrument and player shape the ukulele's identity, its sonic fingerprint. An initial discussion of "affordances" will set up these claims by considering general theories of cognition and action. Subsequent sections will gradually zoom in, examining music, instruments (particularly the family of fretted string instruments), and finally, the ukulele. Ultimately, the chapter will extend theories of instrumental affordances while deepening appreciation for the ukulele and its music.

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1 Graham Greenbag, post to "Is the Ukulele Underappreciated," *Ukulele Underground*, August 17, 2021, https://forum.ukuleleunderground.com/index.php?threads/is-the-ukulele-underappreciated.151038/page-2 (accessed July 2022).

Ecological Psychology

The term "affordance" originated in ecological psychology, a distinctive tradition within cognitive science.[2] Many of its defining texts appeared in the 1960s. They included books by James Gibson, Roger Barker, and Eleanor Gibson, which investigated sensory perception, social psychology, and developmental psychology, respectively.[3] So, ecological psychology is not limited to particular perceptual or cognitive phenomena. Instead, it offers a framework that applies across many domains, a framework that highlights relations.

Any ecosystem involves many elements: plants (trees, grasses, flowers, fungi, etc.), animals (birds, fish, insects, rodents, etc.), and natural resources such as soil, water, and air. Each organism interacts with others and relies on the environment for the conditions that make life possible. Because of this, any single organism cannot be completely isolated. If scientists want to understand, say, the great blue heron, they cannot only take the bird out of its ecosystem and study it in a lab. The lab itself is a kind of environment. The change in context—from its natural habitat to a research facility—would affect the heron's behavior, health, and so forth. Beyond lab-based studies, scientists must study the bird's interdependence with other creatures and its environmental niche. Like any other organism, the heron is partially defined by its relations.

Similarly, ecological psychology focuses not on isolated perceivers but complex perceptual systems. Like organisms in an ecosystem, people constantly interact with each other, objects, and the world around them. Humans' capacity to sense and act is grounded in their bodies and situated in the environment. For example, Barker notes that human behaviour is situation-dependent: the same person almost certainly acts differently at work, at a rock concert, at a restaurant, at a funeral, and so on.[4] From this perspective, knowledge does not only involve mental representation but relies on bodily information and external information in the environment. In one experiment, participants judged the steepness and distances of hills. Their judgments systematically changed when their body carried an additional burden: "hills appeared steeper and distances appeared farther to perceivers who wore a heavy backpack, and thus would have to exert more energy to traverse the terrain, than to perceivers who did not

2 For a discussion of ecological psychology's relation to traditional cognitivism, see Lawrence Shapiro, *Embodied Cognition* (London and New York: Routledge, 2011). The movement's roots in William James's pragmatist psychology are discussed in Harry Heft, *Ecological Psychology in Context: James Gibson, Roger Barker, and the Legacy of William James's Radical Empiricism* (Mahwah, NJ: L. Erlbaum, 2001).

3 James J. Gibson, *The Senses Considered as Perceptual Systems* (Boston: Houghton Mifflin, 1966); Roger G. Barker, *Ecological Psychology: Concepts and Methods for Studying the Environment of Human Behavior* (Stanford: Stanford University Press, 1968); Eleanor J. Gibson, *Principles of Perceptual Learning and Development* (New York: Appleton-Century-Crofts, 1969).

4 Barker, *Ecological Psychology*.

wear the backpack."[5] Supposedly cognitive judgements about the environment are mediated by physical skill, strength, and exertion. This result points to a complex interplay between mind, body, and environment.

In this view, perception and action are integrated. To quote Eleanor Gibson and Anne Pick, "Perception guides action in accord with the environmental supports or impediments presented, and action in turn yields information for further guidance, resulting in a continuous perception-action cycle."[6] We act to perceive. For example, in visual perception, people move their heads and eyes (including many subtle, rapid eye movements that are not under conscious control). In addition, we perceive to act (e.g., looking at an instrument to decide where to place our hands). James Gibson explained this metaphorically, suggesting that perceivers tune in to information in the environment like a radio tunes in to a station.[7] He argued that perceivers attend to patterns of variance and invariance, stable or changeable features. As I move away from the piano, its image gets smaller (variance), but the change in perspective consistently correlates with my movement (invariance). This mix supports my perception that the piano has not shrunk but is simply farther away and that I must move nearer it to see it more clearly (perception) or to play it (action).

From an ecological perspective, we do not typically hear abstract sounds. Instead, sounds usually offer information about physical events. Changes in the sound of an ambulance siren can indicate its relative location and whether it is coming toward us. Splashing sounds arise when an object hits a liquid and pushes it aside, temporarily creating a resonant cavity with a particular frequency. Remarkably, the splash's sound lets people estimate the size of the falling object and the liquid's viscosity.[8] Ecological acoustics is relevant to music too. For example, the timbre of a musical instrument might reveal its materials. A xylophone sounds wooden, whereas a glockenspiel sounds metallic.[9] One instrument thunks, and the other rings. The sound's dynamic would also reflect

5 Mukul Bhalla and Dennis R. Proffitt, "Visual-Motor Recalibration in Geographical Slant Perception," *Journal of Experimental Psychology: Human Perception and Performance* 25, no. 4 (1999): 1076–96; Dennis R. Proffitt et al., "The Role of Effort in Perceiving Distance," *Psychological Science* 14, no. 2 (2003): 106–12, https://doi.org/10.1111/1467-9280.t01-1-01427; Jessica K. Witt and Michael A. Riley, "Discovering Your Inner Gibson: Reconciling Action-Specific and Ecological Approaches to Perception–Action," *Psychonomic Bulletin and Review* 21 (2014): 1353–70.

6 Eleanor J. Gibson and Anne D. Pick, *An Ecological Approach to Perceptual Learning and Development* (New York: Oxford University Press, 2004), 16.

7 Gibson, *The Senses Considered as Perceptual Systems*, 271.

8 William W. Gaver, "What in the World Do We Hear?: An Ecological Approach to Auditory Event Perception," *Ecological Psychology* 5 (1993): 1–29.

9 Jonathan De Souza, "Timbral Thievery: Synthesizers and Sonic Materiality," in *The Oxford Handbook of Timbre*, ed. Emily I. Dolan and Alexander Rehding (New York and Oxford: Oxford University Press, 2021), 347–79.

the force with which either instrument is struck. Sounds' variant and invariant features give information about interactions in the world.

A more detailed discussion of ecological psychology would be out of place here. For present purposes, simply note that ecological psychology's relational approach emphasizes two interactions: between organism and environment and between perception and action. Both interactions contribute to the most influential concept to emerge from this intellectual tradition—the concept of affordance.

Affordances

An affordance is a possibility for action. James Gibson introduces the term in *The Ecological Approach to Visual Perception*: "The *affordances* of the environment are what it *offers* the animal, what it *provides* or *furnishes*, either for good or ill. The verb to *afford* is found in the dictionary; the noun *affordance* is not. I have made it up."[10] Affordances have been discussed in scholarship on human-computer interaction, design studies, architectural theory, and musicology, among other fields. Given this wide use, it is not surprising that many writers use the term without extensive commitment to Gibson's ecological approach as a way to think about interactions with tools and technologies.[11]

Everyday examples can help to clarify this theoretical concept. A chair affords sitting.[12] Yet even if this is its intended purpose, the chair supports many other actions. I could stand on the chair, use it as a music stand, a drum, or a doorstop, and so forth. The list of possible actions is always open-ended. But the list of *impossible* actions is open-ended too. I cannot use the chair to slice bread, wash my hair, or play chord progressions. In my view, this is why it is misleading to say that a specific instrument has a larger or smaller set of possibilities or constraints. Both lists are theoretically infinite. Moreover, these imaginary lists vary across organisms and contexts. As such, Jenny Davis argues that instead of asking *what* an object affords, we should ask *how* it affords, *for whom* and *under what circumstances*.[13] The chair might afford sitting for a cat but not for a newborn baby, a goldfish, or a whale; it affords sitting when it rests on a level, stable floor but probably not when it is precariously stacked on top

10 James J. Gibson, *The Ecological Approach to Visual Perception* (Boston: Houghton Mifflin, 1979), 127.

11 For an intellectual history of affordance theory, see Jenny L. Davis, *How Artifacts Afford: The Power and Politics of Everyday Things* (Cambridge, MA: MIT Press, 2020), chap. 2.

12 In this paragraph, I build on the discussion of instrumental affordances from Jonathan De Souza, *Music at Hand: Instruments, Bodies, and Cognition*, Oxford Studies in Music Theory (New York: Oxford University Press, 2017), 12–13.

13 Davis, *How Artifacts Afford*, 8–11.

of six other chairs. As these variations demonstrate, affordances involve "the complementarity of the animal and environment."[14]

Among other things, optimal sit-ability involves a relationship between the height of the seat and the height of the sitter, and humans are generally good at perceiving this relation for themselves and others.[15] Indeed, James Gibson claimed that we primarily perceive these affordances and relations, not objective properties such as shape, size, or weight.[16] For example, people are not particularly accurate at judging objects' weight. When two objects have the same weight but different sizes, we typically judge the smaller one as heavier. By contrast, people are highly accurate at judging whether objects are throwable. In that case, they perceive an affordance, instead of an objective property.[17] However, affordances can also be hidden or misperceived. The design theorist Don Norman illustrates this idea with misleading door handles, which imply that a push door is pullable.[18] Even when the door is labelled with the written word "Push," people often pull on the handle—only recognizing the mismatch between perceived and actual affordance when the door stays shut. Norman's example ultimately supports James Gibson's claim, though: people are fooled because they perceive the door in terms of its affordances and react to the perceived but false affordances without conscious thought.[19]

Finally, affordances can change as the organism's skills change. With practice, an acrobat might be able to sit on a precariously balanced chair, which does not afford sitting for me. As Eleanor Gibson and Anne Pick emphasize,

> Humans … must *learn* to use affordances. We have emphasized that affordances reflect a fit between an environmental property and a possibility for action. But such a fit does not imply that the learning of affordances is necessarily simple or automatic. Some affordances may be easily learned; others may require much exploration, practice, and time.[20]

14 Gibson, *The Ecological Approach to Visual Perception*, 127.

15 Thomas Stoffregen et al., "Perceiving Affordances for Another Person's Actions," *Journal of Experimental Psychology. Human Perception and Performance* 25, no. 1 (1999): 120–36, https://doi.org/10.1037/0096-1523.25.1.120.

16 James J. Gibson, "Notes on Affordances," in *Reasons for Realism*, ed. Edward Reed and Rebecca Jones (Hillsdale, NJ; London: Lawrence Erlbaum Associates, 1982), 401–403.

17 Michael L. Anderson, *After Phrenology: Neural Reuse and the Interactive Brain* (Cambridge, MA: MIT Press, 2014), sec. 5.3.

18 Don Norman, *The Design of Everyday Things: Revised and Expanded Edition* (Boulder, CO: Basic Books, 2013).

19 For discussion of false and hidden affordances, see William W. Gaver, "Technology Affordances," in *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems*, 1991, 79–84.

20 Gibson and Pick, *An Ecological Approach to Perceptual Learning and Development*, 16–17.

Learning about affordances happens throughout human development, with general differences between babies, children, and adults. Many affordances involve cultural learning too. For example, eating with chopsticks requires a skill that is common in many groups but not others. Ecological psychology does not strictly separate the natural and cultural world, and affordances can combine physical or biological regularities with cultural ones.

Musical Affordances

If music is something that we *use*, if it offers possibilities for action, then it has affordances. Eric Clarke gives several examples: "music affords dancing, worship, co-ordinated working, persuasion, emotional catharsis, marching, foot-tapping, and a myriad of other activities."[21] First, Clarke's list includes activities often involving interpersonal synchronization—dancing, work, marching, and foot-tapping. Here music's structure facilitates temporal coordination (and temporal experience).[22] Second, Clarke names activities that involve emotion and communication—worship, persuasion, catharsis. These two categories would correspond to two functions of music identified by Joel Kruger: "Music … serves as a socially available esthetic technology for *interpersonal coordination* and *emotional convergence*."[23] Music, then, affords the sharing of actions and feelings.

Moreover, musical materials such as chords and melodies might support "intra-musical" actions. A diminished-seventh chord affords resolution to the tonic, and it also affords enharmonic reinterpretation.[24] A fugue subject might afford stretto, or a subject-countersubject combination might afford invertible counterpoint at a particular interval.[25] As Robert Gjerdingen writes, "If we admit sonic objects to the class of things permitting affordances, leading to truly 'musical' affordances, then listening itself becomes a type of interaction with an aural environment."[26] Similarly, certain textures and sonic contrasts might support interpretations based on narratives or imaginary human characters in

21 Eric F. Clarke, *Ways of Listening: An Ecological Approach to the Perception of Musical Meaning* (New York: Oxford University Press, 2005), 38.

22 Mariusz Kozak, *Enacting Musical Time: The Bodily Experience of New Music* (New York: Oxford University Press, 2020), chap. 2.

23 Joel Krueger, "Doing Things with Music," *Phenomenology and the Cognitive Sciences* 10, no. 1 (2011): 15, https://doi.org/10.1007/s11097-010-9152-4. Emphasis mine.

24 Because of its symmetrical pitch-class structure, any note of a diminished-seventh chord can be reinterpreted as the root. For example, depending on the musical context, the same group of sounding notes could be heard as a diminished-seventh chord on C-sharp, E, G, or B-flat.

25 I refer to "contrapuntal affordances" in De Souza, *Music at Hand*, 126.

26 Robert O. Gjerdingen, "The Price of (Perceived) Affordance: Commentary for Huron and Berec," *Empirical Musicology Review* 4 (2009): 124.

the music, which Robert Hatten theorizes in terms of "virtual music agency."[27] Intra-musical affordances, then, facilitate action and perception in virtual sonic worlds.

Because music is not a physical thing, its affordances differ substantially from those of tools and objects that are more commonly used to illustrate Gibson's concept. However, that more familiar type of affordance is essential for a prominent form of music-making: instrumental performance.

Instrumental Affordances

My book *Music at Hand* focuses on the affordances of musical instruments rather than those of musical sounds. The established ecological principles apply here. Again, affordances emerge for organisms with particular abilities: the ukulele affords strumming to toddlers, but with learning, practice, and bodily control, it can also afford the performance of many songs and compositions. The instrument's affordances involve physics-based invariants: when the string is shortened, the pitch becomes higher; harmonics appear at the twelfth fret, the seventh fret, and so forth. They also involve cultural invariants: each fret corresponds to a semitone, and players can usually take standard tuning for granted. As I have discussed elsewhere, such instrumental consistency is essential for cognitive connections between sound and action. When beginning pianists learn to play on a keyboard that randomly rearranges the notes (a keyboard with unpredictable pitch affordances), their brains do not develop the patterns of auditory-motor co-activation that characterize the brains of expert pianists.[28] Expert musicians, by contrast, are highly attuned to the affordances of their instruments: in one experimental task, pianists' performance was disrupted by distractor chords only when the timbre implied a piano or organ.[29] For the pianists, chords associated with a keyboard instrument were more salient than chords produced by other instruments. As such, I argue that instruments afford music-making and also sensemaking. Musical instruments afford distinctive kinds of action and understanding.

In some of my music-theoretical work, I have been particularly interested in the instrumental space of the fretboard.[30] Where the piano keyboard is linear

27 Robert S. Hatten, *A Theory of Virtual Agency for Western Art Music*, Musical Meaning and Interpretation (Bloomington: Indiana University Press, 2018).

28 Marc Bangert and Eckart O. Altenmüller, "Mapping Perception to Action in Piano Practice: A Longitudinal DC-EEG Study," *BMC Neuroscience* 4 (2003): 26.

29 Ulrich C. Drost, Martina Rieger, and Wolfgang Prinz, "Instrument Specificity in Experienced Musicians," *Quarterly Journal of Experimental Psychology* 60 (2007): 527–33, https://doi.org/10.1080/17470210601154388.

30 Jonathan De Souza, "Fretboard Transformations," *Journal of Music Theory* 62, no. 1 (2018): 1–39; Jonathan De Souza, "Guitar Thinking: Perspectives from Music Theory and Cognitive Science," *Soundboard Scholar* 7 (2021).

with each pitch located in exactly one place, the fretboard is two-dimensional.[31] It is possible to move along or across the strings, and many pitches appear in multiple locations.[32] To identify one of these instrumental locations requires coordinates for both fret and string: for example, the fifth fret on the first string can be represented as (5, 1). As Fig. 1 illustrates, the fretboard thus corresponds to a two-dimensional Cartesian plane.[33] In this formal model, the number of strings and frets is theoretically infinite, so it can apply to any instrument with a fretboard or fingerboard. I then use the model to analyze shapes that are moved around the fretboard or altered in other ways. For example, standard ukulele voicings for G and G7 are related by inversion. Fig. 2 emphasizes that flipping the fretboard shape around the second fret takes one to the other. This shape is also symmetrical in the cross-string dimension (around the second string). Obviously, my model involves abstraction. Any real fretboard has a finite number of strings and three dimensions (with strings that can be pushed down into raised frets). Still, chord voicings can be represented as two-dimensional patterns because of the fretboard's underlying geometry.

How does a fretboard afford, though? A fretboard's affordances, like all affordances, are relational—and generally, a fretted instrument is paired with a player's hands. To understand this relation, I propose a framework that combines two oppositions. First, the players' hands typically fulfill different roles: one initiates the sound while the other manipulates the pitch by stopping strings. Elsewhere, I have discussed these functions in terms of a distinction between activation and control.[34] This distinction supports various analogies. The acti-

31 The ethnomusicologist John Baily refers to this structure as a "tiered array." See John Baily, "Movement Patterns in Playing the Herati Dutar," in *The Anthropology of the Body*, ed. John Blacking (London and New York: Academic Press, 1977), 275–330; John Baily and Peter Driver, "Spatio-Motor Thinking in Playing Folk Blues Guitar," *World of Music* 34 (1992): 57–71.

