ORGANS AND BODIES:
THE JEW'S HARP AND THE ANTHROPOLOGY OF MUSICAL INSTRUMENTS

by

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ABSTRACT

The Jew's harp is unique among instruments, and in its apparent simplicity it is deceptive. It has been adapted to a wide array of cultural contexts worldwide and a diverse range of playing techniques, which, upon closer examination, reveal much about the cultures that generate them. Drawing on perspectives from organology, ethnomusicology, comparative musicology, ethnography, material culture, and the anthropology of the body, I situate my approach to the study of musical instruments as one that examines the object on three levels: physically (the interaction between the human body and the body of the instrument), culturally (the contexts in which it is used), and musically (the way it is played and conceptualized as a musical instrument). Integrating written, ethnographic, and musical evidence, this study begins broadly and theoretically, then gradually sharpens focus to a general examination of the Jew's harp, finally looking at a single Jew's harp tradition in detail. Using a case study of the Balinese Jew's harp *genggong*, I demonstrate how the study of musical instruments is a untapped reservoir of information that can enhance our understanding of the human relationship with sound.

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1 INTRODUCTION

A musical instrument is the material realization of an intended purpose, a vessel for content, an emblem of human ingenuity and imagination, and a testament to the universal presence of music in human activity. There is untapped potential in the study of musical instruments in examining their ability to extend the sound-producing capacities of the human body, interface with the body in symbolic ways, and channel human creative energy into expression through sound. The ways in which an instrument is used in various cultures offers a glimpse of each culture's musical perspective, a concentrated capsule of how the world sounds there.

The Jew's harp is a musical instrument that provides a great premise for such comparative study. It is simple enough in construction and portability to be found all over the world in various forms, but there are as many different playing techniques as there are morphologies of the instrument. Some of these are more complex than Charlie Brown's dog Snoopy, one of the best-known Jew's harp players, could ever imagine. It is precisely because of the instrument's simplicity that it can reflect musical values.

This study is the product of a concurrent fascination with both the Jew's harp and Balinese gamelan. Fortunately, the Balinese not only have a Jew's harp, *genggong*, but play it in a way that reflects the concept of interlocking parts which has become emblematic of the larger metallophone gamelan instruments. The genggong, therefore, has a double attraction; it is simultaneously a Jew's harp and a sort of pocket gamelan. Although the music of Bali has been studied at length, the genggong remains virtually unknown to scholars, both in Bali and abroad.

Drawing on perspectives from organology, ethnomusicology, comparative musicology, ethnography, material culture, and the anthropology of the body, I situate my approach to the study of musical instruments as one that examines the object on three levels: physically (the interaction between the human body and the body of the instrument), culturally (the contexts in which it is used), and musically (the way it is played and conceptualized as a musical instrument). Integrating written, ethnographic, and musical evidence, this study begins broadly and theoretically, then gradually sharpens focus to a general examination of the Jew's harp, finally looking at a single Jew's harp tradition in detail.

Chapter One sets the theoretical backdrop to the study of musical instruments, proposing ways of looking at them that acknowledge their potential as points of entry into particular cultural outlooks. Drawing on the Jew's harp's unique relationship with the human body, I argue that musical instruments are not mere objects, but powerful conduits for meaning. In Chapter Two, I provide an overview of the various academic approaches that have been applied to the Jew's harp. Part I deals with technological approaches to the instrument, while Part II deals with contextual and thematic approaches.

Over the next two chapters, I turn to the case study of the Balinese Jew's harp genggong, probing the complex phenomenon of the instrument's adaptation to the cultural-musical aesthetic of Bali. In Chapter Four, I provide a cultural biography of the genggong, examining its development in Bali through its physical and social construction. In Chapter Five, I look at how genggong is employed musically, illustrating how it is used to reflect quintessentially Balinese concepts of tuning, scale, and interlocking rhythmic figurations.

Although this study is in its preliminary stages, it is my hope that it will contribute to a growing body of work on the Jew's harp, raising awareness of the ways in which we use and define musical instruments, and how they, in turn, define us.

2 THE STUDY OF MUSICAL INSTRUMENTS

> How can we hope to capture, contrast, and compare a small part of a musical and artistic world in isolation—the musical instrument as mere object—without reference to its sound, affect, meaning, and social and economic status? (Dawe 2003: 281)

2.1 Organology

Classic organology is technically a branch of musicology, but in a larger sense it is a of the human impulse to classify. The same urge is found across disciplines; in fact, it is from the biological sciences that the word organology originates.[1] Used in its musicological context, it is a throwback to a similar term, "organography", which had previously been used by Praetorius in his *De Organographia* to refer to the description of musical instruments. Its name and meaning slightly modified, the term "organology" surfaced in the field of musicology in the 1940s, when Nicholas Bessaraboff used it in his *Ancient European Musical Instruments* (Oler et. al. 1970: 170).