32 Milton Mermikedes offers a formula for calculating the average number of locations for each pitch on a fretted instrument. He calls this a Goodrick number (Gn), after the guitar pedagogue Mick Goodrick. To calculate it, multiply the number of strings by the number of frets plus one, then divide by the distance in semitones between the instrument's lowest and highest pitches. An eighteen-fret ukulele and a twenty-fret guitar in standard tuning have the same Goodrick number, 2.8. In both cases, a pitch can on average be found in almost three instrumental locations. Milton Mermikides, "Diamonds, Abaci, and Hexagrams: Exploring the Pitch Surface of the Guitar Fretboard."

33 I have formalized this space and movements within it through transformational theory, an approach that combines music analysis with mathematical group theory. The defining text for transformational theory is David Lewin, *Generalized Musical Intervals and Transformations* (New Haven: Yale University Press, 1987). For accessible introductions to transformational theory, see Steven Rings, *Tonality and Transformation*, Oxford Studies in Music Theory (New York: Oxford University Press, 2011); Ramon Satyendra, "An Informal Introduction to Some Formal Concepts from Lewin's Transformational Theory," *Journal of Music Theory* 48, no. 1 (2004): 99–141, https://doi.org/10.1215/00222909-48-1-99.

34 De Souza, *Music at Hand*, 38–45.

vating hand and fretting hand might be compared to a saxophonist's breath and fingers or to a motorist's pedal foot (which affects the vehicle's speed through the accelerator and brake) and hands (which control the vehicle's direction via the steering wheel). These functions are not always separate. With piano playing or electric-guitar tapping, a player's hands may activate the sound while also selecting pitches. So, the distinction is conceptual, sometimes revealing different aspects of the same performative action.

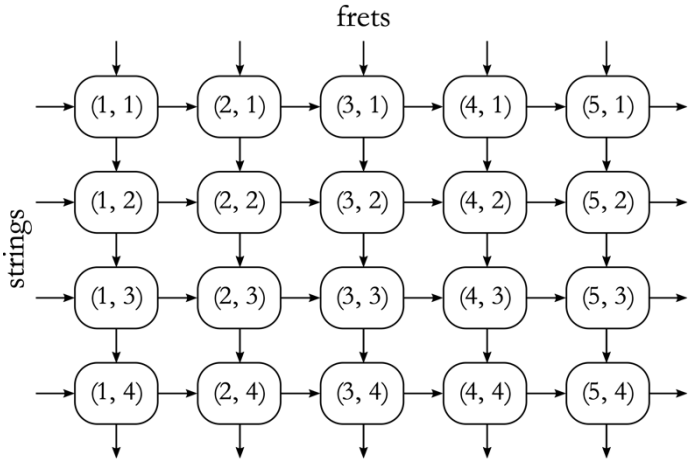

Fig. 1: An abstract two-dimensional model of fretboard space, in which each location is represented through a fret number and string number.

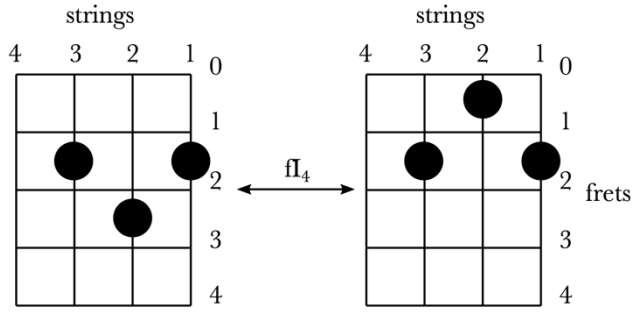

Fig. 2: Fretboard inversion, illustrated with ukulele voicings for G and G7. The label fI4 indicates that this inversion pairs frets that sum to four (e.g., frets 1 and 3, fret 2 and itself).

A second opposition comes from Raymond Tallis's book *The Hand*. Tallis distinguishes between the "brachio-chiral" hand—that is, the hand at the end of the arm, which functions as a paw-like unit—and the "chiro-digital" hand—the

hand defined by individual finger movements.[35] For example, clapping and slapping are brachio-chiral, while snapping fingers and typing are chiro-digital. The ethnomusicologist John Baily discusses these kinesthetic differences in his research on long-necked lutes from Afghanistan: with the dutār, melodies are typically played along a single string, which requires extensive shifting (a brachio-chiral technique); with the rubāb, melodies are typically played across multiple strings (a chiro-digital approach).[36] Baily notes that finger movements are generally faster and more accurate than movements of the whole hand controlled by arm muscles. Because of this, brachio-chiral movements require more visual attention, and dutār players watch their fretting hands more often than rubāb players do. Yet, while their techniques differ, they are not entirely separate: dutār players also use independent finger movements, and rubāb players shift. As with activation and control, Tallis's opposed concepts can be mixed.

Table 1 combines these oppositions, presenting four basic categories of fretboard affordances. When the activating hand is brachio-chiral, it strums; when it is chiro-digital, it fingerpicks. When the fretting hand is brachio-chiral, it moves a fixed hand shape. By contrast, a chiro-digital fretting hand does not necessarily require arm movement. Agile fingers can produce melodies or counterpoint while the hand stays in position. (Incidentally, both brachio-chiral approaches often incorporate an object: a pick for the activating hand or a slide for the fretting hand.) Table 1 also suggests four activation-control pairs. In two of these pairs, both hands share an approach (either brachio-chiral or chiro-digital, with techniques appearing in the same column). In the other two, the hands have different approaches (strumming with independent fingers or fingerpicking with a fixed fretboard shape). Again, these options are not entirely separate, and performances often move fluidly among them. Nonetheless, this framework can help to focus analysis of affordances in music for fretted string instruments.

	Brachio-chiral technique	**Chiro-digital technique**
Activating hand	Strumming	Fingerpicking
Fretting hand	Moveable chord shapes, shifting	Melodic patterns, changing chord shapes

Table 1: Four types of fretboard affordance, emerging from the opposition of activation and control and of brachio-chiral and chiro-digital techniques

35 Raymond Tallis, *The Hand: A Philosophical Inquiry into Human Being* (Edinburgh: Edinburgh University Press, 2003).

36 Baily, "Movement Patterns in Playing the Herati Dutar," 311. Baily's research was published decades before Tallis's book and does not use its terminology.

All four activation-control pairs appear in Jake Shimabukuro's ukulele arrangement of the Leonard Cohen song "Hallelujah."[37] In the opening phrase, his performance strategy is primarily chiro-digital (see Fig. 3). Shimabukuro picks with his right hand and articulates the melody with his left-hand fingers.[38] Each chord shape supports a melody note on the first string, and successive shapes differ. At the end of the phrase, he continues to fingerpick while using his left arm to slide a consistent chord shape up the fretboard (m. 8). This brachio-chiral movement realizes the IV–V progression referenced in Cohen's lyrics ("it goes like this, the fourth, the fifth"). On the audio recording, the picking articulation obscures the arm-directed movement of the left hand. In videos and live performances, this movement is more obvious, and Shimabukuro sometimes slides from IV to V. As the performance continues, he gradually introduces more brachio-chiral elements. From the second phrase, he audibly slides to bring out shifts in the melody (e.g., from D to E and F-sharp to G). He also supplements the picking with brief strummed moments that increase the rhythmic and dynamic intensity. Later verses of the arrangement mostly maintain the chiro-digital left-hand pattern while adding more strumming. At the climax, notated in Fig. 4, both hands are brachio-chiral: Shimabukuro maintains active strumming and shifts a fixed left-hand shape along the fretboard (the same fretboard shape appears in mm. 73–74 and 77–78). Ringing open strings add a bright timbre; they offer common tones while also enriching the harmony (note that the E minor chords that begin and end the passage are the only triads in Example 4). The passage culminates with a strummed open-string chord and chord of twelfth-fret harmonics.[39] After this highpoint, Shimabukuro returns to quiet fingerpicking for a subdued ending. In a YouTube comment about this arrangement, one viewer writes, "I … was astonished at the dynamic range and tonality he could extract from what I previously thought was a very limited instrument."[40] I would suggest that Shimabukuro obtains this dynamic and tonal range by investigating varied performance strategies, fretboard affordances, and

37 Shimabukuro released this arrangement on his 2011 album, *Peace Love Ukulele*. Many live performances are currently documented on YouTube.

38 On the studio recording, it is unclear whether Shimabukuro is picking with multiple fingers. He uses both techniques at different points. In some videos, he performs this passage by resting his right-hand fingers on the body of the instrument and picking with his thumb (for example, see https://youtu.be/hLPPyk4mYMI).

39 This use of open strings and harmonics also points to their distinctive affordances. As Nicholas Shea discusses, open strings are immediately available from any position on the fretboard; in that sense, open strings are equally close to any fretboard position. Nicholas J. Shea, "Ecological Models of Musical Structure in Pop-Rock, 1950–2019" (Ohio State University, 2020), https://search.proquest.com/docview/2489204736. Natural harmonics, by contrast, are only available at particular locations, which are determined by the physical properties of vibrating strings.

40 John Techwriter, comment on "Jake Shimabukuro, Hallelujah," YouTube video, February 2022, https://youtu.be/hLPPyk4mYMI (accessed July 2022).

relations between strings and hands. This investigation grounds the overall dramatic trajectory of Shimabukuro's "Hallelujah," which gradually moves from chiro-digital to brachio-chiral playing and back again.

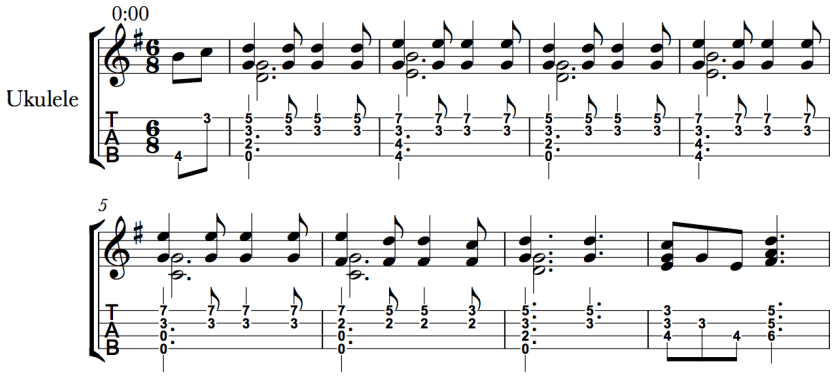

Fig. 3: Jake Shimabukuro, "Hallelujah" (Leonard Cohen), mm. 1–8.

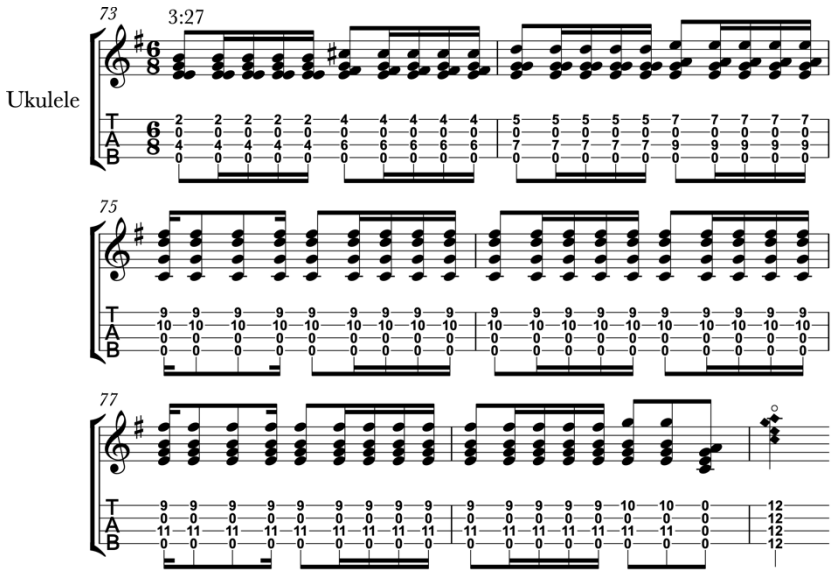

Fig. 4: Shimabukuro, "Hallelujah," mm. 73–79. Adapted from a transcription by Warren Ryu (ukucafe.files.wordpress.com/2009/05 /hallelujah__aboo.pdf).

Though I have analyzed Table 1's fretboard affordances in an arrangement for the ukulele, they are shared with other stringed instruments. It is possible to strum and fingerpick on a banjo, guitar, lute, rubāb, or pipa. At the level of abstract fretboard space, any four-stringed fretted instrument has the same interface—whether an electric bass guitar, mandolin, cuatro, or ukulele. But despite

that similarity, there are substantial differences between these instruments. The ukulele must be studied not only as a representative of the fretted instrument family but also an instrument with its own distinctive affordances.

Ukulele Affordances

The ukulele is a relatively small, portable instrument. Its size, however, is always defined relationally, in terms of other instruments or players' bodies. For example, ukuleles are small and light enough that children can easily play them, which contributes to the instrument's widespread use in schools. Its scale also opens up action possibilities for adult hands. On the ukulele, challenging brachio-chiral leaps along the fretboard are usually shorter—and therefore easier—than the corresponding moves on a guitar. An average adult hand can also span more frets on the ukulele. This relation is particularly clear in Giovanni Albini's solo ukulele arrangement of "Truman Sleeps" by Philip Glass. Albini adapts a technique from cello and double bass playing, stopping the first fret with his left thumb while reaching distant frets with his little finger (see Fig. 5). This fretboard interval would be impossible on a larger instrument—or an instrument with higher string tension, which would require more pressure from the player's hands. So, the ukulele's size shapes its affordances because it affects body-instrument interaction.

Fig. 5: Thumb technique in Giovanni Albini, "Truman Sleeps" (Philip Glass, https://youtu.be/phUZLC_xBnU).

The instrument's body size and string tension contribute to its sonic possibilities too. The size of the hollow body, for example, relates to its dynamic

profile. "With the ukulele, I'll never be able to play as loud as a trumpet acoustically," Shimabukuro notes. "But I can play so much quieter, right almost to nothing. … I realized that by learning to play quieter, I can increase my dynamic range that way, so I can have the same dynamic range as a trumpeter with the ukulele."[41] As research in ecological acoustics makes clear, the instrument's dynamic and timbral possibilities reflect physical interactions. Nuances in performance technique (strumming hard or soft, with a fingernail or fleshy fingertip) are reflected in volume and tone.

The ukulele's pitch affordances depend on its tuning. Like many string instruments, the ukulele affords various altered tunings, and different versions of the instrument—soprano, tenor, or baritone—have slightly different ranges. In standard ukulele tuning (G4, C4, E4, A4), the lowest note is middle C. While it lacks a bass register, this re-entrant tuning offers interesting pitch possibilities. The open strings can be interpreted as a four-note chord (C6 or Am7) or used to play four-note melodies. (When my daughter started to learn ukulele at school, she spontaneously recognized that she could use only open strings to play the tune of "Ring Around the Rosie.") These open-string notes form a subset of the pentatonic scale. Moreover, they represent the only pentatonic subset that contains two consonant triads: in this case, a C-major triad and an A-minor triad, which share two common tones. Compared with other four-note pentatonic subsets, this collection also has the lowest number of whole steps (just one, between G and A). The open strings in standard ukulele tuning thus form a remarkably consonant pitch-class set.

The idiomatic use of open strings has appeared throughout the ukulele's history. Consider the opening of Ernest Ka'ai's "Haele" from *The Ukulele & How It Is Played* (1916, notated in Fig. 6). The piece starts by outlining a C-major triad in first inversion, realized by two open strings (E, G) and a C5 stopped at the third fret on the first string (3, 1). As the gesture repeats, the highest note walks down to the open-string A4 (0, 1). Tonally, the C5 is a stable tonic, while the A4 is merely a passing tone that leads to G4. But in terms of instrumental performance, the open A4 can feel like an arrival, a point where physical tension is released. The new musical material in mm. 3–4 reverses the physical process, starting with open strings and building up to a dominant chord. In this beginning, Ka'ai's composition elegantly exploits the ukulele's open strings.

41 Cory Wong, "How (& Why) Jake Shimabukuro Considers Us All Part of His 'Band'," *Wong Notes*, podcast, accessed July 2022, https://wongnotes.captivate.fm/episode/how-why-jake-shimabukuro-considers-us-all-part-of-his-band, 9:31.

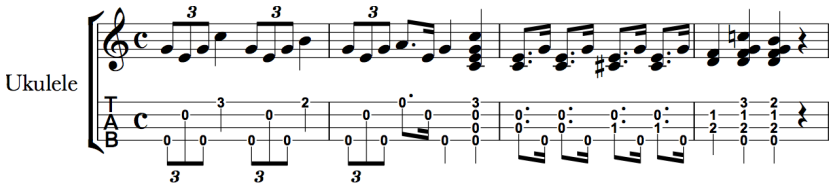

Fig. 6: Ernest Kaʻai, "Haele" from *The Ukulele & How It Is Played* (1916), mm. 1–4.

All open-string pitches are within the same octave, so ukulele tuning is fairly compressed. There is only a major sixth from the lowest string to the highest. This interval allows for tightly packed chord voicings that are often impossible on the guitar. For example, m. 73 of Shimabukuro's "Hallelujah" arrangement features a voicing with a diatonic cluster (E4, F#4, G4, C#5). In a 2020 interview, Shimabukuro noted these chordal possibilities but also explained that the tuning made it more challenging to play extended melodic runs:

> With the re-entrant tuning, … it's like you're playing a three-string instrument now, so you don't have a lot of vertical [cross-string] movements when you're running your scales. I think it's all left to right. … On the guitar, you can start at the sixth string and … work two octaves easily down, just by staying in one position, just working your fingers down. But on the ukulele, to get that same kind of two-octave run, you have to start from here and you're going to end up way up here at the twelfth fret.[42]

In Tallis's terms, guitarists can play these two-octave runs chiro-digitally; ukulele players must use brachio-chiral movement, moving left and right along the fretboard. On its own, the re-entrant tuning is neither a benefit nor a limitation. It might encourage some techniques (e.g., close chord voicings) while discouraging others (e.g., multi-octave runs).[43]

While melodies with a wide range require shifting, smaller melodic intervals can often be played across strings on the ukulele. With *campanella* technique, successive melody notes can be played on different strings of the ukulele and allowed to ring. For example, John King's arrangement of "Carol of the Bells" starts with a four-note ostinato, which continues for over half of the arrangement (C5, B4, C5, A4). As Fig. 7a shows, this could be realized on a single string, with pitches changed by the fretting-hand fingers. Instead, King places each note on a separate string (see Fig. 7b). His left hand holds the same fretboard positions while the fingerpicking right hand selects the notes. King keeps the opening ostinato on the first, second, and fourth strings, while a slower countermelody is played exclusively on the third string. A new ostinato appears

42 Wong, "How (& Why) Jake Shimabukuro Considers Us All Part of His 'Band,'" 53:57.

43 Davis theorizes affordances in terms of encouragement and discouragement, to overcome a binary approach to affordances. See Davis, *How Artifacts Afford*, 71–77.

on the outer strings in mm. 13–20. This ostinato, notated in Fig. 7c, leaves the middle two strings to realize the countermelody and exploits the whole step between the outer strings (at the seventh fret). The outer-string whole step also appears in the arrangement's climax (Fig. 7d): in m. 21, King reaches the highest pitch and highest fret in the arrangement, then uses *campanella* technique for a descending melody; in m. 22, the same performance actions recur, shifted down five frets. Throughout, King's arrangement imitates ringing bells while relying on the affordances of the compressed re-entrant tuning.