Organology's traditional focus on classification and typology has led it to be associated with a somewhat static and limited definition as the "science" of musical instruments (DeVale 1990: 1). Organology often approaches the study of musical instruments by concentrating primarily on their physical attributes while social function is left to the field of ethnomusicology, where the focus tends to be culture-specific. The ideological division between the scientific and cultural approaches to the study of musical instruments has seen some recent improvement, as contributions from ethnographic and material culture perspectives have begun to penetrate the centuries-old tradition of classificatory organology (Dawe 2003, DeVale 1990). Even taxonomic approaches to

[1] The term organology has only recently been applied to the study of musical instruments, and dictionary definitions of the term still commonly list its biological association first.

organology have started to shift away from pure typology and morphology; Margaret Kartomi's *On Concepts and Classifications of Musical Instruments* examines the phenomenon of musical instrument classification from a worldwide perspective, drawing examples from a variety of cultures and time periods. While Kartomi's book considers the historical and cultural dimensions of classification schemes, the schemes receive more attention than the musical instruments and the people who play them.

Though the categorical conceptualization of musical instruments remains the dominant approach in organology, it should be kept in mind that all taxonomic systems are conceptual constructions. They provide useful frameworks for understanding but are ultimately static structures, while the things they seek to categorize tend to be more fluid and dynamic than can possibly be contained in a set of definitive parameters. As the writer Kevin Kelly points out, biological taxonomy too suffers from the same pathology:

> The categories of kingdom, phylum, class, order, family, genus, and species exist primarily in our minds. Individual organisms may live between the boundaries of two species, or kingdoms. We find it helpful to draw them inside a category cluster in order to talk about and understand them… In the long term, taxonomic classifications will be exposed as statistical clouds. (Kelly 2008)

Current ways of thinking about musical instruments often contain them in isolation from the human realms they inhabit, and the social and physiological relationships that are generated by their use. While the need for some sort of classification is implicit to an understanding of our surroundings, the rapid advancement of information exchange may be precipitating a shift in our perceptions of these systems.

While organology has concerned itself primarily with classification and taxonomy, its own identity as a category is unstable. UCLA's *Selected Reports in Ethnomusicology* series devoted its entire 1990 issue to organology, wherein Sue DeVale set out to clarify and expand the concept of organology as being a "dynamic systematic

network" that utilizes "the techniques and approaches of many disciplines" (DeVale 1990: 2). Additionally, she conceptualizes organology in three streams, the classificatory, analytic, and applied (ibid.: 4). These are interrelated categories, a network in which the data from one feeds back into the others, and DeVale goes on to suggest that "a sound instrument is a kind of hologram which can be rotated and viewed from many perspectives and which contains the essence of society and culture" (ibid.: 22). Thus, the acceptable frameworks for organological enquiry should be expanded to include the instrument's physical dimensions, historical trajectory, acoustic properties, social contexts, and musical output.

Still, DeVale also points out that musical instrument research is conspicuous by its absence in the field of ethnomusicology (1990: 2). Part of the neglect of musical instruments as fruitful avenues for research no doubt arises from confusion as to what the scope of organology actually encompasses, and perhaps a lack of understanding as to what methodologies might fall under its rubric. But organology's classificatory holding pattern and its absence in ethnomusicology may also be a long-standing symptom of ethnomusicology's theoretical rift with its predecessor, comparative musicology. More often than not, when the name of comparative musicologist Curt Sachs is invoked, it is in reference to his work with Erich Hornbostel in organological classification, and not to his far-reaching comparative study of musical instruments. Sach's approach, however, has been critiqued for drawing speculative conclusions about the evolution of cultures by using criteria with a decidedly Western armchair slant. The intellectual history of ethnomusicology is characterized by a self-conscious move away from this kind of thinking in the wake of the psychological denouement of World War II, where

postcolonial guilt and a perceived danger of value judgement in the comparison of cultures precipitated an ideological shift in the humanities that chose to celebrate cultural uniqueness and diversity rather than comparison and similarity.