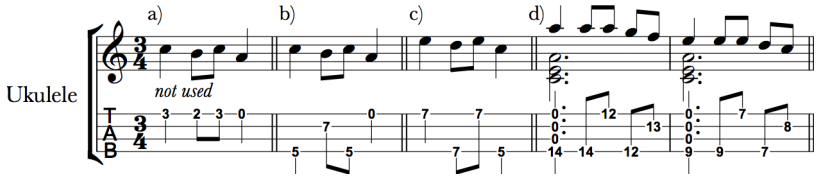

Fig. 7: John King, "Carol of the Bells" (traditional Ukrainian song, http://ukulelehunt.com/wp-content/uploads/2007/12/carol.pdf).

The ukulele's sonic affordances also relate to its potential for musical communication. Music is perceived to be happier when it is higher pitched, faster, and has timbres that lack roughness or noise—and such features also characterize happy speech.[44] These shared acoustic cues for emotion relate to instrumental affordances. Like the banjo and the xylophone, the ukulele is relatively high pitched; its sounds decay quickly, requiring rearticulation that can increase surface rhythms. Because of that, music for such instruments is more likely to sound happy. For example, repertoire for the xylophone is more likely to be in the major mode relative to repertoire for the lower and more sustained marimba.[45] It is important to note that this does not determine the ukulele's expressive possibilities. It is certainly possible to play sad or poignant music on the instrument. Nonetheless, this research indicates one way that its acoustic affordances relate to the positive mood that characterizes much ukulele music.

Research on acoustic cues for emotion also suggests that the sound of the ukulele might be interpreted in terms of a human voice. For example, in Israel Kamakawiwoʻole's famous recording of "Somewhere Over the Rainbow," the gentleness of his singing matches the gentle sound of his ukulele. This speech-like quality also relates to ideas about the ukulele and authenticity. Consider the lyrics to Stephin Merritt's 2002 song "This Little Ukulele," which claim that the

44 Michael Schutz, "Acoustic Constraints and Musical Consequences: Exploring Composers' Use of Cues for Musical Emotion," *Frontiers in Psychology*, 2017, https://doi.org/10.3389/fpsyg.2017.01402.

45 Michael Schutz et al., "The Happy Xylophone: Acoustic Affordances Restrict An Emotional Palate," *Empirical Musicology Review* 3 (2008): 126–35.

instrument tells the truth.[46] Unlike a polished orchestra, the ukulele has low production values and a down-to-earth tone. It does not just communicate; its voice inspires trust and connection.

Conclusions

In this chapter, I have applied affordance theory to the ukulele to rethink its capabilities and limitations. At the same time, the ukulele has helped to refine theories of musical affordances. The chapter emphasizes that instruments can be distinctive, even when they share the same fundamental interface. It is important to recognize the ukulele's kinship with other fretted string instruments without treating it as a "miniature guitar." The ukulele's size, physical materials, register, tuning, and special techniques contribute to its musical identity. More generally, each instrument opens up a particular world of musical possibilities.

So, what can you do with the ukulele? Many things. The instrument can realize melodies, chords, or counterpoint. It can play traditional Hawaiian music, classical repertoire, jazz, pop, or contemporary music. This list is always open-ended, just like the list of a chair's affordances, and it always implies a relation between the instrument and a player. Because of this openness, it would be misleading to claim that the ukulele—or any other instrument—is especially constrained. A musician who is serious about the instrument can practice for years and still "barely scratch the surface of what is possible." Instead of judging instruments, it seems more productive to investigate the relations between instrument and player, sound and action, and to celebrate each instrument's distinctive features. After all, in the hands of a skilled player, the ukulele can do things that are impossible on a guitar, piano, or trumpet. Like any instrument, the ukulele has special affordances, and in my view, these affordances are part of what makes its music special.

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A Musical Pocket Knife: The Ukulele's Unique Arranging Features

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Abstract
Ernest Ka'ai wrote back in 1906 that "some would call the Ukulele an insignificant instrument, and yet we have all there is necessary to make and cover an accompaniment for the most difficult opera written, the harmony is all there, if one would give it a complete and thorough study." More than a century after Ka'ai's cited method (*The Ukulele: A Hawaiian Guitar and How to Play It*) the ukulele has undoubtedly shown that it cannot only cover an accompaniment, but rather it can allow the adaptation of a vast and diverse set of works of music, offering a wide and ever growing repertoire of arrangements and even of faithful transcriptions. In this context, the aim of this chapter is to explain how and why an instrument of such apparent limited resources can be so effective in arranging and transcribing.

Keywords
Music Arrangement, Music Transcription, Ukulele Repertoire

The ukulele's capability for allowing musical adaptations—as a solo instrument or for accompanying the voice—might be proven simply by the success and spread of the vast repertoire of music that is performed on it, but was not originally written for it; in addition to this, since its origins, the ukulele literature has consisted for the most part of arrangements.[1] This could be explained

1 Although in everyday language and common usage the terms 'arrangement' and 'transcription' are sometimes interchangeable, relating to a musical adaptation, some clarification is needed for an in-depth discussion of the subject. In fact, "a transcription is essentially the adaptation of a composition for an instrument or instruments other than those for which it was originally written. An arrangement is a similar procedure, although the arranger often feels free to take musical liberties with elements of the original score" (James D. Erb, "Instrumentation," in *Encyclopedia Britannica*, https://www.britannica.com/art/instrumentation-music, accessed August 10, 2022). In this context, the term 'transcription' usually refers to a faithful adaptation of a musical composition for another instrumentation in place of what it was originally written for. Instead, an arrangement can be either 1) an adaptation that features significant changes—that for instance in addition to the instrumentation can alter musical style/genre, formal structure, metric, rhythmic, harmonic, melodic or any kind of constituting elements—possibly including the addition or removal of sections and material, or 2) a piece of music made on drafted musical ideas (such as what can be found in jazz

by two main reasons. First of all the ukulele originated as—and still is often considered—a musical instrument for the amateur performer, who usually just wishes to reproduce well known music on a comfortable and handy portable little instrument. Secondly, and by contrast, performing on the ukulele something that usually needs a wider instrumentation or more complex musical instruments exhibits virtuosity and shows the unique (and perhaps unexpected) capabilities of such a small instrument.[2] The latter issue is evident in several ukulele methods—regardless of performing style and year of publishing—as we can see for instance in the following quotations (taken from books spanning almost a century) which emphasize the musical complexity the ukulele can handle, despite its alleged limitations. Ukulele pioneer Ernest Kaʻai underlined that "some would call the ukulele an insignificant instrument, and yet we have all there is necessary to make and cover an accompaniment for the most difficult opera written, the harmony is all there, if one would give it a complete and thorough study."[3] In another early method we read that "realizing that the Ukulele has been overlooked as a solo instrument and appreciating its possibilities in this direction, the authors have compiled this work in the belief that it will fill a long needed want."[4] In fact, "in addition to providing instructions for accompanying songs and dances, pioneer ukulelists stressed the potential of the instrument for rendering difficult classical pieces."[5] After all, throughout history, the transcription and arranging of established repertoire had been a way/method to show the potential of other instruments and to give recognition to them. For instance, when at the beginning of twentieth century Andrés Segovia faced the challenge to give cultural dignity to the classical guitar and to make it to be accepted as a serious concert instrument, he worked on several transcriptions of classical works originally written for other instruments by prominent composers—including Isaac Albéniz, Johann Sebastian Bach, Fryderyk Chopin, John Dowland, Giroloamo Frescobaldi, Enrique Granados and even a section from

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standards and fake books) that to be performed needs to be written for specific instruments and to be partially re-conceptualized, composed or developed. In some cases, it is difficult to state which term is more appropriate. Therefore, in this discussion all the aforesaid meanings are considered, and the term arrangement will be sometimes used in a wider sense, also encompassing transcriptions.

2 As an illustration, the career of the ukulele virtuoso Jake Shimabukuro owes much to a video posted on YouTube without his knowledge featuring him performing an instrumental arrangement for ukulele solo of George Harrison's notorious 1968 song *While My Guitar Gently Weeps*: https://youtu.be/puSkP3uym5k (accessed August 10, 2022).

3 Ernest K. Kaʻai, *The Ukulele: A Hawaiian Guitar and How to Play It* (Honolulu: Wall, Nichols Co., 1906), 3.

4 N.B. Bailey and Keoki E. Awai, *The Ukulele as a Solo Instrument: A Collection of Ukulele Solos with Full Instructions for Playing* (San Francisco: Sherman, Clay & Co., 1916), 5.

5 John King, *The Classical Ukulele: Selected, Arranged and Performed by John King* (Milwaukee: Hal Leonard, 2004), 4.

Mussorgsky's "Tableaux d'une Exposition," just to name a few, some of which are still today true cornerstones in a guitarist's repertoire.

In this context, the aim of this chapter is to offer an insight that tries to explain how and why an instrument of such apparent limited resources can be so effective for arranging music, a topic that I have tackled in my experience and practice from both points of view as the arranger and of the performer. In particular, I was able to trace at least five different, yet related reasons: 1) a number of strings that balances harmonic potential and playability; 2) a range that mimics that of the human voice; 3) a short fingerboard that makes possible an extensive variety of different positions and transitions; 4) a non-linear tuning that opens up further solutions; 5) the cross-cultural and non-standardized nature of ukulele playing techniques that offers a wide range of technical choices.

Just Four Strings: Less is More?

The ukulele's limited number of strings should not be misleading: four are enough to make conventional four-part harmonies, they correspond to the actual number of fingers operating on the fretboard, and they reduce the issue of dealing with strings that are either stopped or not played, which benefits strumming techniques in particular. Four strings handled by four fingers allow chords made up of a maximum of four different pitches, enough to clearly render tonal chords and without the burden of stopping or skipping many unwanted open strings. This offers a balance between achievable harmonic complexity, a reasonable harmonic ambiguity, and left hand (work)ability, despite the musical style.

Rather, a problem arises in the limited range of the instrument (usually a thirteenth in the case of standard linear tuning), which sometimes leads to issues in representing chords in the correct position/inversion, especially in the context of faithful transcriptions of classical music. However, this other issue can be overcome through linear tuning, as will be shown in the next section.

The Ukulele Range: A (Partially) False Issue

A preliminary and manifested issue is the limited range of a standard ukulele featuring the typical reentrant C tuning—commonly known as 'high G'—that usually extends over the interval of a thirteenth, from C4 (open third string) to A5 (first string, twelfth fret). Today many instruments—especially examples which utilize a larger scale length—often overcome such limitation by featuring more frets, therefore extending the range to a span of about two octaves. After all, even during the determinant 1926 meeting of the National Association of Musical Instrument and Accessories Manufacturers held in Buffalo, New

York, it was decided that 'standard' ukuleles had to have at least twelve frets. Furthermore, Madeira's machetes and early ukuleles could feature more than twelve frets.

Nevertheless, let us consider the most limited (and perhaps effective on shorter scale instruments) range that extends over the interval of a thirteenth and notice that it nearly corresponds to the safe vocal range of a soprano voice type. Moreover, the vocal range is almost the same for all the other voice types, therefore any singable melody can be reproduced on a ukulele by means of a proper transposition.

In fact, "human voices are usually divided into six ranges, three female voices, soprano, mezzo-soprano, and contralto, and three male voices, tenor, baritone, and bass".[6] Although their range could be very personal and related to training, "practical experience, and personal influence",[7] and slight differences can be found among different texts, they are sometimes described as spanning exactly the interval of a thirteenth,[8] or as spanning similar intervals. Finally, if we consider the four fundamental voice types (soprano, alto, tenor and bass) we notice that High G and Low G ukulele tunings could cover them all by the only means of octave transpositions. The ukulele's range mirrors that of the human voice, therefore any singable melody can be reproduced on it. After all, "Western music, with its origins in liturgical chant, can be said to be inherently melodic".[9]

Smaller is Better: The Potential of a Short Scale Instrument

The reduced string length of a ukulele, and with it the reduced size of the fingerboard and a lower string tension, make possible left hand positions that are unthinkable on a related instrument such as—for example—the guitar. The stretching of the left hand from index to little finger almost covers all twelve of the frets of a standard soprano ukulele. This produces extended combinations of positions and opportunities for transitions between them that result in a peculiar agility and some substantial harmonic possibilities. In this sense, too, the ukulele can be said to be a comfortable instrument: its short scale makes a wide range of harmonic and melodic combinations easily accessible.

A chord in particular is exemplary: a four-note unison on pitch A4, as shown in the following figure.

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6 Willi Apel, *The Harvard Dictionary of Music*, 2. ed. (Cambridge, MA: The Belknap Press of Harvard University Press, 1969), 920.

7 Apel, *The Harvard Dictionary*, 777.

8 See again Apel, *The Harvard Dictionary*, 920.

9 Jonathan Dunsby, "Thematic and Motivic Analysis," in *The Cambridge History of Western Music*, ed. Thomas Christensen (Cambridge, UK: Cambridge University Press, 2006), 907.

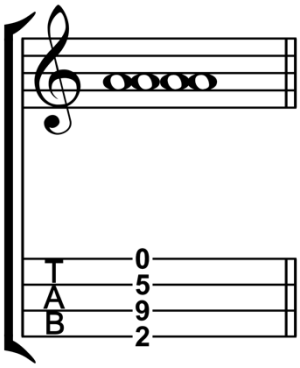

Fig. 1

This not only helps to showcase the many alternatives on different strings for playing the same pitch, but also the multiple accessible unison solutions for many pitches in the range, as well as chromatic and diatonic three or four notes clusters that can be easily reached on a ukulele fingerboard—a device that is well known to many contemporary ukulele composers.[10]

Re-Entrant Tuning's Capabilities

Another relevant and well-known characteristic of the conventional re-entrant tuning of the ukulele is the interval of a major second between the first and the fourth strings. Such an interval allows to place melodic notes across the two outer strings, enabling the over-ringing effect of 'campanella' fingerpicking technique,[11] and also to easily distribute a melody on to the two outer strings during strumming, adding several possibilities—and also cutting back on left hand efforts. This, along with the short scale of the ukulele—that makes it possible to reach quite wide intervals—is indeed useful, for instance, for chord melody arrangements, that feature both the melody and the harmony simultaneously. Moreover, the conventional re-entrant tuning, by enclosing the tuning of the four open strings in the interval of a major sixth, allows a wide choice of different positions and fingerings to express the same musical content, facilitating the practicability of certain transitions and offering cues for expressive, timbral and dynamic effects.

10 In this regard, see for instance the incipit of the score of "The Cheerless Walk" by Choan Gálvez (2020).

11 The term 'campanella' refers to a technique that originated with the Baroque guitar for which the melodic notes are placed across the strings to create an over-ringing result that reminisces little bells, hence the name 'campanella', that literally means 'little bell'.

A "Transcultural" Instrument

The cultural adaptive and ever-changing nature of the ukulele—from historical, organological and performative perspectives—can be considered one of the golden keys of its success. Luthiers, arrangers, composers, and performers reinvent the ukulele and its techniques every day, paying tribute to its ancestors and tradition, and yet setting it in ever new musical contexts. As a consequence, the ukulele technique borrows elements from any musical setting it has been in contact with and adapts to it. In fact, as Tranquada and King pointed out in *The 'Ukulele: A History*, "the adoption of the 'ukulele by Hawaiians is an example of what the Cuban historian Fernando Ortiz called transculturation—the complex interaction between cultures that produce unique offspring, both like and unlike its parents.[12]

> Moreover, the ukulele shares a lot—both from an organological side and from the point of view of performance techniques—with other instruments, from the closer one, the machete da braga, to its direct well known cousin, the guitar, and also with more distant relatives, such as the banjo, the mandolin and even the violin. However, it is a very well defined instrument with evident unique features that are the result of the crossing of different cultures and techniques intricately borrowed from other musical instruments.[13]

The availability of a wide range of techniques—as well as of tunings or scordaturas![14]—derived from related instruments, as well as the difficulty in recognizing a normative and obligatory standardized technical approach, offers the ukulelist a wide range of technical choices and possibilities within which to seek solutions for arrangement issues. There are countless different strumming and percussive techniques, and various ways to pluck the strings, with different right-hand positions, creating a vast variety of effects and timbres that can coexist within a single score, offering a palette of contrasting possibilities.

Within such a broad palette of possibilities, one of the perhaps most idiomatic (yet sometimes implicit or subtle) effects which is useful for what I wish

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12 Jim Tranquada and John King, *The 'Ukulele: A History* (Honolulu: University of Hawai'i Press, 2012), 198. See Fernando Ortiz, *Cuban Counterpoint: Tobacco and Sugar*, trans. Harriet De Onís, introduction by Bronisław Malinowski, prologue by Herminio Portell Vilà, new introduction by Fernando Coronil (Durham, NC: Duke University Press, 1995), xxvi, 97–103.

13 Fabrizio Nastari and Giovanni Albini, "Multiculturalism as a Creative Trigger: A Music Composers' Insight and Experience," *GESJ: Musicology and Cultural Science* 1, no. 23 (2021): 43.