The breadth and scope of Sachs' work, once the hallmarks of comparative musicology, fell out of favour along with the evolutionist perspective and its search for musical universals and origins. The investigative lens underwent a mass refocusing in many culture-related disciplines, exchanging wide-angle breadth for close-range depth in a particular area. Decades later, the stigma associated with comparative study is still evident in the field of ethnomusicology, and its potential value as an avenue of human understanding remains largely overlooked. Responding to organology's standstill in ethnomusicology, Allen Roda, a PhD candidate at NYU, has recently called for a reframing of "organology's minimal unit of analysis…[in order to] advance a social understanding of musical instruments that does not merely freeze them in time and space as part of some cultural practice unique to the objects' place of origin but allows them to be dynamic agents forging multiple distinct social relationships over the course of their existence" (Roda 2007).

Echoing DeVale's call for a multidimensional approach to the study of musical instruments, my approach to organological enquiry situates itself at a point that requires the ideological extremes of comparison and individuation to be reconciled and brought into balance. Incorporating a wide range of perspectives and methodologies in my approach to the Jew's harp, I move from panoramic overview to sharp ethnographic focus, from cultural theory to musical analysis. To me, no single aspect is complete without the others. It is time to not only look critically at the ways musical instruments

have been conceptualized, but to evaluate methodologies that may complement and expand the understanding of musical instruments and their relationships with human beings and their social worlds.

2.2 Material Culture and the Social Life of Things

> Everything on earth belongs to one, and only one, of three categories: trumps, nontrumps, and maybe trumps. (Crane 2003b: 6)[2]

Material objects are ideas put into forms, abstractions made into things. The anthropologist Pitt-Rivers defined material culture as "the outward symbols of particular ideas in the mind", and material objects are indeed vessels of all manner of symbolic content (Pitt-Rivers quoted in Schlereth 1985: 21). It follows that examining the material output of a particular society, group, or even individual can tell us much about that group's intentions, priorities, skills, and behaviour. That material culture and tool-making may predate verbal culture in the course of human evolution is also an important factor to bear in mind, as material culture could be said to be "humankind's oldest legacy of cultural expression," and, some would even venture, "the oldest manifestation of our humanness" (ibid.: 23). Put in the context of musical instruments, music archaeologist Gjermund Kolltveit adds that "A history of music which seeks out material culture rather than confining itself to written documents or 'works of art' produces a wider perspective of the musical past that is generally more oriented towards the culture of everyday life and of ordinary people" (2006: 3). Instruments are human tools, intended for specific tasks and assigned symbolic and functional roles in daily life.

Musical instruments, simply put, *are* material culture. They are physical objects

[2] "Trump" is an old Scottish name for the jew's harp.

that are more than the sum of their parts, existing "at an intersection of material, social, and cultural worlds where they are as much constructed and fashioned by the force of minds, cultures, societies, and histories as axes, saws, drills, chisels, machines, and the ecology of wood" (Dawe 2003: 245). Rather than being inanimate objects with static purposes, musical instruments are dynamic entities constantly innovated and redefined by their players, bound up in what social theorist Arjun Appadurai (1986) called the "social life of things". While objects are endowed with value through their human transactions, there are valued precisely for the innate qualities borne in their form and function. Appadurai writes: "Even though from a *theoretical* point of view human actors encode things with significance, from a *methodological* point of view it is the things-in-motion that illuminate their human and social context (Appadurai 1986: 5, emphasis in original). In other words, objects of material culture, including musical instruments, can be approached from both the "material" and the "cultural" sides of the coin.

In practice, however, these approaches are sometimes pitted against each other. Schlereth's overview of material culture studies (1985) highlights the ideological division between the two predominant streams in the analysis of physical objects: the synchronic and the diachronic (30-31). Broadly speaking, diachronic analysis is concerned with an object's location in causal time, and is based on a linear, historical perspective, while synchronic analysis sees the object as independent of history, the physical manifestation of subconscious processes whereby its meaning inherent in its form and design. The paradoxical relationship of these terms to one another finds a real-world example in the case of the Jew's harp, where the instrument's worldwide distribution remains a puzzle. Is its nearly ubiquitous presence the result of chronology, explainable by economic and

sociol circulation? Or did the scores of different versions of the instrument appear independently, possessing, as Northrop Frye suggested, "an imaginative element . . . that lifts them clean of the bondage of history" (quoted in Shlereth 1985: 31)?