14 In this regard, it is surprising that the detuning technique is already present in what is considered to be the first published method on the mainland, dating 1909. In fact, at page 14 of T. H. Rollinson's *Method for the Ukulele (Hawaiian Guitar)*, Boston: Ditson, 1909, there is a "Spanish Fandango" that requires to "tune first string in unison with the fourth." An earlier version of the "Spanish Fandango," which in turn features the tuning of the first string, is found in Ka'ai, *The Ukulele*, 106, which likely inspired Rollinson's version.

to show is that of vibrato. As a short-scale instrument, even the slightest variation in left-hand finger pressure results in a change in pitch, making expressive vibratos easy to achieve. However, the small size and evident handiness of the instrument also allows for acrobatic movement, manipulation, and instrument bending, resulting in a diverse range of pitch and amplitude vibrato effects. Shaking the hand in front of the sound hole, pressing the strings behind the capo, shaking the instrument in the air, gently bending the neck, or rotating it are just some of the countless actions that allow for a controlled (and often theatrical) vibrato effect. Vibrato is interesting because it highlights the maneuverability of the ukulele, which not only 'inherits' practices and techniques from related instruments, but incorporates them into an agile and inclusive postural and grip situation. And this is all the more evident when the incorporated techniques approach, intersect, and overlap with each other, allowing for endless possibilities. Imagine for instance a neck bending vibrato done on a chord of natural harmonics got on all the four strings with a quick thumb strike at the twelfth fret: moreover, while one hand manages the neck bending the other one can still work with tapping or percussive techniques, for a dense texture of effects.

Finally, the ukulele's cultural adaptability and incorporation of techniques from related instruments provides arrangers and performers with a vast array of technical choices and possibilities.

Conclusions

In conclusion, this chapter has briefly studied some of the possible reasons for the effectiveness of the ukulele as an instrument for arranging music. Through the author's experience and practice as both an arranger/composer and performer, five key reasons for the ukulele's success in this regard have been identified. The balance between harmonic potential and playability provided by the instrument's number of strings; the range that mirrors that of the human voice; the short fingerboard enabling diverse positions and transitions; the non-linear tuning providing further solutions; and the cross-cultural and non-standardized playing techniques offering a wide range of technical choices; all of which contributes to the instrument's efficacy in arranging music.

Overall, the insights presented in this chapter have significant implications for musicians and arrangers looking to explore the potential of the ukulele in their work. By understanding the unique qualities of this seemingly limited instrument, musicians can effectively utilize it to create rich and diverse arrangements and transcriptions. In fact, the aim of this chapter has also been to offer a broader understanding of the role of instruments in music-making, highlighting the importance of considering the specific characteristics of an instrument when composing or arranging music.

Finally, the author believes that the outcomes of this chapter offer a starting point for reflection on some of the most fundamental aspects around which the most diverse experiences of Western music revolve, regardless of era and style, for which the limitations imposed by the ukulele have provided a lens. From melodic 'cantability' to the balance between density and harmonic ambiguity, a broader musicological discourse could be opened up, for which the ukulele seems to be a privileged instrument of investigation: in addition to being a golden pocketknife, it could perhaps be a perfect microscope, and its use holds significant potential for future research in the field.

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Inside the Ukulele: Approaches and Solutions in Classical Contemporary Compositions

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Abstract
A little more than a century after its appearance, the ukulele has continuously attracted interest, but only in more recent times has it found attention in the contemporary classical composition world. This research attempts to trigger insight into the relationship between the ukulele and the composer's creativity in such a context. Thus, I will explore different approaches in writing new music for solo ukulele, by focusing mostly on compositions from the last decade. In fact, the peculiar challenges and suggestions of the ukulele bring composers to a variety of writing solutions, showing the versatility and richness of the instrument.
Starting from my own experience as a composer, I interviewed five ukulelists with different backgrounds and careers to reflect on what seems to be some crucial problematics surrounding the ukulele. I will take into consideration at least three main aspects and the questions that arise from them: 1) How does the composer's approach differ when writing for the ukulele than when working with instruments more conventionally embedded in classical tradition? 2) How do aspects like the instrument's size, the variety of models, the cost, the ease of access for the composer to find solutions, impact the performer-composer relation? 3) How do the images and extra-music references that the ukulele can recall influence the composer's style and outputs?
This article represents a possible picture of the state of these problematics within the Western European context. The reflections proposed here are intended to be an inspiration for further research.

Keywords
Ukulele Repertoire, Contemporary Music, Ukulele Technique, Music Composition, Artistic Research

Introduction

This paper is mostly concerned with Western culture, especially in Europe. This choice is simply due to the fact that this is the context in which I was born and educated. I work mainly in this environment and therefore it is the one I know the most. Also, the musicians I worked with for the writing of this article

are all part of the European context and it seems only right to narrow my analysis and thoughts in this area.

The aim of this research is to provide an overview of the state of the ukulele in the contemporary western world, in relation to the academic context. In doing this, the author wants to offer insights by underlining some of the aspects that can be considered fundamental. This article mainly investigates the relation between a popular instrument with a relatively short history and the creativity of composers from the classical Western tradition and education. 'Popular' here has the common meaning of something that meets approval by most of the people. Despite the negative feeling that this term can suggest in an academic musical context, the concept of popularity seems fundamental in the evolution of the ukulele and it will be better investigated throughout this article.

Year after year, many professional musicians are enthusiastically adopting the ukulele as their main instrument. The ukulele is also increasing in prevalence in an academic context: musicians are pursuing personal research at PhD level (Samantha Muir and Elisabeth Pfeiffer for instance), there are also courses in conservatories, as in Alessandria (Italy) thanks to the effort of Professor Giovanni Albini who also, in 2022, held a Masterclass at the Campus Internazionale di Musica in Sermoneta together with many international musicians. We can also witness young ukulelists that started their musical studies and careers directly with the ukulele, such as Matthew Quilliam. There are also those who are deeply committed to the publishing of scores and books, as it the case with Choan Gálvez. This passion is resulting in a growing movement that continuously demands new compositions, and many contemporary classical composers are willing to take up the challenge. The ukulele is now starting to have consistent literature as a solo instrument, in a chamber context, with electronics and with orchestra. It seems only right and useful to share some of the musicians' names that are putting their energies into the ukulele in different ways or roles:

> Giovanni Albini, Stephen Altoft, Emmanuel Amoit, Sonia Ballarin, Alberto Barberis, Andrea Beggio, Jim Beloff, Martin Bright, Donald Bousted, Alan Bullard, Cosimo Carovani, Sally Carter, Giorgio Colombo Taccani, Sally Carter, Geoffrey Cox, Morgana Creely, Jim Dalton, Cristopher Davis-Shannon, Laurence Diehl, Sydney Doemel, Phil Doleman, Oliver Dubon, Federico Favali, Philip Ellis Foster, Arden Fujiwara, Choan Gálvez, Andrea Gaudette, Matteo Generani, Stephen Godsall, Dimitri Van Halderen, Mike Haysom, Paul Hemmings, Lindsay Higgs, James Hill, Daniel Ho, Mike Holland, Gilbert Isbin, Bryan Johanson, Chad Johnson, Mika Kane, Aaron Keim, John King, Lodi Luka, Rob Mackillop, Paul Mansell, Javier Marco, Milton Mermikides, Tony Mizen, Boris Mogilewski, Sandro Montalto, Fabrizio Nastari, John Nicholson, Loretta K. Notareschi, Nathan Passchier, Elisabeth Pfeiffer, Simon Powis, Roland Prakken, Thomas Preece, Stefano Procaccioli, Frederick Rawski, Hilary Robinson, David John Roche, Brandon J. Rolle,

Samantha Muir, Joe Schittino, Christopher Davies Shannon, Dick Sheridan, Jake Shimabukuro, Roberto Squillaci, Matt Stead, Fabian Svensson, Heidi Swedberg, Davide Tammaro, Francesco Tanzi, Peter Thompson, Colin Tribe, Zulfiia Tursunova, Sammy Turton, Toivo Tulev, Matteo Tundo, Matthew Quilliam, Daniel Ward, Matt Warnes, Cathy Welsford, Wilfried Welti, Mark Witney, Byron Yasui, Stephanie Yung, Virgilio Zoccatelli, Albrecht Zummach.

Some of them are curating or collaborating with publishers such as The Ukulele Bookshop, Les Productions d'Oz, Hal Leonard, Suvini Zerboni to name just a few. Some musicians are involved in important projects such as the First Ukulele International Conference or in higher education activities such as the international masterclass at Campus Internazionale di Musica in Sermoneta; many didactical projects and productions for beginners, for instance the London Ukulele Project. There are also already many recordings available with new compositions such as in *A Contemporary Ukulele* by Giovanni Albini, or in *The New Classical Ukulele* by Donald Bousted; or projects as the CD *Cold Red Machine,* that is entirely composed and performed by Matthew Quilliam (2021) and features a sonata for piano and ukulele and pieces for ukulele and electronics.[1] Lastly, I suggest taking a look at Muir's website where, between other useful materials and info, she reports an exhaustive lists of available publications.[2] Similarly, it can be worth visiting the websites of the other musicians I interviewed, reported in the bibliography of this article.

Inside the Ukulele

Being a composer myself, I have a personal interest in the analysis of new pieces, in this case for ukulele music. I have been involved in writing new pieces for ukulele, and the contrast I felt between the academic context and the uncomplicated approach ukulelists take towards music, gave me many ideas for composing. Sharing my experience with some colleagues nurtured in me the curiosity to understand how other composers would work with the ukulele. I started wondering what their approaches, doubts, inspirations and solutions would be. This is how this paper slowly developed in my mind and I decided to focus particularly on some aspects that spawned the following questions: 1) How does the composer's approach differ when writing for the ukulele than when working with instruments more conventionally embedded in classic tradition? 2) How do aspects like the instrument's size, the variety of models, the

1 See *A Contemporary Ukulele*, CD (Osaka: Da Vinci Classics, 2021); *The New Classical Ukulele*, CD (s.l.: self-published, 2021), https://donaldbousted1.bandcamp.com/album/the-new-classical-ukulele; Matthew Quilliam, *Cold Red Machine*, CD (s.l.: self-published, 2021), https://matthewquilliam.bandcamp.com/album/cold-red-machine.

2 See www.iloveclassicalukulele.com/resources/, accessed July 2022.

cost, the easiness to be tried out by the composer for finding solutions, impact the performer-composer relation? 3) How do the images and extra-music references that the ukulele can recall influence the composer's style and outputs?

The result is not meant to be comprehensive of all the thoughts of all the ukulelists, but it should provide insights into possible paths that the ukulele could take. Indeed, the interviews provided me with a wide range of answers but also some common ground in which composers and ukulelists are now focusing their interests. It is worth underlining already at this point that the community around the ukulele is developing and shows a fresh approach towards the music world, especially the academic one. A deeper discussion of the outcomes will follow in the last chapter.

Methodology

In order to find answers and nurture a fruitful discussion, I conducted individual interviews with some of the most representative musicians of the ukulele world in Europe. In this way I could individuate what the main interests and problematics at this time in the ukulele world are. Moreover, I had the opportunity to gain their individual perspective and approach. It must be remembered that they all have different backgrounds and different roles and experiences, but all of them are predominantly performing on the ukulele and all of them have acted as composers too. Specifically, I interviewed via Skype: Donald Bousted (07.11.2021), Choan Gálvez (04.11.2021), Samantha Muir (28.10.2021), Elisabeth Pfeiffer (31.10.2021) and Matthew Quilliam (04.11.2021). I also need to thank Giovanni Albini with whom I continuously share and discuss different matters not only about the ukulele, but also regarding music and composition in general. He gave me many interesting insights during the writing of this paper, and even if I did not interview him in a proper session, his thoughts are part of the paper.

This paper also adopts another perspective in order to unfold these issues. I analysed the scores which more easily allowed me to describe and start a discussion on the features I identified as important. Especially, those features that I consider distinctive or that show potential in the contemporary literature of the ukulele. Thus, I will use "A Conspiracy of Ravens" by Muir as the trigger for looking at the problematics around the number of strings, the tuning system and the size of the ukulele. The use of the so-called *tintinnabuli* technique by Arvo Pärt in "Undressed" by Gálvez opens the topic around the application of different compositional techniques. Similarly, it is helpful to look at "Dies Rainbow" and "Pappagalli Verdi" [Green Parrots] by the same author of this paper, as well as "Canzone dell'assenza" [Song of Absence] by Giorgio Colombo Taccani.

These two approaches, the analysis and the interviews, are blended together in order to create a dialogue between ukulelists and composers; we can look at how ukulelists and non-ukulelists compose for this instrument. In this way I hope to show different perspectives and to stimulate thoughts.

Technique

I would like to start with a consideration by Bousted that reflects many musicians' opinions, but rises a problematic at the same time. He said that the playing technique of the classical ukulele is basically the technique of the classical guitar. The same goes for the score writing style (i.e. the usual score of classical music). Bousted also points out that compositions for ukulele can be transcribed for guitar, and the scores which are not possible to transcribe are rare and few. Perhaps, in general, these considerations are true, and it is clear that the two instruments show similarities. I will leave the score writing issue out of this paper, as it would be too far removed from the other discussions I am undertaking here. But about the playing technique, I would consider that many instruments can have a lot in common: piano and harpsichord, violin and viola, clarinet and saxophone. But every musician knows that whilst two instruments can share some technical aspects, they are never the same. For deepening this aspect, it is worth looking at the studies, for instance, of Jonathan De Souza, *Music at Hand*.[3] For this particular discussion it is even more useful to look at his article "Guitar Thinking."[4] As Albini and Muir point out in their contribute "Campanella Technique in Contemporary Chamber Music Scores for Ukulele," we cannot leave out the affordance issue when we compare the ukulele and the guitar playing technique:

> [De Souza] uses the example of a guitar which affords playing and a chair which affords sitting. As De Sousa points out, however, a chair may also be used in other ways, such as to prop up a music book, and a guitar cannot be played by a goldfish. The possibilities of an object, therefore, depend on certain factors such as a person's abilities or an object's conventions such as the tuning of a guitar. To this end the tuning of the ukulele, whether linear or re-entrant, affords the use of campanella. However, it is the re-entrant tuning which creates more opportunities for campanella allowing it to occur both intentionally and intuitively as an idiomatic feature of the instrument.[5]

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3 Jonathan De Souza, *Music at Hand: Instruments, Bodies, and Cognition* (New York: Oxford University Press, 2017).

4 Jonathan De Souza, "Guitar Thinking," *Soundboard Scholar* 7, no. 1 (2021), https://digitalcommons.du.edu/sbs/vol7/iss1/1.

5 Giovanni Albini and Samantha Muir, "Campanella Technique in Contemporary Chamber Music Scores for Ukulele," lecture presented at *The 21st Century Guitar*, March 20, 2022, https://www.youtube.com/watch?v=xHSkHejjqkY&t=7989s.

We can see how the tuning alone already influences a playing technique. If we take into consideration other factors, such as the size of the instrument, we can clearly notice how it influences the player's posture, in that it provokes different gestures of both hands and adjustment through control of the body as well. This is also something that Albini pointed out in our conversation: the ukulele does not have a single established literature and technique. Rather, it shows different performance practices, each of them with their own set of techniques and repertoire. It is still under debate what exactly the classical ukulele is, or could be. This means, among other things, that each performer can choose their own approach to the instrument.

There is also another reflection worthy of discussion. For instance, the importance of the musical background of a ukulelist has to be considered. It is very common for a ukulele player to come from the guitar, mostly often the classical guitar. However, the majority seem to have a richer experience, curriculum and career; very often they have played, or continue to play different contexts, other instruments of the same family (machete, banjo, etc.) and different genres. This implies the diversity of possible postures and modalities. Also, the ukulele they usually play can be big, small, very light, amplified, with different tunings or number of strings. In the classical ukulele environment there are already such musicians coming from these experiences. This is something that opens the ukulele world to different possible paths, and we need to look at this phenomenon in the future if we want to understand the evolution of the ukulele in the academic context.

Continuing the discussion in this direction, we need to take into consideration another aspect regarding the ukulele playing technique. It is only in recent years that we are witnessing musicians born and raised with the ukulele, without studying other instruments before. So far, a ukulelist would usually come from the classical guitar, an instrument that has a very well-established history, literature and techniques. This does not seem to create any problem or to bother a ukulele player too much, but of course it represents an important educational history. Someone could also call it a heavy education, meaning that it surely influences a musician's habits, mind, postures and gestures, etc. Even though there is no reason to question the value of having a background in classical guitar, we need to wait for a larger number of classical musicians that start their musical studies with a ukulele to emerge. Only then can we have a more exhaustive discussion of the matter. Quilliam is an example of such a musician, still very young, that started and continues to study music almost exclusively with the ukulele. He also jumps from one genre to another influencing the technique he uses on his instruments, and the compositions he writes.

To summon what Bousted and other musicians suggest, when saying that the ukulele playing technique is basically the one a performer uses for the guitar, it is that this approach is one among other possibilities. A musician can choose to

play the classical ukulele from a classical guitar point of view, but it is also possible to approach the classical ukulele from the Hawaiian technique, for instance. Bousted started his musical career as a classical guitarist and we were lucky to appreciate his contribution to the ukulele world from this point of view. This discussion helps us to reflect on how much the development of the ukulele technique and the definition of its characteristics is open for discussion, within the European classical academic context.

In conclusion, we can certainly say that there are similarities between the guitar and the ukulele, as well as that it is generally possible to transcribe music from the ukulele to guitar and vice versa. Nevertheless, it seems too simple to think that the ukulele playing technique is solely a classical guitar technique. We need time before facing this issue at least for two reasons: we have to wait to have classical ukulelists trained without a classical guitar background, and we need to look at the development of the ukulele technique for some years. In fact, with the increasing volume of ukulele literature and musicians it is possible that the ukulele will be different, both in the playing technique and in its physical characteristics.

Some Aspects of Luthiery

The solutions one can find by intervening on the ukulele are many. For instance, the tuning and the number of strings are often subject to the musicians' curiosity. In this sense, I would like to use the example of "A Conspiracy of Ravens" by Muir for solo ukulele. It is a collection inspired by the folk ballad "The Three Ravens." The composer proposes three arrangements of the original melody and three original compositions based on the themes. She writes:

> I composed these pieces on a 5 string tenor ukulele. The fourth course comprises both low G and high g strings. Both strings are struck and sounded as one. The pieces could, however, be played on either a high g or low G ukulele. For this reason the staff notation is, at times, ambiguous and the player should refer to the tab. I also like to tune my ukulele down a half step to G♭, B, E♭ & A♭. If using this tuning remember to tune the 2nd string down a further semitone for Black Raven.[6]

As Muir clearly explains in the program note, we need to take a look at the tab if we want to avoid any doubts while playing. Even if in this paper there is no time for discussing the issue around the use of the tablature, it shows another difference between ukulele and the guitar, or all the orchestral instruments. The re-entrant tuning would suggest the use of the tablature in a ukulele

6 See the author's note on the publisher's website: https://productionsdoz.com/fr/product/8725-a-conspiracy-of-ravens, accessed July 2022.

program, in an academic context or not. This discussion surely requires further investigation in the future.

I think it is also worth reflecting on the ukulele that Muir uses for this piece. It is not common to have a 5-string ukulele with two strings comprised as one, but in the ukulele world it is not rare to intervene on any physical component of the instrument. The cost of commissioning or buying a ukulele is of course quite different if compared to how much a clarinet, for instance, can cost. But also a classical guitar, if we want to remain in the same family, is surely more expensive too. The cost of the material, strongly connected to the size of the instrument, is something that can distinguish the ukulele world from the majority of the other acoustic classical instruments. This is one of the reasons why a classical ukulelist has multiple instruments and why we can find compositions that require a particular model, tuning or size, etc.

From what I have experienced, a classical ukulelist is always willing to challenge themselves with new ideas and solutions. It is commonplace for a musician who commissions a composer to seek ways of incorporating unusual situations into their new works. All of the musicians I interviewed had this kind of interest and curiosity; they like to look for uncommon sounds. As Bousted puts it, to compose for ukulele is to celebrate sound. The attention towards the colour of the sound is fundamental. We have an example of this in "A Conspiracy of Ravens" where we can analyse Muir's choices in this perspective. The fourth course that comprises both low G and high G provides an unexpected yet characteristic colour, but one that pleases the listener. We can already appreciate the different characters between the sizes of the ukulele (the soprano, the tenor and so on), but it is also possible to modify more peculiar aspects. A composer, generally, chooses very carefully the sound they want, and consequently, when writing for ukulele the choices of model, size, strings, tuning etc., becomes fundamental to the compositional process. Thus, when referring to the ukulele, we can look at a performance at least from two point of views. The first possibility is to inquire and understand the composer's choice; the second is to connect the interpretation of the ukulelist to their choice of instrument. These points of view will enrich the investigation and the analysis of both the composition and the interpretation. This is something that distinguishes the ukulele in the classical world. One example is Albini's, who recorded his first CD *A Classical Ukulele* playing a different instrument for each piece and specifying the strings' type too.[7] All the musicians, Muir and Gálvez particularly, seemed attracted to the use of different tunings and numbers of strings; we spent a good portion of the interview talking about this aspect.

7 See above, p. 111, n. 1. To deepen this aspect, it is worth to visit Giovanni Albini's YouTube channel (https://www.youtube.com/playlist?list=PL4ljhH1ENIlMV4ayP6bF0gwULMRAKmJaU, accessed July 2022). He always writes carefully which instrument and what type of strings his using for each piece.

The possibility to intervene on the instrument in this way is a feature that can influence the development of ukulele literature as well as its physical characteristics. In some years we will be able to look at this evolution and analyse this aspect deeply.

Composers and Performers

In this chapter I will try to report on some ideas that seem to attract both composers and ukulelists. These aspects are to be considered through both groups' points of view before a thorough analysis of the music itself. Nevertheless, I think it is worthwhile to briefly report them and to reflect on some possible effects.

The interaction between a composer and a musician, especially when writing a piece for a solo instrument, is surely not something unusual. If such a collaboration can likely provide many insights to both the composer and the performer, when working on a solo ukulele piece, the partnership can be of great value. Probably, since there is not an established literature, the composer feels that they have the freedom to ask, to try out, and to receive no pressure from the big masters when doing so as they would when they want to write, for instance, for solo violin. At the same time, ukulelists usually seem very open and they welcome everyone and every idea, looking for solutions and suggestions. In the short history of the ukulele, we cannot see an established classical technique. There are no standard techniques one must learn for participating in classical competitions. For what I am witnessing, the composer-ukulelist alliance is creating not only various compositions, but also friendships and musical movements. All the musicians I interviewed, even with their different angles or aims, expressed their enthusiasm for the performer-composer collaboration. For instance, Pfeiffer enjoys the collaboration with composers who do not know the ukulele and that do not have much experience with the guitar as well. The reason, in this case, is that the composer often finds unusual solutions that can be of interest to the performer too. Then, the ukulelist is stimulated in understanding whether these ideas are playable and what effects can be created. Similarly, but with a different aim, Bousted advocated for more technical compositions, that could force the player in developing a technique and possibly in elaborating on new solutions. In his opinion, the ukulele world needs composers who could write pieces close to a new style of complexity, and with microtonal solutions.

Pfeiffer and Albini have commissioned some pieces that regularly make use of electronics. Also, a very interesting example is the CD by Quilliam *Cold Red Machine*,[8] where he is both the performer and composer of pieces for electronic and ukulele. This is something that has already taken its place in an academic

8 See above, p. 111, n. 1.

context. It is a practice that can enrich the ukulele from at least two perspectives. One is the playing technique: for instance, the amplification requires the performer to shift their focus; the fingers need to move more cleanly on the fingerboard and a different use of the strength in the right hand is required. The second perspective is the instrument itself. If there are specific requirements from the composer, it may be necessary to create a specific instrument. Then, the luthier will have to find solutions together with the performer. These are only the more immediate features that come under discussion when working with compositions with electronic components. If we implement these kind of compositions and collaborations between composers and ukulelists, the instrument can be pushed to new and interesting paths. Maybe it is too soon to analyse the impact of electronic in the ukulele world now, but it will be worthwhile to carefully observe this dynamic in the future.

Over time, these examples of compositions and musicians with ideas, approaches and solutions so diverse should bring a wider audience into looking at the ukulele; on the other hand it is possible that the ukulele could be enhanced by all these experiences, which would bring with it further evolution of the instrument. The musicians I interviewed are already commissioning new ukuleles with different features. This is a very fascinating and important aspect and it deserves more space than this article can offer.

The ukulele is lucky, in my opinion, to have been born in between different musical cultures. It has been the case for some decades now that this instrument has already started to develop its peculiarity in the classical context whilst keeping its popular character. Together with the versatility of the ukulele, its origin is amongst its most valuable features and should not be overlooked while working within the classical and academic world. The possibility to choose the right instrument is a privilege for a composer, and vice versa a ukulelist can find the colours they want for a different and maybe richer interpretation. If these aspects are to be preserved, the ukulele can find more and more space for itself within the academic context.

Some Examples in Contemporary Music

In this chapter I would like to reflect on some recently written scores by three different authors. In particular, I will consider their approach to the composition and their relationship with the ukulele. In fact, the personal experience a composer has with the instrument they are writing for, can influence the process; similarly, the image the instrument can recall in a composer's mind can shape the composition and its musical ideas. This chapter shall provide an insight to the reader on how the ukulele evokes to the composer not only a narrativity and a form, but even musical material. The compositions I took into consideration are: "Canzone dell'assenza" by Taccani, "Undressed" by Gálvez,

and finally I will complete these reflections with my personal experience with two compositions that I have written during the last two years: "Dies Rainbow" and "Pappagalli Verdi."

The first step for this kind of investigation would be to look at the program notes; in this way we have a clear context in which the compositions move is established and the analysis can become more comprehensive. It is already possible to notice how the composer approaches the instrument. For instance, Taccani writes:

> I never thought that the ukulele would be in my catalogue … the instrument is taken away from its usual character and foreseeable suggestions: it is a short reflexive work and focused on small suspended and crepuscular gestures (as the agogic states at the beginning) slightly ruffled in some moment. It is a rhapsodic path: if the narrative aspect of the composition is the variation applied to the initial minor third figure, the discursive one is continuously blended toward small deviations removing the possibility of further exploration.[9]

The composer in this case decides to distance the instrument from its traditional habitat. This aim allows Taccani to find uncommon sounds that, thanks to the composer's craftsmanship, are possible to appreciate fully. The "rhapsodic path," as stated in the program notes, as well as the "small deviations" emphasize the unusual gestures before the sounds themselves. The composition demands high concentration and control; it is fundamental to put the most accuracy into rendering all the small variations of the gestures. It is worth noticing that in Taccani's example, we do not assist in an exploit of what the ukulele literature or traditions have to offer, rather he wants the performer as well as the listener to take time and appreciate the unusual sounds he considers worthy of attention. A different example is the one of Gálvez: a ukulelist himself, also interested in trying out different compositional techniques on the ukulele. If Taccani positions the ukulele towards unusual sounds and gestures, Gálvez shapes a compositional technique onto the instrument. The composition "Undressed" is built on the *tintinnabuli* style, and also requires the performer "to retune the third string of a re-entrant tuning ukulele down to B" as stated on the score. The scordatura is then a consequence of the composition

9 "mai avrei pensato che l'ukulele sarebbe comparso nel mio catalogo … lo strumento viene portato con decisione lontano dai suoi territori abituali e dalle suggestioni più prevedibili: un breve lavoro riflessivo e concentrato su piccole gestualità dal carattere sospeso e crepuscolare (così recita l'indicazione agogica iniziale) appena increspato da sussulti locali. Il percorso è rapsodico: se le varianti figurali alle quali viene sottoposta la terza minore iniziale rappresentano una sorta di filo rosso narrativo, il flusso discorsivo è di continuo piegato verso piccole deviazioni senza che a nulla sia concesso il tempo di evolversi e di approfondirsi.": Giorgio Colombo Taccani, "Zone insolite," *ESZ News* 87 (2022): 9.

technique chosen by the author. The aim is to have an arpeggio of E minor at his disposal, as Gálvez writes on his website:[10]

> "Undressed" is a minimalistic work that loosely follows the principles of Arvo Pärt's tintinnambuli. The melody voice is played on the first string, while a repeating minor triad arpeggio is played on the bottom strings. The optional drone can be played by any instrument you like: a cello or a shruti box will fit the role nicely.

The composer also explains the role of the background drone:

> "Undressed" is a self-portrait of the composer. A drone and a repeating triadic arpeggio serve as the background for a brief melodic dissertation on the state of the author's soul, while inviting the listener—and of course, the performer—to reflect on his own inner self.

Even though Gálvez declares the drone as "optional," in my opinion this background sound is sonically fundamental. It helps to achieve that contemplative environment in which the listener and the performer are invited to immerse. The meditative aspect is not only the aim but also the inspiration of the composition. The composer requires the performer, in the program note, to be absorbed in a certain state of mind; the composition technique and the writing style of Gálvez agrees with this request. "Undressed" asks for great concentration and clarity. This composition demonstrates how the *tintinnabuli* technique can provide elegant solutions for this kind of narrativity.

A different example of approaching the composition for ukulele is represented by two compositions written by the author of this article. They are for standard high-g ukuleles; in both cases I asked for technical help from Albini who was also the commissioner and dedicatee. The first composition, "Dies Rainbow," was commissioned at the beginning of the pandemic period. This was significantly influential in choosing the musical material. Here it is the program notes:

> The ukulele is an instrument with many possibilities even though it is very often associated with happy and relaxing music. To write a piece for ukulele during these pandemic times gave me the idea to work with "Somewhere over the Rainbow," which the version for ukulele is pretty famous, and the Gregorian chant "Dies irae," which is not so common on this instrument. Their cohabitation is a description of the times we are living in where over a rainbow we can see or have difficult moments.

For this composition I decided to refer to some traditional gestures, such as the rasgueado technique, and other musical ideas that are maybe less

10 www.choan.es/en/blog/undressed, accessed July 2022.

foreseeable or expected when thinking about a ukulele: the melody of the "Dies irae" is probably not expected by the listeners and is used as a counterpoint to "Somewhere over the Rainbow," which is very recognizable in the foreground. This construction regards only the first part of the composition, while the second part makes use of the Gregorian chant exclusively. What we can consider to be traditional gestures are juxtaposed to create different expressions that can be far from what we are used to. It is not easy to render the counterpoint of the first part, and when playing the performer also has to balance the different moments and techniques that they find in a piece of 3 and a half minutes.

Differently, "Pappagalli Verdi" does not quote any pre-existing musical material. I noticed that many people, mostly non-musicians, consider the ukulele as a toy, or an quasi-instrument for children. This was one of the triggers of this composition, as the program notes explain:

> "Pappagalli Verdi" (green parrots) is inspired by the homonymous book by Gino Strada. He describes his experience as a doctor in countries were the war is just finished, and the title refers to a particular kind of landmine projected to hit children. As a matter of fact, the green parrots appeared clearly as something fake and probably dangerous for adults but similar to toys for children who are attracted to take them.

This composition wants to suggest the idea of listening to a kind of toy. Some gestures of the right hand can be considered playful but the resulting sounds are unpleasing if related to the idea of a toy. There are passages that represent, in my mind, someone who is freely exploring and trying out the instrument, like a child playing, but the result is far from what one expects from a toy, because it is not a toy, as the parrots are mines and not a toy.

These four compositions provide a small but rich overview of how the ukulele can inspire musical ideas, forms, aims and narratives. Also, the personal experience a composer has with the instrument influences the compositional process. The expressive potential in contemporary music for ukulele can be further investigated, but it is already possible to see how much can vary.

Conclusions

Generally, this article shows the ongoing discovery of the ukulele and its versatility from several points of view. Every aspect discussed here could be investigated further and deeper. Nevertheless, this paper exposes what seem to be the current and main points of interest for ukulelists and composers. Within the European context we are witnessing an increasing interest towards the ukulele and many new activities and musicians. The interviews of the five ukulelists triggered the reflections that I developed in this paper. The considerations

made in this article start from the fact that the ukulele has only a small amount of literature, especially in the academic world, when compared to instruments with centuries of dedicated development and study.

Firstly, there is currently no well-defined playing technique and, although there are clearly similarities with the guitar, it would probably be unwise to apply the exact same technique to every case. Moreover, many ukulelists have different backgrounds and play many genres. Some also use other instruments of the same family (machete, banjo, etc.); this aspect can influence the development of the classical ukulele technique; also, a composer can be inspired by such variety, asking sometimes for unusual performances and techniques.

Other points of interest cover the tuning and the number of strings. The possibility to intervene on the instrument in such a way stimulates ukulelists' and composers' minds. There are already a good number of new compositions that propose a non-standard set up. The size of the instrument and its relatively non-expensive costs nurture this kind of curiosity and research. The example of "A Conspiracy of Ravens" by Muir is as simple yet effective solution. She asks for five strings and comprises the 4th and 5th course together. This creates a characteristic sound for her composition; then, by also instructing to tune the ukulele a half step down, she changes the general colour of the instrument. Also, it is possible to choose a particular ukulele for each piece. If it is true that a ukulelist needs the right instrument for their own interpretative ideas, then it is also true that composers can themselves request certain characteristics in the instruments that they write for. For instance Albini in his CD *A Classical Ukulele* utilizes a different ukulele for every piece. This is an opportunity that other classical instruments do not offer; it creates ground for interpretation and composition ideas.

The collaboration between the performer and the composer is not exclusive to the ukulele for sure. Nevertheless, I think the ukulele offers some interesting opportunities. There are many performers and composers that are trying out uncommon solutions in new compositions, sometimes involving the use of other media. This activity could further normalise the physical intervention of the instrument or push performers and composers to find different playing techniques or writing styles. All the musicians interviewed for this article showed interest in these possibilities, and are working in different ways in this direction. It is most probable that these kind of paths and researches are stimulated by the will of developing the short literature of the ukulele. The exploration of the ukulele's character and colour still require some further years and compositions, but recent activities seem to point towards this kind of research.

Finally, looking at some contemporary compositions, it is possible to see how the ukulele can inspire musical ideas, forms and narrativity. The compositions "Canzone dell'assenza," "Undressed," "Dies Rainbow" and "Pappagalli Verdi" show very different startin points, aims and outcomes. This gives a small idea

about how the composers each picture the ukulele in their minds differently; also, we can grasp an idea of the expressive potential that the ukulele can have.

In general, there is increasing interest in the ukulele that is bringing musicians and composers from different backgrounds together in order to experiment with it. In particular, in the academic context, we are witnessing a rise in commitment, especially from composers. Even though it is still too soon to make major conclusions, this curiosity had already resulted in experimentation of different kinds that may bring to light a unique or distinct playing or writing style that applies only to the various forms of the ukulele. . This paper wants to be a starting point for deeper investigations. The relatively young age of the ukulele between other classical instruments allows us to follow step by step its evolution in the academic Western context, and research on every singular aspect of this development is a unique opportunity that not to be missed.

Since this article only exists because of the availability of many musicians and composers I had the pleasure to talk to, I want to thank all of them from my heart for their fruitful reflections. A special thank goes to Donald Bousted, who decided to help me despite his terrible condition at that time. I hope this paper will help in spreading his enthusiasm and his ideas.

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Contributions

The Ukulele in Italy: Paths of a Recent (Hi)Story

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Abstract
The spreading popularity of the ukulele is a global phenomenon. However, a deep-rooted historical tradition, as well as an awareness of the instrument's history exists only in a few countries, predominantly Hawaii, the US and the UK. However, I would also say that Italy is no exception, and the ukulele's recent spread over the last twenty years has been characterized by both considerable heterogeneity and vitality. Local and national festivals gather singers, songwriters and musicians of every level, attracting ukulele enthusiasts and curious onlookers. As a result, websites and social communities have begun to appear, together with educational publications and ukulele makers. In this paper I intend to provide a critical overview of the popularization of the ukulele in Italy, in order to begin outlining its unique local characteristics. Focusing on some specific case studies that move away from the ukulele's "standardized image," I will discuss the relationship between Italian folk and popular music, the possibility of identifying distinctive performative approaches, and the legitimacy of an "Italian identity" of the instrument.