Part of the problem lies with the fact that the history of the Jew's harp remains largely unwritten, its lore surviving predominantly in oral tradition if at all. In his recent thesis and book, *Jew's Harps in European Archaeology* (2006), Gjermund Kolltveit aims to establish a chronology of the Jew's harp in Europe, using the typology and morphology of the instrument as a "chronological tool" (41). The material record of European Jew's harps, which Kolltveit's recent catalogue currently numbers at over 800 excavated instruments, suggests that it has been a common musical instrument in Europe since the 13th century (113). The evidence also suggests the instrument has undergone several periods of mass production, and that a significant percentage of the finds have been excavated from castles and monasteries. This problematizes the social class associations of the instrument, showing that its function has varied over time.[3] Following on Kolltveit's work on Jew's harp distribution, Michael Wright's research into the trade of Jew's harps in colonial America (forthcoming) marks a recent trend towards constructing a Jew's harp chronology, insofar as one is possible from the limited sources of evidence.

The principle challenge of studying music using material culture evidence can be attributed above all to the "fundamental muteness of monuments and materials" (Scarre 2006: 1). Musical instruments are not musical in and of themselves—they are silent

[3] That the jew's harp has historically been considered an instrument of low culture, or not even a musical instrument at all by some music theorists, is evidenced by the rarity of its appearance in literary sources; Kolltveit's study is an important step towards better understanding the social and economic value of the jew's harp in Europe.

without their human players. Music archaeologist Chris Scarre concedes that "The analysis of preserved instruments can never be more than a small part of the total sound story" (ibid.: 3). While physical properties can be measured, classified, and analyzed to a certain extent, a methodological shift away from the material object is necessary in order to uncover the social and symbolic significance of sound-producing devices.

2.3 Organs and Bodies

Nearly all music is corporeal, that is, linked to the body. Jaques Attali wrote that "Composition ties music to gesture, whose natural support it is; it plugs music into the noises of life and the body, whose movement it fuels" (1985: 142). A musical instrument provides a bodily experience, an extension of the body's capacity to create sound. It is a device intended to create resonance, a resonant body designed to collaborate and interact with the larger resonant body of the human physiology. Music, in other words, is sound *incorporated*. That musical instruments are similar to organs of the body is an association contained in the very etymology of the term "organ". Coming from the Latin *organum* and the Greek *organon*, both meaning tool or instrument, the term has been used to refer simultaneously to musical instruments and organs of the body since its earliest incarnations. Likewise, as mentioned at the beginning of this chapter, the term "organology" refers to both the study of bodily organs and that of musical instruments.

The discourse of the anthropology of the body was coined by John Blacking in the 1970s, with the mission statement that "[its] chief concern is with the cultural processes and products that are externalizations and extensions of the body in varying contexts of social interaction" (Blacking 1977: 2). Musical instruments embody cultural processes

and products by virtue of their extensions of the body, and are therefore inseparable from the human beings. Moreover, the ways in which an instrument interfaces with the human body can provide insight into the cultural roles assigned to it.

The "human-machine interface" is a term commonly used in the context of computer systems and electronic devices, but it is not limited to these domains; at its most basic level, it is the place where the human and the technology meet. Whether it is the act of holding a pencil or flying a plane, the user must adapt to the morphology of the tool, and in so doing, relationships and power dynamics are generated on both literal and symbolic levels. Thus, the human-machine interface, in the sense that I employ it, is the "the interaction between the human body and the morphology of the instrument" (Baily 1977: 275). While the body of the instrument is rigid, the human body is not; during the act of playing an instrument, it is the softer body that must conform to the harder instrument. Again, both the "material" and the "culture" of musical instruments come into play, and the emergence of a playing technique can be said to stem from two principal factors: the social constraints of the culture in which the instrument is found, and the physical constraints presented by the instrument's morphology.

Social Constraints

The course of development of a playing technique is influenced by numerous conditions. Mary Douglas writes, "The social body constrains the way the physical body is perceived" … "As a result of this interaction the body itself is a highly restricted medium of expression" (Douglas quoted in Blacking 1977: 4). In other words, the body can only act in the ways that it understands to be socially appropriate. Likewise, the

Jew's harp tends to be played in ways that reinforce a cultural imagining of what constitutes sound and music. Because the instrument is so basic, it provides a virtually blank slate for examining cultural affect in the form of sound. Culture is a force that conditions and educates through repetition; thus, the expressive possibilities of musical instruments are derived from cultural understandings of both biological conduct and aesthetic structure.