Keywords
Italian Music, Popular Music, Ukulele History, Italian Songwriters, Italian Music Festivals

Introduction and a Few Dates

History needs dates and events to mark any significant changes and evolutions step by step. But we know that dates are often conventional and useful in order to easily identify the border between the past and the present. In the ukulele's history, for example, we remember 1879 as the year when the SS Ravenscrag arrived in Honolulu, after a nine month voyage that began in Madeira. So, we could say that the Ukulele was born in 1879, but actually it is more accurate to say that it was born after the development of the machete and the rajão into the ukulele by Manuel Nunes, Augusto Dias and Jose do Espirito Santo. We also remember 1915 as an important date, when the Panama Pacific Exposition took place in San Francisco which supposedly introduced the ukulele to Americans. To tell the truth, American people had known the ukulele a long time before that event. Despite this, everybody knows that these two dates are only conventional and easier to remember even if they are only approximate. As I have set out to do, I should talk about ukulele in Italy, and the first thing I would ask myself is: "When

can we say ukulele's history started in Italy?," and I would think it to be no more than 20 years ago. It is something that belongs to recent history and perhaps it is too early to talk about it as a historian, but instead as a commentator. If we should choose some official events to mark the beginning of the popularization of the ukulele in Italy, two dates are to be mentioned: 1978 and 2008.

1978: Rino Gaetano

1978 is a significant date according to Italian collective memory, made up of mass media and national television events watched by a wide audience. 1978 reminds us of when the songwriter Rino Gaetano appeared on the Sanremo Festival stage. He was dressed in a tailcoat, a bowler, a bow tie, and embracing a ukulele. He took part in the most famous Italian song competition singing the song "Gianna." Probably, it was not his best song, certainly it was not even his favourite for the competition. He would have preferred a more incisive protest song. Nevertheless, "Gianna" was best suited to that audience and context.

For our purpose, it is very important that many Italians think about that performance when they talk about the ukulele. Rino Gaetano loved playing the ukulele even if, in this case, his instrument was used as a gimmick or novelty, rather than for any musical purpose. In the official recorded version you cannot distinguish the sound of the ukulele sound because it is a guitar that is undoubtedly supporting the singing. That night on the Sanremo stage, however, we could clearly hear the strumming of the ukulele when Rino Gaetano played it solo in the very introduction of the song, just before the all band started playing, as we can see in the following video excerpt.

The early and sudden death of Rino Gaetano denies us the opportunity to see if he would still play the ukulele, or if he would continue to promote ukulele in Italy someway. One thing is certain: even today, after so many years, Rino Gaetano is still portrayed with his ukulele, particularly in the bronze statue of him that is located along the promenade in Crotone, his hometown, but not only this: he is also captured with his ukulele in many photographs. By the way, one of his instruments has been the protagonist of a beautiful story. After his death, his family decided to offer his ukulele at a charity auction for the construction of the Emergency Hospital in Sierra Leone, and this auction was won by the Municipality of Crotone. Today, after many problems, the instrument is

guarded and exhibited in the headquarters of the Naval League of Crotone, in Calabria, near his home.

Since 1978, the ukulele has rarely appeared on national TV. We can mention some Italian artists or bands that had a short-term prominence that took part in a few TV shows. Here is a brief list:

1. 1994: Fabio Koryu Calabrò who took part in a few episodes of Maurizio Costanzo Show.
2. 2014: Luca "Jontom" Tomassini e Ukus in Fabula performed at "Si può fare" [You Can Do It] TV show hosted by Carlo Conti on Rai 1. Jontom was invited to teach ukulele to some celebrities, including Sergio Muniz with whom he released the album *Playa* a short time later.
3. 2015: Ukus In Fabula took part in "Italia's Got Talent" on Sky
4. 2017: Sinfonico Honolulu took part in "Tu si que vales" on Canale 5
5. 2018: Ukus in Fabula took part in "I soliti ignoti" [The Usual Unknown Persons] TV Show[1] on Rai 1

This flashback reminds us of many aspects of the ukulele and its history. With obvious differences, it particularly reminds me of Tiny Tim in his original appearances on Talk Shows, with his atypical artistic style and holding his ukulele. All these events confirm how the visibility of the ukulele in the mass media is important in stimulating curiosity, interest and collective knowledge.

In Italy, we still must pave the way, we are living a slow process of ukulele acculturation: this means that this musical instrument which comes from different cultures, is slowly becoming part of our culture. We are learning something from a tradition but we are also giving something new, belonging to us. Thanks to its past and recent history, the ukulele is very versatile and available to be "reinterpreted" all around the world with significant results.

2008, Uke IT: The First Italian Ukulele Festival

Without any doubt we can consider 2008 as an important year for the promotion of the ukulele in Italy. The First Italian Ukulele Festival took place in Vicenza that year.

The Festival was conceived by Gaetano Cappa and Marco Draghi, members of Istituto Barlumen, who have been engaged in musical and radio productions for many years. It must have been a big gamble for the organizers who also managed to invite some international guests such as James Hill from Canada and Bosko & Honey from Australia.

1 The title of this TV show recalls the Italian original title of the movie *Big Deal on Madonna Street* by Mario Monicelli (1958), translated for the UK public as "Persons Unknown."

On July 4th and 5th ukulele players, musicians, fans and curious people gathered in Vicenza, coming from all over the country. As confirmed by some of them, many had never met before or they had known each other only through web forums.

The Festival was organized under the patronage of the Veneto Region, the Municipality of Vicenza and the support of Aquila Corde Armoniche. The artistic production was edited by Istituto Barlumen, the direction and management of Cappa & Drago (creators and protagonists of the cult program "La Fabbrica di Polli" by Radio3 Rai).

There was no lack of a social dimension and purpose, as we can see from some important quotes:

> The event, entirely free of admission, wanted to help the Doctor Clown and all the Patch Adams who, presenting themselves at the stand of the Aquila Corde Armoniche, received a free ukulele to be able to practice. Subsequently, if they decided to join the project "ukulele in hospital," other ukuleles could be given to hospitalized children to allow them to play together. Children were thus able to distract themselves and spend pleasant hours, strengthen friendships, and cultivate the passion for music that is often just waiting to be lit.

Focusing on the music program, the commentators add:

> It started on Friday, July 4th at 9pm with a kermesse of Italian ukulele, on the occasion of the publication of the anthology CD *Uke IT Volume One*. Cappa & Drago facilitated the performances of many Italian artists: Max De Bernardi e Veronica Sbergia, Fabio Koryu Calabrò, Carlo De Toma, Felice Pantone, Scampaforche, Thomas Blackthorne, Stefano Tessadri, Luca Gemma.
> Saturday, July 5th the program started in the afternoon with the Workshop Young Italian Artists with two free workshops involving adults and children: Fabio Koryu Calabrò entertained children playing with them and introducing them to ukulele; the Canadian James Hill, a virtuoso of the instrument, provided an easy and fast method to start learning ukulele.
> To follow, a triple concert that featured: Fabio Koryu Calabrò with an Italian tribute to the fortieth anniversary of the *White Album* by The Beatles; Bosko & Honey, a couple of Australian ukulelists, very popular on Youtube, and the Canadian James Hill accompanied by the cellist Anne Davison.

2008, Uke IT: The Album

Uke IT was an important event thanks to a meeting, a showcase, a workshop, a concert and the presentation of an anthology CD.

In my opinion *Uke IT* is a very important album. Italian ukulele was mentioned for the first time, and it features Italian songs, Italian music and Italian artists. In *Uke IT* we can listen to many Italian ukulelists performing, some

of whom are still on stage today. The aim was obviously to make the ukulele known to a wider audience: to both those who had already taken a personal interest and those who knew nothing about it.

I think Gaetano Cappa and Marco Draghi's purpose, as artistic directors of the first Festival but also as producers of this record, was to gather ukulelists from all over Italy. Many of these players continued to cultivate their interest in the instrument, and they have become significant reference artists: Fabio Koryu Calabrò, Enrico Farnedi, Jontom, Adriano Bono, Veronica Sbergia and Max De Bernardi. The last two performers typically do not play any Italian songs; for this reason their participation has become even more valuable because it allows us to listen to Veronica Sbergia singing "Se stasera sono qui" [If Tonight I Am Here] by Luigi Tenco, and Max De Bernardi playing an amusing rendition of "Tuca tuca," made famous by Raffaella Carrà. An exceprt of the song can found at the following audio link:

Among the 22 tracks of the anthology, we can listen to many different artists, some of whom rarely used to play ukulele. I mean, for example, Frankie HI NRG with his very appropriated ukulele version of his hit song "Quelli che benpensano" [The Conformists]. I would also mention Petra Magoni and Ferruccio Spinetti performing the classic 60s' song titled "Un colpo al cuore" [A Blow to the Heart], sang by Mina in 1968. And I would finally mention Seldon, a Brazilian band living in Milan, as they convincingly performed "L'Armando," an ironic song by Jannacci. It is fun to listen to this version with a slight Brazilian accent. As an exchange of roles, Carlo De Toma, a jazz ukulelist and banjoist mainly associated with music of the New Orleans Era, played a bossanova version of "Maramao," a foxtrot song written in 1939.

Other names are today less known in the world of Italian ukulele, nevertheless, the significant contributions of Stefano Tessadri, Luca Gemma Scampaforche and many others deserve to be mentioned. Finally Daniela Gaidano and Mimmo Peruffo (Aquila Strings and Il Mercatino dell'ukulele – Uke for All), closed the collection with an unusual viola and banjolele duet.

Both are important personalities of the ukulele world because they contributed to the popularization of the instrument in Italy, which was also thanks to the large number of local and national festivals organized in the following years.

As a result, websites and social communities began to appear, together with personal online initiatives (mainly the site www.youkulele.com since 2010),

educational publications and ukulele makers. We are a little community of singers, songwriters and musicians of every level, attracting ukulele enthusiasts and curious onlookers.

Educational Publications

I dwell on some publications that have been circulating for the longest time and are the result of the fieldwork of some Italian ukulelists and teachers who have opened up the discourse of teaching the ukulele in schools. There are many other contributions, some even self-published that testify to great interest and fermentation in the dissemination of the instrument Also in the field of teaching, Fabio KoRyu Calabrò paved the way with his *Alla scoperta dell'Ukulele* [Discovering the Ukulele], published by Sinfonica Edizioni Musicali in 2011.

Two texts were released simultaneously in 2016, the result of experience gained in schools by the working group of the Oltremusica Cultural Association and the Rome-based ukulelist Angelo Capozzi:[2] *Iniziamo presto con l'ukulele* [Begin with the Ukulele at a Young Age], published by Edizioni Curci in 2016; and *Ukulele. Metodo Completo. Livello base e intermedio* published by Volontè & Co the same year. In addition to this volume, Angelo Capozzi has published two other educational books.[3]

Ukulele Makers

In Italy we have an ancient luthier tradition that has faced ukulele making in the last few decades. In this regard I would like to briefly mention some Italian ukulele makers that have been conducting research along different and original directions. I wish to mention here Marco Todeschini (Antica Ukuleleria), Francesco Verginelli (FV Guitars) and Valerio Pennisi (Historia Ukulele) who have undoubtedly been devoted to this activity for a long time, some of them exclusively. This is the reason why I am mentioning only these names despite the remarkable work of other ukulele makers, also very young, who are great contributors for the popularity of the ukulele in Italy.

2 Members of this working group are Elisabetta Zulian, Clara Zucchetti, Sara Magon, and Fiorenzo De Vita.

3 Angelo Capozzi, *Ukulele Fingerpicking. Arpeggiare, accompagnare e armonizzare con l'ukulele* (Milano: Volontè & Co, 2018); Id., *Ukulele Ritmico. Lo strumming e la ritmica con l'ukulele* (Milano: Volontè & Co, 2020).

Spreading Popularity and Deeper Knowledge

As mentioned before, www.youkulele.com was the first Italian website about ukulele and it was created by Luca "Jontom" Tomassini in 2010 to allow Italian people to better know this instrument. Jontom was the first Italian ukulelist to play at Honolulu Ukulele Festival, attending the 41st edition in 2011. He published a lot of video tutorials, articles, tablatures and ebooks full of information and materials useful for playing different kinds of music. He made the ukulele more approachable and accessible to a wider audience. Today the website provides a ukulele course led by Jontom, and even if most of the content is reserved for its Patreon supporters, we can easily access any kind of materials published until 2016. In the wake of youkulele.com, a lot of blogs and websites appeared in Italy. It is a very wide field that would require a special report, as it is increasing a lot.

Regarding the press, a small magazine called *Notiziario La pulce* [The Flee News] deserves to be mentioned. The subtitle of the magazine tells us about "the world of ukulele seen through the eyes of two fond bloggers," Claudia Camanzi and Viviana Monti. Since November 2014 until March 2018, they edited 13 volumes with many contributions, interviews, records and books reviews. Until today it was the only magazine about ukulele in Italy.

Recently, Fabio Saba graduated in Musicology with a thesis entitled *L'ukulele. Elementi di storia e organologia* [The Ukulele: Elements of History and Organology]. It is the only dissertation on this topic to date. In his thesis, Saba provides a careful analysis of the origins of the ukulele, from the lute to the rajão, and its organological aspects. The history of the ukulele between Madeira and Hawaii is very interesting, as he makes references to the geopolitical and social changes of the two island nations. The final chapter of his dissertation is dedicated to the ukulele in Italy and teaching.

A lot of my own thoughts and information can be found via my own radio show "Intorno all'Ukulele" [Around the Ukulele]. I conceived it and I'm still leading it, broadcasting on the web radio Deejayfox Radio Station. Since 2017 I have been making the ukulele familiar not only through its entertaining music, but also through its history and its repertoire.

All the episodes of the podcast are published on the website www.intornoallukulele.it and represent an interesting portal with interviews, thematic episodes, reviews and playlists of different kinds of music. We have already broadcasted 200 episodes to date.

On the occasion of episode n.100, the book *Saltellando qua e là* [Hopping here and there] was published.[4] It is the first Italian book talking about personalities who made the history of ukulele. It is a little and quick-to-read book related to

4 Davide Donelli, *Saltellando qua e Là. Intorno all'ukulele* (s.l.: self-published, 2019).

this online portal where you can go zigzagging through a rhythmic path as if you were on the radio. The book is a quick overview of the names that made the ukulele great: from Cliff Edwards to Ohta San, from Jesse Kalima to Roy Smeck, from Eddie Kamae to Andy Eastwood.

Searching for an Italian Identity

In my work, I intend to provide an overview of the spreading popularity of the ukulele in Italy, in order to begin outlining its unique local characteristics and to identify a kind of "Italian identity."

Starting from the fact that there is no ukulele tradition in Italy, it is interesting to start thinking about the many experiences and productions that have intermittently occurred since those first events. Last but not least, we are interested in showcasing some figures, songwriters, instrumentalists and bands that are undoubtedly very representative.

Along this rich process, we wonder about the possibility of identifying distinctive performative approaches, some features of an Italian style, discussing the relationship with Italian folk and popular music and the legitimacy of an Italian identity of the instrument. The question perhaps is too ambitious and it is probably too early to answer. However, we are going to have a look at some experiences, records and artists that justify this question.

1. Fabio Koryu Calabrò

Our story began marking 1978 as a pivotal point for the spreading of ukulele in Italy. The essential characteristic of Rino Gaetano's songwriting was the use of the lyrics: especially, I am interested in the way words are composed and used for their phonetic and semantic properties and I also appreciate his way of expressing deep thoughts with simple and common words.

Fabio Koryu Calabrò, who began writing songs in 1989, has an interesting and personal style too. He is still working on the composition of humorous songs, performing live with ukulele, and playing his own songs in addition to some covers of songs by other artists also. Among many examples I chose the medley called "Cucio Battisti" [I sew Battisti], which is a mix of different songs by Lucio Battisti.

It is a funny way to play with lyrics that reveals a unique creativity.

Fundamentally, he is a storyteller and we can include him in the tradition of performers and songwriters presenting texts, both in content and form. His lyrics are witty which always pop out to you, truly reflective and always poetic.

Scrivo canzoni, inni, ballate, strofe, stornelli
sugli argomenti più disparati e ritornelli.
Posso affrontare qualsiasi questione, dietro comando o su ordinazione.

È *il mio mestiere, mi basta avere almeno un tot da fumare e da bere.*
Ogni canzone è un'opinione verificata,
un'occasione per stare zitto, ormai sprecata.
Il suo vantaggio, compresi i saluti, è di durare pochi minuti.
Tira via il dente, passa il dolore,
e molto spesso parla d'amore.[5]

It is difficult to translate his lyrics into another language even if he himself was able to translate many Beatles' lyrics from English into Italian. He even was able to translate five albums without ever loosing fantasy and creativity. Since 2000 until today he has released:

1. 2000: *Albume Bianco* [White Egg White] (from *White Album*),
2. 2007: *Sergio Pepe e l'Orchestrina dei Cuori Solitari* (from *Sargent Pepper's Lonely Heart Club Band*)
3. 2013: *Rivoltella* (from *Revolver*)
4. 2016: *Wedding Album*
5. 2020: *Abbi Strada* [May You Have Road] (from *Abbey Road*)

Calabrò likes to use a wordplay saying "traduzioni - tradimenti" which means "translations - betrayals" referring to the difficulty of respecting every original meaning of the text. Basically, his work is a Queneau's *Exercises in Style* with amazing results. Calabrò finds the ironic vein of the Beatles even in their most serious productions, always trying to find a balance between feeling and irony. I hope that one day somebody will dedicate a special analysis to this extraordinary work.

The ukulele usually accompanies Calabrò's voice, sometimes engaged in perforances that combine theatrical and a singing elements , in what he likes talking about as "musicabaret," often with other popular musicians coming from the jazz world. His ukulele's sound is influenced by the tradition of the early jazz style, with it a ringing sound enough to "pierce" the orchestra and evoke "once upon a time." It provides a kind of jazz patina that takes its roots in the

5 [I write songs, hymns, ballads, stanzas, stornelli (a kind of Italian folk song) on all kinds of issues and even refrains. I can deal with any matter, under command or order, it is my job as long as I have enough to smoke and drink. Every song is a verified opinion, a chance to shut up, and now wasted. Its advantage is that it is to last just a few minutes, including greetings. It (i.e., the song) pulls out the tooth, the pain goes away, and very often it speaks about love.]

post-war period by direct contact with the American musical tradition. Calabrò prefers the ukulele in its concert size and he is the only person adopting Eb jazz tuning in Italy.

2. Danilo Vignola: Ethno Punk Melodies and Rhythms

It is easy to find Italian characteristics in Danilo Vignola's music. Just listen to some tracks from the album *Ukulele Revolver* edited in 2014 to hear echoes and reminiscences from folk music of Southern Italy. This record could easily be catalogued as world music, a very widespread tag, considering that many musical genres and extramusical artistic experiences come together in this album.

It could be defined as a journey involving all sorts of Mediterranean rhythms and sounds. He gives free rein to the art of improvisation, revisiting traditional melodies (rumba, flamenco, tarantella, "Arabian sounds") and intertwining them with experimental ideas, psychedelic harmonies, and heavy rhythms.

Danilo Vignola claims that tradition should be betrayed (using a pun that works well in Italian), and that it should be built up in the name of a continuous intercultural exchange. It happens, for example, when foreign instruments combine with the Mediterranean tradition. Every time experimentation leads to a new perspective, breaking from a previous identity and giving rise to new music. It is very curious as the theme of betrayal is also present in the work of Fabio Koryu Calabrò. It is true that nothing is destroyed and everything is transformed, but let's go back to our topic.

The title *Ukulele Revolver* deliberately recalls the Spanish expression "re-volver" ("to stir") and suggests the idea that his music is both ancient and futuristic in nature. As we said his perspective is enriched with cultural influences, as well musical influences as Danilo tells us:

> My university studies in ethnomusicology pushed me to look for new masters: from flamenco to beat poetry, from demo-anthropological research on the field to figurative art and the study of ethnicities through rhythm, which I experienced mainly living in Spain. A slow technical construction and a musical language always stealing from here and there, is now finding the highest expression in unconventional instruments. Ukulele as percussion, a journey starting from my roots: Lucania.

A substantial aspect of Vignola's style lies in the technique of his attack, which is always precise, sharp and scratchy, characterized by sudden and snappy gestures. It is based on a singular expressive intention that draws inspiration from a very deep thought, well rooted in the collective history of his land, Lucania (or Basilicata), in the South of Italy.

All this is musically well represented in a song entitled "Vi cumm abball' bell." (The title is in Basilicata jargon and means "See how well she dances.") It is undoubtedly ritual music, cathartic, purely emotional, with reference to the artistic experience of the fellow countryman Antonio Infantino, an architect and musician considered as one of the most original personalities of the last few decades. His style is reminiscent of flamenco music and performing techniques, which is not surprising in view of the fact that he studied in Spain, but, as I have been saying for a long time, his approach to the ukulele is influenced by *chitarra battente* sounds and techniques. This particular instrument has spread in the popular tradition of Southern Italy; it is the popular version of the ancient Baroque guitar and has two alternate performative techniques: the barrel technique (strumming/*rasgueado*) and the pinch technique (picking/*punteado*). In fact, both components are Danilo Vignola's musical peculiarities. Anyway, "Vi cumm abball' bell" is structured on a simple and obsessive melodic line that proceeds like a riff. Vignola has a very virtuosic and personal technique; in this piece he uses fast arpeggios to support the tempo, like a guiding drum, and uses strumming to enhance the rhythmic elements of the dance.

In "Gino's Wine" we can appreciate a cathartic atmosphere, made of psychedelic tones. The listener is led to dancing by a beautiful folk melody. Probably the first thing one notes when listening to "A Waltz is Forever" is simply a fresh and light atmosphere, but actually it is full of melodies suggesting an amusing interweaving polyphony. . Something similar happens in "Thrill of a Happiness," too.

I would finish with Vignola's words describing his own compositional style:

> Mixing melody, rhythm and harmony, as the 20th century painters did with shapes and colors, is illuminating for me from a compositional point of view. Rhythmic surrealism, harmonic impressionism, melodic cubism, action-playing.

3. The Naftalinas

The idea of pulling old-time songs out of mothballs has always fascinated me. I think it is a pity that many songs are unjustly forgotten today, some of which are unfortunately too seldom heard and even less are performed.

So, it is curious to see how the band Naftalinas' was born for this purpose. Since their birth in 2010, their repertoire has included some classical Italian song

writers such as Carosone, Nicola Arigliano, Paolo Conte and Rino Gaetano. They influenced in spirit and in taste both the Nafyalinas' music and lyrical writing.

They recently released their first album titled *Dieci storie sempre al limite del guaio* [Ten Stories Always on the Edge of Trouble]. It includes eight songs of excellent quality, which lead you into a fantastic and realistic, even surreal at times, world. All these stories are characterized by a fine and elegant irony, able to relieve melancholy and sadness.

This album has transformed their songwriting repertoire, always maintaing a balance between theater-song and jazz, and improving upon it with fleeting representations of different musical genres. These songs do not smell of naphthalene at all, but give a breath of fresh air and open up charming musical worlds.

The Naftalinas have a great ability to always allow their music to be soothing, even if there are deeper messages beneath the surface. In short, their songs speak about everyday life in a playful, light and sometimes reassuring tone, one which always provides an ancient flavor but is also very contemporary.

Even if the lyrics and music are only composed by Antonio Bucci, the whole of The Naftalinas is a team. The quartet is made up by the ukulelist Cesare Cortassa, with his essential voice, always vibrant and authentic, the bass of Davide Camilletti and the soloist and skillful ukulelist Vincenzo Vona. Bucci completes the quartet with his accordion and banjolele, whilst also establishing his role of director with mastery and firmness.

The Naftalinas became a 16 piece band for this album, as they were joined by many contributors, both ukulelists and not: Enrico Farnedi, Angelo Capozzi, Teo Torri, Francesco Albertazzi and many others. Having met at several ukulele fetivals, they have maintained a playful, goliardic and magical atmosphere of joy, friendship and sharing. It seems to be a kind of necessity for everybody, especially during those years affected by the pandemic.

It sounds like we are back to 2008, our starting point: a need to meet, become acquainted, share and make music together. So, *Dieci storie sempre al limite del guaio* reminds us that irony, friendship, sharing and gaming are the spice of life and that a smile can save us from bitterness and sadness. I would like to end with some words from "Mondo alieno" [Alien World], a song about an asteroid being called to destroy everything that hurts the coldness of humanity.

Playful, Ironical, and Engaging Performance

Recently I've asked some guests of my radio show *Intorno all'Ukulele* to talk about the legitimacy of an "Italian identity" of the ukulele, or to simply identify an Italian personality embodying it.

Daniele Dencs, band leader of Ukus in Fabula, told me about their international concerts and how people identify their performances as typically cheerful, lively and enjoyable, attractive, engaging, and sometimes ironic too. I agree and I understand what they mean, but to tell the truth, this is true of the typical Hawaiian styled ukulelist known worldwide. When I asked Angelo Capozzi (Tubadu): Could you identify an Italian ukulele style?, he told me that,

> we all carry along our national peculiarities, whether we like it or not, and even if we camouflage our music as xenophilia, the traces of our tradition are always recognizable. We Italians have a clever, ironical attitude, able to joke and involve the audience. For this reason we are often asked to lead the grand finale, and this makes us think that there is a kind of Italian-ness to our way of communication in concerts. Actually the Italian style comes from the history of Italy, which has been conquered and dominated by different peoples and what results is a great ability of meeting many different cultures, being enthusiastic about life, human relationships and friendship.

I cannot fail to mention Lorenzo Vignando. Although all his original songs are in English and he has been performing international hit songs since the 80's and the 90's, he too has brought his Italian brightness and lightness to ukulele festivals. I think then the positive energy of Sinfonico Honolulu is noteworthy, even when they play international cover songs both in their first album "Absolutely Live" and in every live performance too.

In his instrumental pieces, Francesco Albertazzi always plays melodies that sound very "Italian." In my opinion "The Mirror," his last song written during the COVID-19 pandemic, is a fine example of what we are saying is an Italian identity. He wrote on Youtube about it:

> This song represents me. In difficult moments like the lockdown of these months I was able to look in the mirror and rediscover the simplicity of life. In a few moments you risk losing everything and you realize that you have forgotten important values, replaced by stupid and useless things."
> This song is hope and happiness, it is the desire to review the beauty of my often criticized but really very special country!

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The Ukulele and the Research for New Sounds: Brief History of a Technological Adventure[1]

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Abstract
The history of ukulele strings has undergone significant changes due to the introduction of new construction materials. Before 1950, only gut strings were produced, until nylon emerged as an alternative material for ease of processing and greater reliability. The situation remained static until the introduction of Nylgut for ukuleles in 2002, causing nylon to almost completely disappear from industrial ukulele string production. Beside this new material, fluorocarbon strings also began to spread in the same years, yet not in Chinese mass production companies. The most recent step occurred between 2013 and 2020, with a significant increase in the research of new technologies and materials, like bioplastics, which allow the string density to be increased. The result was a remarkable variety of product types—accompanied by a curious "gut strings revival"—that offers an unprecedented diversity of sonorities. In this paper I will present an historical overview of how ukulele strings have developed over time, touching on some major technological and aesthetic issues. Drawing on a first-hand experience of string making, I will also discuss how the history of ukulele strings fits into the broader context of string production for plucked instruments.

Keywords
Ukulele Strings, String Making, Aquila Corde Armoniche, Ukulele History

1997-2001: The Origins

When I started to deal with ukulele strings, my company, Aquila Corde Armoniche (Caldogno, Italy), was selling gut strings already, specially made by a string making company from Abruzzo. In the field of synthetic strings, instead, we were already making use since 1997 of what I commercially named "Nylgut," which is nothing but a powder type of polyester plastic.

Its discovery was indeed rather peculiar: until 1997 the only synthetic alternative to the gut for the strings used in plucked instruments employed in so-called early music (such as the lute or the viola da gamba) was nylon. This material,

1 English translation by Sophia Crisafulli.

unfortunately, has an inferior density than animal gut—1,04 against 1,30. The sound quality of a string is intrinsically bound to its density (in addition to its elasticity and the material's ability of absorbing humidity): the greater the string's density is, the better its brilliance and attack speediness of the sound are. Thanks to my chemistry knowledge, I asked a Venetian company that produces monomonofilaments for brooms and brushes to experiment with extrusion. By the addition of copper powder I was looking forward to increasing nylon's specific weight until it reached the gut's one, in order to mimic the latter acoustic performance. The tests failed, and we also risked destroying part of the extrusion machinery. During my last visit to the factory I noticed that the floor was covered in plastic monofilaments of all colors. I took one black monofilament among them, put it between my teeth and plucked it: its sonority was incredible. I asked what those filaments were, and the answer was that they were made out of polyester and they simply were production scraps of a well-known Italian brand which sells brooms. I took some of those strings back home and immediately installed them on my lute: the acoustics were rich and beautiful, and truly similar to the gut—that polyester had its same density. So Nylgut came into its creation and the news went around the world amongst lovers of Early Music's plucked instruments.

I soon patented it—it was the summer of 1997—and I went to a factory in the Bergamo area, which extruded a few kilos of material into big bobins. The so produced monofilament was destined to that same string maker that used to produce and rebore gut strings for me, in order to get all the sets with the correct diameters suitable for baroque lutes and guitars. Until 1998-1999 this material was intended only for lutes. Around those years I realized that if I wanted to join the classic guitar field I would have needed to propose it as perfectly smooth and clear like a normal nylon string. But I found insuperable difficulties: the manufacturer would have made them half a ton, which is five hundreds kilos per each diameter, and besides that all the monofilaments produced were ovalized to a certain extent. They simply could not be used as they were. Then while I was observing the dyes used in goldsmithing I had an idea: warming up a single hole-Widia dye using a soldering iron tool, hammer type, embedding the cores in its copper plate. By doing so, and then slowly drawing, pulling the monofilament with a pair of pliers, I was able to produce Nylgut strings that had a round profile and were smooth enough for classic guitars—even if its white-ish color was not much liked by guitarists.

At the time we did not have business headquarters, but just a simple shop with a display window. When I was drawing the monofilaments, I used to open the shop's door and walk for about thirty meters on the sidewalk, warning the pedestrians to move away and to not step on the realized strings. Those strings were initially meant for one of my friends, Stefano Grondona, a famous Italian classical guitarist who started to use them, impressed by their incredible sound

quality. After coming back from a tournée in Japan—it was around 1999—he told me that a friend of his who sold strings in Tokyo was highly interested in my product, for either the guitar and the ukulele. When I heard that "exotic" name (i.e., ukulele) I was startled for a moment. He then better explained to me the fame that ukulele has in Japan, and thus that Japanese man began to periodically place small orders.

From then on I realized that I surely could not keep on manually drawing all those strings. Even if I was receiving around fifty orders per month it would have been absurd to keep on pulling the monofilaments down the street every time I needed to make a string. Therefore, I came up with a "wire drawing table." It was nothing more than an advanced version of the manual process of wire-pulling: I equipped the table with a starting bobin, while the hot drawing plate was in the middle and on the other side I lowound the receiving bobin, which rotated on itself using a small engine that pulled back the monofilament, drawing it through the dye in the right measure, shape and dimension. This system was able to make only two centimeters per second, so I later equipped the hot drawing plate first with two then three Widia dyes, in order to increase production.

Then at some point I got curious about the ukulele—for me, as a string maker, it was not much work: they were just four plastic strings, none of which was wound. Therefore I browsed on the web for more information and I stumbled upon a man called Roy T. Cone. He was a 75 years old man, from Seabrook, near Houston (Texas), who had an ukulele online shop. I contacted him and said that I had some particular kind of strings which might have intrigued him so he could give them a try. It was December 2001. The first day of January 2002, at 20:21 I received a mail from him that, in a few words, said:

> Happy New Year! I received your strings and wanted to send you to hell because of their damned milky white color. Then I thought this Italian deserved an answer anyway: I called my helper and asked him to mount them on the worst Chinese-made instrument. When he came back—the instrument sounded like a ukulele from my top line.

Roy then began to ask for the most disparate kind of string sets, for every type of ukulele: soprano, concert, tenor, baritone, both in low G and in high G. It was something crazy: I could not wrap my head around it! When I revealed that I actually had not that many strings available he gave me a typical Texan answer, which I will not even attempt to report here—briefly, he was cussing me encouraging me to get busy, because… "Man, are you crazy? Are you aware that you are sitting down upon a million dollar? He then told me that he would have sent me a box with all the brands, and that I had to study the matter rather quickly, as well as create a design for the package.

He told me that I had just created the future of the ukulele. Reading such words left me standing bewildered, but soon I realized that people were not using gut strings anymore, but they were stuck with the underwhelming nylon—fluorocarbon entered into trade later on—, and I noticed that the ukulele was still perceived more rather as a toy than a real instrument. I struggled quite a lot trying to figure out what to do and navigate through this big land of information that were so new to me, but in the end I managed to produce both the string coils and a design for the envelopes. Roy did not miss a beat. In no time he designed a website for my product and for the first time in the American and international ukulele blogs and forums the word "Nylgut" appeared.

Roy proved to be very enterprising. In the span of a few months the orders increased so eminently that I had to build eight more "tables," with wire dyes with three holes each. These tables, although worked in better and more efficient technical conditions, still kept the main issue concerning the speed of the drawing process of each dye, which was still at two centimeters per second. In addition, they had another problem, namely the need of constantly checking the diameter "on live," with the help of a micrometer that every 30 to 40 seconds had to register the diameter thickness—that step was necessary since the starting unworked monofilament not only was ovalized to a certain level, but also had an irregular diameter along its length. Meanwhile, more ukulele strings orders started to be placed, even from other North American shops and they even began to arrive from Hawai'i. With the earnings Roy was able to move home, and on Thanksgiving day, he went with his parents to church to pray and thank God for my existence.

I had then received a curious mail from Hawai'i: to make the strings not white but black instead—black is the traditional color but actually they used simple nylon strings dyed black to evoke the color of their ocean floor, which is black thanks to solidified lava from volcanoes. I refused, and said that I too was born on an island, Sardinia, and the seashores from where I was born—as Is Arrutas in the Sinis peninsula —are perfectly white. Therefore I would not have changed the color. They answered—quite irritated—that then I would sell not even a single string in their isles. Fortunately, this did not happen at all.

In April 2004 I received my first proposal from an ukulele manufacturer, the American company of Bushman Ukuleles. They were looking for new innovative strings, and they heard about Nylgut. For the first time, we began to send Nylgut bulk strings to China. With our "tables" we could still manage to stay on track with the orders for strings, the increase of shops that were demanding them, and also Bushmann. In 2006 Mike Upton, the founder of Kala Ukuleles, started to request our products and also in the same year, we were contacted by a big Chinese corporation named Leolani Inc., who built ukuleles and primarily sold them on the Hawaiian islands.

At this point—it was 2008—the factory that was manufacturing for us the polyester bobins contacted us and said they were going to end the collaboration,

because the orders were not as many as they were expecting. It was a critical time for all of us. My then fiancée, Daniela Gaidano, asked whether or not any smaller extrusion equipment existed that we could buy to extrude the monofilaments by ourselves. I ruled out this idea at first. I did not think they actually existed and I was also scared by the costs, which I judged as exorbitant. But in the end we found a smaller extrusion machine. We started to see our first production line just at the end of 2009, since I had a really hard time implanting the equipment and understanding how it worked. But after that, we started to sell the first strings of our own manufacture. It truly was the real turning point for Nylgut. Even though the plant was small, it could still produce around ten thousand ukulele strings each day.

The timing was perfect, because in the span of a few months we started receiving requests and purchases from very important brand such as Kala Ukulele, Team International—the famous Mahalo ukuleles—and especially Kristal Music, a company that built ukuleles for the most eminent brands and firms in the West, Korea, and Japan. The actual big level up happened when one of the leading factories, the Hohoner, started to request hundreds of thousands of Nylgut strings in bulk, to send to its establishments located in China.