Kevin Dawe argues that the morphology of the instrument itself is both a physical and social construction:

> As socially constructed and meaningful, the morphology of musical instruments reveals through their shape, decoration, and iconography features of the body politic, as embodiments of the values, politics, and aesthetic of the community of musicians that they serve. They are at once physical and metaphorical, social constructions and material objects. (Dawe 2003: 275-6)

At the stage of invention, the human being shapes the instrument to conform to an idea; at the level of playing, the instrument forces the body to adapt and conform to its parameters. From the instrument's physical and technical properties, unique characteristics emerge and present challenges to the human player, whose ability to negotiate these challenges profoundly affects the way the instrument comes to be used, and consequently with what it comes to be associated.

Physical and Biological Constraints

From any interaction with a physical tool or musical instrument, patterns of movement develop. It is a process similar to that described by Blacking: "a general pattern of interaction and movement emerges, which, though often related to cultural experience, is shaped from within the body and monitored by patterns of energy flow that

transcend the actors' conscious attempts to manipulate the situation" (1977: 14).[4] By virtue of its design, the shape and dimensions of a tool will enable certain patterns of movement to be repeated while excluding others. The morphology of an instrument also structures the playing technique, and by extension, the musical content (Baily 1977: 275).

Different instruments make different demands on the body, present different challenges, require different skills, and harbour, one could say, very different characters. In the case of the Jew's harp, the physical demands center mostly around the player's face, and in particular, the mouth. Not surprisingly, other functions of that part of the body commingle with the act of playing the Jew's harp; the face and mouth are the centers of verbal and nonverbal communication on the body. While most mouth-played instruments require a stopping of the musician's mouth in order to be played, the Jew's harp does not. Reed instruments, for instance, are inserted into the mouth and thus prevent the player from any mouth-related activity that does not serve the act of playing. By contrast, the Jew's harp differs radically from other mouth-played instruments because it permits its player to retain the power of speech. Rather than silencing the musician's tongue with its reed, the Jew's harp opens up the mouth cavity and allows its player to articulate sounds in the same way as speech.

Thus, the Jew's harp physically employs the same musculature and acoustic principles of verbal communication. Like the capacity for speech, all humans have the same biological capacity to play the Jew's harp, but, like speech, the way the Jew's harp is played and used develops differently in different social conditions. Therefore, the plethora of Jew's harp designs and playing techniques are like different languages; the

[4] Blacking made this statement in reference to "shared somatic states" between human beings; the connection to instrumental playing techniques is my own.

basic features are similar to each other, but there is an amazing amount of plasticity when it comes to how they are used and what they are used for. The charms and challenges of the Jew's harp stem from its intimate relationship with the physiology, namely, that the human body completes the Jew's harp. More than any other instrument, the Jew's harp can be said to be a biological instrument (Trias 2008); without a variable resonator attached to it, the Jew's harp can only emit a single pitch.[5]

A musical instrument, then, is "a voice from the soul, addressed to the soul"; it is part physical sensation, part psychological affect, "a sort of double of the self, as well as a composite object developed in accordance with a tradition" (Rault 2000: 9). The ways in which an instrument doubles the self can be perceived in its physical form, in the way it extends the body, in its construction and timbre, and its innate character. There is a complex interplay between an instrument's form and its function, and the ways in which it produces sound are inextricable from the ways it produces meaning.

To summarize, the Jew's harp is a musical instrument with a consistent bio-mechanical and acoustic foundation worldwide, but it is used to express a variety of cultural forms. As such, it can offer a microcosm of a society's musical behaviour, and a point of entry into that society's self-fashioning on a macrocosmic level. Following upon various approaches to material objects and the body, my approach to a deeper understanding of the Jew's harp poses the questions: How does the Jew's harp extend the body? In what ways does the Jew's harp reflect the musical values of a culture? How is a Jew's harp playing technique determined by physical constraints and social constraints,

[5] While the requirement of manipulation by a human operator is common to the majority of sound-producing instruments, the jew's harp is the only one to use the human body's interior dimensions to a greater extent than it uses its exterior features.

and where do these spheres overlap? These questions will addressed in the chapters that follow.

3 THE JEW'S HARP

The Jew's harp has manifested more or less ubiquitously around the world, its form depending on the materials available and its uses varying according to the aesthetic sensibilities of its players. This chapter is not intended to be a comprehensive overview of the Jew's harp, as those already exist. Nor will it restate an exhaustive list of all the studies that have been done on the instrument. Instead, I will introduce the instrument according to the way I discovered it, honing in on the areas that I find relevant to an understanding of the instrument in general and preparing the subsequent chapters on the Balinese genggong.

3.1 Technologies

The first time I saw a Jew's harp, it was lying on the floor of a friend's house, half-hidden amongst loose change, old food wrappers, and piles of dirty laundry. While it could have easily gone unnoticed in such a setting, its odd shape caught my attention, then piqued my curiousity as I realized I had no idea what on earth this object was for. I picked it up, brushed it off, and asked my friend, an avid cyclist, if it was some sort of bike tool. His reply, although I didn't consciously know it at the time, was to change the course of my life over the next few years: "It's some kind of musical instrument, but I can't figure out how the hell to play it. You can have it." (Figure 3.1)

Figure 3.1 Bike tool or musical instrument?

While my introduction to the Jew's harp may have been unusual, the mixture of confusion and curiousity that accompanied it was not. In Europe and North America, there has been much debate as to whether the instrument is musical at all, and the earliest scholarly approaches to the Jew's harp's often stuggled implicitly or explicitly with the question of the instrument's value. Western music scholarship has grappled with the classification and concept of the Jew's harp since the seventeenth century, when three separate treatises on the instrument were published. The French organologist Marin Mersenne began his 1636 entry on the Jew's harp with the disclaimer: "This instrument is used by lackeys and people of low status, but that doesn't mean that it isn't worthy of the attention of better minds" (quoted in Crane 2003a: 63), while Trichet (c.1640) conceded that it is "a rather agreeable instrument, as long as the one who plays it knows how to handle it in an artistic manner" (ibid.: 65).

Caution should be exercised, however, in evaluating the extent to which the opinions of such "better minds" reflect the feelings of the European populace at large. As the archaeological evidence compiled by Kolltveit (2006) has suggested, the instrument may not have been simply a trinket of beggars and fools. Likewise, iconographic depictions of the instrument, many of which predate the written sources, depict the Jew's harp in all manner of scenes and place it in the hands of all manner of players, including men, women, children—and the occasional cherub (see Crane 2003b). Still, the recurrent question of value that surrounds the instrument can be traced to several factors. First, these instruments tends to be made from materials that are inexpensive and readily available, and therefore of little commercial value. Secondly, its limitations of pitch mean that it is incapable of playing the same music as high-technology, equal-tempered instruments (while on the other hand, its natural scale works well for folk tunes).[6] This obstacle was adressed by the European Jew's harp virtuosos of the late 19th century, when the instrument's limitations were creatively surpassed by the invention of a device called the Aura, upon which several instruments of varying pitches could be mounted in order to constitute a complete scale and allow the player to change keys (see Fox 1988: 97-152).[7]

While there are numerous and often surprising examples of the instrument's musical flexibility, its unusual timbre is easily used to comical effect. This has certainly been the case in its European and North American incarnations; in the 1750s, the instrument enjoyed a brief stint on the London burlesque scene in musical satires, and

[6] The jew's harp produces a single pitch, the overtones of which are resonated and altered by various configurations of the mouth cavity of its player. The sequence of pitches commonly used on the jew's harp corresponds to the harmonic overtone series, and is illustrated in Chapter Five, Figure 5.1.

[7] The most famous of this generation of jew's harp virtuosos was Karl Eulenstein, who was known to use up to sixteen jew's harps in performance and is remembered as "the only artist who has achieved great fame through his playing of the Jew's harp" (Fox 1988: 161). However, the strain this caused on his teeth eventually proved too much and he switched to the guitar later in life.

from the 1850s to the 1880s it was a regular feature in the British humour magazine *Punch*.[8] In North America, the instrument's use in film and television has led to it being associated with the soundtracks of Westerns, and stock "boing" sound effects in cartoons. As mentioned, tt even became the instrument of Charlie Brown's dog Snoopy in the *Peanuts* comic strip, to which the Trophy Music Company responded by producing the "Snoopy Harp". This instrument, a poorly-made and in fact unplayable model of a Jew's harp, is still available in some North American music stores. Despite the availability of better instruments, high quality Jew's harps remain collectors items, indicating the level of misinformation about the instrument in mainstream musical consciousness. While Jew's harps are easy enough to construct in principle, in reality they are difficult to craft *well*, and the manufacture of instruments with more dynamic capabilities is imited to a small number of master makers across the world. The complexity of Jew's harp construction, tuning, and playing will be adressed in Chapter Five in reference to the Balinese genggong.