In 2010, at the Shanghai music convention, all the factories that manufactured ukuleles—two hundred at least—could see for the first time these peculiar white strings installed on ukuleles branded "Ammiraglia" (it. for "flagship model"), thus they also began to ask for our product. In the expos that happened after, more than 90% of the strings installed on the ukuleles were not made out of black nylon anymore, but of white Nylgut instead. We used to travel to Shanghai with hundreds of thousands of bulk strings, and there was an intense, incredible bustle of Chinese company owners that lined in front of our hotel, in which we kept the bulk strings lying in my room—precisely on the bed, completely deformed by their weight. The luck and the success of the product depended on a few winning reasons: the low price, its better sound sonority, and the accessible availability. From that moment on, the marketing of nylon string made in coils from the USA took a devastating collapse, almost total.

During those years fluorocarbon started to spread, which basically was—and still is—fishing wire chosen in the correct diameter and then cut to the right length. But it was too expensive for the needs of Chinese factories, and also, its sonority was not liked by the vast majority of the instrument players. In the end, it did not make it and was destined to fail with the Asiatic ukulele making companies.

2010-2017: The Research for New Plastic Materials Begins

But what happened once our firm finally had an extrusion implant and I finally managed to efficiently master the extrusion process technique? It was the beginning of the research for new and alternative plastic materials

which could hold good sonority properties. In fact, I noticed that none of the string makers, string shops, and the firms that produced strings had an extrusion machinery of their own, and also that none of them invested on the research for new materials to use. The reasons were simple: the research was too economically burdensome and they feared the likely bankruptcy of their companies.

I was asking myself: among all the plastic materials ever invented, which are the ones that have not been experimented on yet, but might be used to create musical strings? I soon discovered that there were too many, around seven hundreds. I certainly could not test them all. However, they were divided in families, each with their reoccurring mechanical characteristics, which could easily be inferred from the technical data sheets of the various materials. For example, the big family of polyamides—that is nylon—includes about fifteen kinds of nylon. So, if it is true that every kind of nylon has its own subtypes, then the sonority of all nylons remains the same.

These plastic materials can then be subdivided into the ones that can be used in molding (to make, for example, bowls and basins) or just used in blow molding (such as for the making of bottles), or again the ones that could be only extruded in the form of monofilaments. This last category was the one we were interested in. On the long list of all the existent plastics, the ones apt to come out as monofilaments made up just a small section of that.

Once those that are suitable for undergoing a stretching process have been identified from among these, we had to pick from this family of plastic materials just the ones that met the correct requirements to become strings suitable for music instruments in terms of unit weight, humidity absorption, elastic modulus and ultimately tensile strength. Therefore, the list kept on shrinking.

This aspect needs a better explanation. Suppose we discover that the plastics from the main family of polyamides have the right properties in order to be pulled into musical strings. That being established, it is now necessary to verify if the ultimate tensile strength is high enough for the strings not to break when they are tensed while set up on the instruments. Then it is essential to check: 1) if the density of the material actually is within the range in order to produce a good sound and have a nice sonority; 2) if the elastic modulus should be just right, so the strings produced are not too stiff—consequently not resonant; and 3) if the amount of absorbed humidity is such as not to muffle the produced sound. For example, in the polyamides family we find PA 6.6, the first ever invented polyamide in 1938 by Du Pont, which is extremely used in the textile field and for fishing lines. Its density is perfect, just like its elastic modulus and tensile strength. Unfortunately, this material absorbs 10% of air moisture, hence making the material, otherwise perfect, completely dull. In other words, it does not produce any sound. Therefore this is the main reason why nylon fishing lines cannot be used in music.

At the end of this long study in the Polyamides field, in 2010 the first string was born, we called it Bionylon, that is the first musical string which is 63% plant sourced.

The research for new materials, primarily based on the characteristics from the technical data sheet, determined that only these families can be potentially used to produce musical strings: polyamides, Fluorocarbons (PVDF), Peek and polyesters. At this point, since the PVDFs caught my eye, I started to test the different materials in this family, that can be essentially divided in "homopolymers" and "co-polymers," getting interesting results. However, I decided to not follow this path for three reasons: 1) Aquila Corde Armoniche would have been one of the multiple companies that sold PVDF (fluorocarbon) strings; 2) the necessary pellets for production were too expensive; and 3) this material has fluorine in its molecules, so it would not have been biodegradable, since the chemical reaction from the combustion of its wastes would have then produced the extremely dangerous hydrofluoric acid.

Hence, during 2012 the research took a new and extremely interesting turn, starting from an observation: fluorocarbon has such a bright sonority exclusively thanks to its high specific weight (1,78), confronted to music nylon (1,04) and Nylgut (1,30)—so, a polyester. Thus, I thought that if I could charge it—that is, densify Nylgut with micronized metallic powders such as copper and iron—I would get a sonority similar to fluorocarbon, if not even better.

The experimentations were tough because there was no available literature about the topic and it was like sailing lost in the open ocean, with constant risk of damaging the plant and the machines—damages that eventually happened. However, the first results were so encouraging that I pushed myself further and tried to coat the strings with such a high volume of copper that, for the first time, I managed to create strings that could replace the wound G string for the low G ukulele. Nonetheless, it was necessary to wait a few years more and for the upgraded versions of this type of string that followed up—which we painted deep red and named "Red Series," in tribute to an old kind of thermionic valve used in radios from the Fifties—before actually creating perfectly smooth and sturdy strings.

For the first time, ukulele players could choose from different sonorities for their instruments, thanks to a wide range of strings—from an almost metallic sound achieved by these charged strings to an intermediate timbre, typical of Nylgut, to the end of the spectrum, that is the gentler, softer sound generated by Bionylon strings.

2011-2016: U-Bass Strings and the New Ukulele Sets

While the research experiments for new materials for ukulele strings were ongoing, I started looking out for something better and different for the U-Bass—a bass ukulele with thick strings, that had been just introduced from Kala Ukuleles, similar to the Ashbory Bass,[2] that used silicon strings. Initially, Kala used them, but they could not hold the tuning; the first string was subjected to an excessive stretch, often followed by an inevitable breakage. In addition they were not slick enough under the fingertips. Thus, Kala began to use proprietor strings made out of black polyurethane and I discovered that actually, they were standard strings for industrial use, converted into strings without applying any real change to make them suitable for ukuleles.

Our U-Bass strings used an elastomeric polyester—the correct technical name for this family of plastics is TPE-E.[3] The strings that I later refined, named "Thundergut," unlike the ones in polyurethane—each of the four strings made out with the same plastic "model," namely the same level of elasticity, technically called "Shore D"—they started from the first string with a more stiff Shore D, to finish up on the fourth string with a Shore D that provided the maximum elasticity. These strings totally superseded the ones made out of black polyurethane, mainly because they had a better sonority, but also because our business could supply the factories with thousands of strings in bulks—an operation rather impossible to Kala Ukuleles. To this yellow-brown line we then added some alternatives colored anthracite grey for Kala ("Silver Rumbles") and the black version ("Thunderblack"). In 2013-2014 the same technology used to add metallic powders unto the strings started to be used in the elastormers used for the U-Bass, creating thus a much fuller and performant sonority, with also an appropriate reduction of the string diameters, and a more slippery effect under fingers—this is the "Thunder-Reds" set.

Now, going back to the ukulele strings, in 2016 we decided to introduce the "Kids" series. It is a set of Nylgut strings in 4 different colors, meant for music education in schools. Also during this period, the "Lava" series was introduced. It is a set of Nylgut strings colored anthracite grey, intended for those who still loved and were bound to the black color of the old nylon strings. Both "Lava" and "Kids" have not introduced any new innovative plastic material, but they are just meant to be functional to a particular group of people, and mainly to be used in the educational context.

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2 Invented by Alun Ashworth-Jones and Nigel Thornbory, it was initially produced by the Guild Guitar Company from 1986 to 1988, and then commercialized again by Fender starting from 1999 under the name of DeArmond.

3 Peculiar where the idea of using TPE-E came from: while I was chatting with my son Francesco, he was swinging his foot and I noticed he was wearing a sneaker with a white sole. I later took the shoe and cut the sole because I wanted to know what kind of elastomer it was.

Ukulele Set in Pure Animal Gut: The Historic Series Finally Restored

In 2009 we had the idea of proposing strings made out of gut also for the ukulele, trying to reintroduce the original string setup that was used from the introduction of the instrument until about 1947, when nylon catched on.

To achieve this goal I briefly researched ukulele methods published between 1914 and 1940 and I also looked out for the original strings, to get an idea of the diameters they used at the time. I made an interesting discovery: the tuning A-E-C-G and the one a whole tone higher—today it is called Canadian tuning—both existed until the Thirties. Surprisingly, I could not find any information that described the low G tuning before 1940. Around 2018 I received an email from an old Honolulu man, who said he was the one who introduced the low G tuning first. He sent me a picture of the first page of a method he wrote in 1949. It was undoubtedly a rather interesting exchange, and I unfortunately lost his contacts and his name.

When we started producing ukulele strings, in 2001, we used Nylgut while the only available strings were made out of nylon. Nobody had been using gut for at least 50 years. By 2018 we had put on the market white Nylgut strings in two different versions, "Nylgut" and "Supernylgut,"[4] and also the Nylgut colored strings in four shades ("Kids" set) and the anthracite grey ones ("Lava" set). Since 2012, the "Bionylon" and "Red Series" sets, loaded with iron powder, were subsequently added to the previous sets. At this point, only the unloaded strings suitable for low G sets were squeaking, and last but not least the historic gut set, which no one in the world has made since 1940.

Between 2016 and 2018 we began receiving string orders from competing companies that would buy from us and then package our products under their name. Today there are several dozens of companies that use our products, and only a part among those are co-branding with us. There is a special mention that must go to a dedicated series made from a Nylon, called "Cristal," which we colored jade green for a customer from Hawai'i ("AG x AQ" set).

From 2018 to 2022

During the spring of 2018 one of our raw plastic pellet suppliers brought us a supermarket bag containing greyish pellets of a bioplastic recently created in Northern Italy, whose starting material was sugar cane. They suggested that we

4 These latter ones were a series of strings that had a secret UV tracer, whose purpose was to make the series easily detectable by a portable UV detector, that distinguished them from the Chinese Nylgut illegal imitations. Therefore, they were initially destined to the market of Chinese companies, only afterwards to companies packaging our strings under their name.

use it as a 3D printer wire. The bag sat under my desk for three or four months, until I made the decision to try extruding it. I did not have any extrusion's parameter, so I proceeded with the maximum caution. Even though the pellet was mouse-grey, the finished product at the end of the dye showed up as a transparent and clear wire, bright as a crystal. I had the idea of having it undergo the stretching process, in order to get a diameter suitable for the first string of the guitar. I put the so produced wire between my teeth and as soon as I plucked it I instantly knew I was holding an extraordinary material in my hands, moreover biologic. I immediately named it Sugar.

Laboratory tests demonstrated that its Joule power was 18% higher than fluorocarbon, and with a 24% higher sustain; its density was equal to Nylgut and gut. Lastly, its humidity absorption was a ridiculously low 0,1%. Furthermore, it was perfectly miscible with Nylgut to create an alloy. The only problem was a feeble squeak sometimes originated while plucking the strings with particularly dry fingertips. This material was an authentic revolution. If loaded with iron powder, it produced a sound that rivaled that of metal strings. In other words, just as the acoustic guitar stringed with metal sets exists, now also "acoustic ukuleles" were going to exist as well, with a new sonority that goes out of sound aesthetic standards known so far.

Further Researches

During 2017-2019, experiments were carried out with other materials of biological origins, which however never entered the market. For example there is a type of 100% biological nylon that, even though is still a nylon, is able to produce a quite bright sound. In the end we abandoned the idea of commercializing it because we realized that there were too many innovative products in the market at this point.

Further and different experiments have been done, such as strings loaded with biological ingredients that absorb light to slowly emit it, just for the visual effect; also, the production of metallic iron loaded strings, in order to see if they were sensitive to a magnetic pick up.

The U-Bass and the Bass Ukulele since 2021

Until halfway through 2021, the sets available for bass ukulele could still be the same as the traditional one, with a yellow/brown or black unloaded elastomer (called "Thundergut" and "Thunderblack" respectively) and the "Thunder-Reds" set which has the third and the fourth string loaded, but quite lightly, with copper powder.

But an additional improvement of extrusion technology actually allowed to get a type of strings loaded with a quite high percentage of copper powder, in order to obtain such an important reduction in the diameter and a great acoustic power that this set can easily compete with others, like the ones of the kind "flat wound" (such as "Thunderbrown"). The traditional, non-densified "Thunderblack" strings, were also improved by charging the elastomeric material with iron powder, achieving in this way an acoustic performance so incredible that it totally "made retire" all its previous versions, made out of unloaded material. The same kind of improvement was also applied to the older "Thunder-Reds" copper-loaded strings. Lastly, the same version of the sets was introduced, but suitable for bigger instruments that began to appear on the market after the appearance of the American Microbass, branded Goldtone.

But the research is still ongoing. There has been very recent developments in a chemical reactor here in Northern Italy, concerning a variant of the first formula of the Sugar. My goal is to find out if it is possible to remove the squeak issue under the fingers. Soon we will know the outcome.

Notes on the Authors

Giovanni Albini serves as a tenured professor at the Conservatory of Alessandria. There, he established the world first Bachelor's degree program in ukulele, offering a comprehensive curriculum focused on ukulele performance. Additionally, he teaches Composition at the Conservatory of Lugano. He presented his ukulele research at prestigious international institutions, including The Juilliard School in New York and the Curtis Institute of Music in Philadelphia. He is dedicated to researching ukulele performance practices and is active in ukulele teaching, arranging and performing. In his concerts, he ranges from music of the early Hawaiian and American methods to the many compositions dedicated to him, fostering the development of a new challenging and cultivated ukulele repertoire and aiming to deepen and evolve the idiomatic unique features of the instrument. The recordings of his music are published by Brilliant Classics, Da Vinci and Stradivarius. His ukulele transcriptions are edited by Ricordi and exclusively distributed by Hal Leonard.

Giovanni Cestino is currently a Research Fellow in Ethnomusicology at the University of Milan. His scholarship mainly focuses on music performance across different cultures and locales, at the intersection of archival research, ethnomusicology, and visual anthropology. He also focuses on sound studies and acoustic ecology. He recently edited the new Italian edition of R. Murray Schafer's seminal book *The Tuning of the World*. He has been visiting fellow at Harvard Music Department, and the recipient of a research scholarship from the Paul Sacher Stiftung (Basel). He is also active as a choir conductor, serving as the artistic director of ITER Research Ensemble, a newly-formed vocal and research group.

Jonathan De Souza is an Associate Professor in the Don Wright Faculty of Music and an Associate Member of the Brain and Mind Institute at the University of Western Ontario. He is the author of *Music at Hand: Instruments, Bodies, and Cognition* (Oxford University Press, 2017), which received the 2020 Emerging Scholar Book Award from the Society for Music Theory.

Davide Donelli holds a degree in Musical Education from the Conservatory of Brescia, and a degree in Classical Guitar from the Conservatory of Milan. An expert in the guitar family instruments, he runs the most important Italian blog on the ukulele (www.intornoallukulele.it), and holds the only Italian radio show on the instrument (*Intorno all'ukulele* on www.deejayfoxradio.com). He

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Fabrizio Nastari is a composer whose aesthetic is primarily based on the use of ironical devices. He is active both as a researcher as well as a composer pursuing a PhD in Artistic Research at the Estonian Academy of Music and Theatre in Tallinn investigating more in general the use of rhetorical devices in the composition practice. He is presenting his research in international conferences and in artistic research journals. He composes music for solo, ensembles, orchestra, choir and art installation for international ensembles and festivals. He is production assistant of the *highSCORE Festival* since 2019.He has been affiliated with Nuova Consonanza since 2023. He has been affiliated with Nuova Consonanza since 2023.

Mimmo Peruffo was born in Arborea (Sardinia). Since 1983 he devotes himself to the study and recreation of gut strings in use in the Renaissance, Baroque and Classical eras. In 1997 he discovered and marketed Nylgut, a 'synthetic gut' that could replace nylon on historical plucked instruments and on classical ones. His research works have appeared in many volumes and journals, among them: *Recercare*, *F.O.M.R.H.I quarterly*, *The Italian Lute Society Bulletin*, *Orfeo*, *The Lute Society of America Bulletin*, *Quattrocentoquindici*, *Il Fronimo*, *Gendai Guitar*, *Das Musikinstrument*. He has given papers in several conservatories and universities, including Vienna, Dresden, Milan, Venice, London, Brussells, Florence, Brescia, The Hague, and Gijon.

Jim Tranquada is the co-author, with the late John King, of *The 'Ukulele: A History* (University of Hawai'i Press, 2012). An independent scholar with a history degree from Stanford University, Jim's research has been published in the *Hawaiian Journal of History* and the *Galpin Society Journal*. He was the former director of communications and community relations at Occidental College in Los Angeles. His great-great grandfather, Augusto Dias, was one of the first 'ukulele makers in Hawai'i.

Research Paths in the Ukulele

Edited by Giovanni Cestino and Giovanni Albini

This book is the result of the *First Ukulele International Conference (UIC 2021) – Interdisciplinary Perspectives on Performance, Composition, and Organology* (December 3-4, 2021), the first academic event ever dedicated to the instrument. The edited volume collects selected essays and contributions by authors with different (or with multiple) professional backgrounds: researchers in the ukulele's cultural history, musicologists with scholarship in performance and instrumentality issues, composers (or composer-performers) of music for ukulele, performers engaged in scholarly research and in popularizing the instrument, and professionals involved in the technological innovation of the instrument. The purpose of this book is to provide a sample of possible questions related to the instrument, with the awareness that many others may only be fully formulated in future research. In addition to the general tenet of interdisciplinarity—crucial for addressing an instrument endowed with such high and intrinsic "plasticity"—the book presents a further challenge: extending research on the ukulele to research with the ukulele, namely understanding it as an instrument (in a more etymological sense), a scientific tool to investigate different topics in music-making.

Cover image: *Soprano Ukulele* (photo by Giovanni Albini, image editing by Giovanni Cestino).

ISBN 979-125-510-135-2 (print)
ISBN 979-125-510-140-6 (PDF)
ISBN 979-125-510-142-0 (EPUB)
DOI 10.54103/milanoup.133