Since the era of Jew's harp virtuosos in the late 19th century came to a close, the instrument settled back into relative obscurity until the folk revival of the 1960s. Around the same time, there was a wave of scholarly interest in the Jew's harp worldwide, and from North America to Europe to Japan, studies began to emerge which largely re-examined the instrument from the perspectives of classification and typology, but also began to delve into its acoustic functioning, with the instrument surfacing in a handful of ethnographic studies as well. The 1980s saw the organization of the first international Jew's harp "congresses" which brought together players, makers, and scholars from

[8] These appearances in *Punch* tended to play on the instrument's name, which, as Crane notes, despite the erroneous association, makes it "a convenient symbol of Judaism" (1985: 48).

different countries for the first time. The advent of the internet in the 1990s disseminated information and connected those interested in the Jew's harp at an exponential rate, and throughout the 2000s, interest in the instrument has steadily built and maintained. There are now a number of national groups putting on festivals around the world, and the worldwide Jew's harp network has achieved the sort of critical mass that could see it being the subject of its own monograph.

Distribution

After my first encounter with a Jew's harp, I still did not know that it was called a Jew's harp. Vaguely recalling the presence of a twangy mouth instrument in American country and old-time music, I went home and Googled "twangy mouth instrument". In no time, I found that the object was referred to by scores of names in many different languages. The most common of these in English included "mouth harp", "jaw harp", and the curious "Jew's harp".[9] It soon became clear that the instrument I had initially associated with traditional Americana had already had a long life in other parts of the world, and continued to survive in a wide array of playing traditions.

The conjecture that the instrument originated in Southeast Asia and Oceania has gone largely unquestioned because of lack of evidence to the contrary; as the materials used to make Jew's harps in these regions are wood-based, the instruments decompose over time, leaving no archaeological evidence on which to base a chronology of the instrument's evolution and distribution. However, it is highly plausible that the oldest forms of the instrument were made of organic materials, as wood technology predates metal-working technology. Today the instrument is found across Oceania, Southeast

[9] For the etymology and debate surrounding this term, see Crane 1982 and Wright 2003.

Asia, East Asia, and throughout the Eurasian landmass, from Siberia to India to England. It has spread into Africa and the Americas through European colonial contact and trade over the past few centuries, and is now found virtually all over the world.

Despite its wide distribution, evidence for the history of the Jew's harp is scarce. Before the seventeenth century, written sources are virtually nonexistent, and the evidence consists mainly of visual art and excavated instruments. European and later North American iconography contains images dating back as far as the Middle Ages, which have provided a great deal of information about the instrument's role in Western society; the earliest known visual depiction of a Jew's harp in Europe is found on the 1353 seal of a Swiss family (Crane 2003b: 3). Recent archaeological finds have also provided some clues as to the instrument's distribution and chronology. A find dating to the 8th to the 5th centuries B.C. was excavated in Inner Mongolia in the 1960s, and remains the oldest known Jew's harp (Leo 2007: 5).

Jew's harps have been present in the United Kingdom since at least the 14th century and regularly imported from the 15th century onwards (M. Wright 2005: 5). Thirteen Jew's harps were recently excavated in Santa Fe, New Mexico, from a site dating to the years 1573-1660, suggesting that the instrument arrived in the Americas with the earliest European settlers (Pignocchi 2004: 20). Some work on Japanese archaeological Jew's harps has been done, but South, West, and Central Asia are still lacking in material evidence (Leo 2007: 11). That being said, new finds continue to emerge through ongoing archaeological excavations, and the material record of Jew's harps is slowly growing.

Acoustics

Unlike other instruments where the methods of modifying the sound are plainly visible on the body of the instrument itself, pitches on the Jew's harp are obtained through configurations inside the oral cavity, which are arrived at through a combination of trial and error, intuition, and an ear trained to the subtleties of overtones. Because of these challenges, the acoustic functioning of the Jew's harp has remained unstudied until quite recently. Below, I introduce the instrument's basic acoustic functioning by means of a point of entry into some of its contextual uses.

Intent on learning how to play, another quick internet search provided some insight as to how a metal tongue in a frame could be played. The task of playing was surprisingly perplexing for such a seeminly simple piece of metal, and at first, I struggled to get any sound out of it whatsoever. While the instrument I had was of low quality, my ear began to detect subtle overtones hovering above its fundamental low-pitched buzzing frequency. Gradually becoming attuned to these higher frequencies, I realized that I could hear distinct pitches. The notes I could play sounded like some sort of major chord arpeggio, although I noticed that it was impossible to play a chromatic or diatonic scale as it seemed certain notes were missing.

After some more research, I found that the major arpeggio I had detected on my instrument corresponded closely to the pitches of the harmonic overtone series.[10] Ledang's 1972 study, which performed a spectral analysis of the instrument, observed that a lamella (literally "tongue", or free reed) vibrating on its own does not constitute a harmonic series; it is the frame surrounding the lamella of the Jew's harp, through which

[10] Harmonics are partial waves which are multiples of the fundamental frequency of a reed (or string, or tube). This subject will be discussed in more detail using the example of the Balinese genggong in Chapter Five.

the lamella passes when plucked, that creates a spectrum of harmonics (101). Additionally, the smaller the distance between lamella and frame, the richer the harmonic spectrum and the longer it is sustained.[11] Therefore, an harmonic spectrum is created by the lamella, whose vibration back and forth between the frame causes turbulence in the surrounding air and generates a fundamental pitch. Using the human mouth cavity as a variable resonator, certain overtones of this fundamental can be emphasized and heard over others as discreet pitches. The potential range of the Jew's harp is thus quite wide, but requires a significant amount of control for melodic use.

The human oral cavity is an extremely complex resonating chamber; the subtlest movements can drastically alter which resonance is being amplified. In reality, it is not just a single cavity but a conglomerate consisting of the cavities of the mouth, the larynx, and the pharynx, with an enormous range of possible configurations that are still not well understood.[12] In the case of speech, it is the air passing over the vocal chords that generates the signal that is modified inside the cavity; in the case of the Jew's harp, it is the instrument that generates the signal which is modified. Therefore, the capacity for both producing and modifying sound originates in the human body; but the mouth cavity is unique in its ability to interface with outside signal generators as well. The sound producers for mouth-resonated music are practically limitless, a point which is well-illustrated by the use of a live beetle's buzzing wings as a mouth-resonated musical instrument in Papua New Guinea (Reck 1977: 14).

[11] Both Crane and Ledang made similar observations and reached similar conclusions independently of each other.

[12] My study does not go into depth using perspectives from linguistics and phonetics, though they are undoubtedly crucial to a further understanding of the mechanics of playing. Sylvain Trias's forthcoming M.A. thesis on the "bioacoustic" processes of jew's harp playing will be an important contribution to this branch of musical instrument research.

The principle oversight in most acoustical discussions of Jew's harp is the fact that the Jew's harp requires a human player to fully function as a musical instrument. While the instrument is capable of generating a harmonic spectrum, it requires a resonator to hear any of these harmonics in isolation. Plucked on its own, the instrument can only produce a single note. Acoustical observations made about the Balinese genggong in a study by Adkins (1974), for example, were made on the instrument in conditions far-removed from those of performance: the instrument was held in a vice grip and its lamella was set into motion without any sort of resonator to amplify its overtones. While Adkins was able to make basic observations about the instrument's function, the conclusions he drew about its available pitches are contradicted by the way the instrument is used in its Balinese context. This example illustrates the importance of complementing scientific enquiry with musical and ethnographic evidence in order to advance a deeper understanding of the human dimensions of musical instruments.

3.2 Contexts: Myth, Magic, and Mimesis

Speech Surrogates

It is a well-known fact that "the use of music to represent and convey speech information is widespread in the languages of the world" (Bradley 1979: 535). Commonly-used forms of instrumental communication include whistling, drums and other percussive instruments, and wind instruments, including the Jew's harp. The phenomenon of word articulation on Jew's harps is particularly prevalent in regions that use tone languages, but its occurrence is not limited to these places. In the case of tonal

languages, speech surrogates can approximate the tones of the language closely enough that lexical information can be encoded and understood by a listener (ibid.). However, the Jew's harp's ability to convey some consonants as well as vowels means that it can be used to convey speech in non-tonal languages as well.

While much scholarly attention has been paid to speech surrogates in the form of whistle languages and talking drums, there remains to be a detailed examination into the transmission of verbal content through the Jew's harp. Several fieldwork-based studies have noted the instrument's use as a speech surrogate. For example, Pugh-Kitingan (1977) uses the Jew's harp and mouth bow of the Huli, a small ethnic group in Papua New Guinea, to demonstrate that the basis of most Huli music genres is language. She illustrates how words are articulated on both instruments, constituting what she calls "a unique instrumental/musical/poetic/linguistic phenomenon" (207). Indeed, Pugh-Kitingan seems to have answered Ledang's speculation that "the ultimate sound produced by a jaw's harp player cannot be adequately described without reference to phonetics" (1972: 102).

At this juncture, it is useful to point out that despite the wide range of Jew's harp types and uses, recurring themes of poetic-linguistic use continuously emerge in myth, iconography, performance practice, and playing technique. Symbolic associations arising from the instrument's physical shape, its unique timbre, and its intimate relationship with the human body suggest forces at play outside the linear understanding permitted by Jew's harp chronology and distribution.

Magic and Courtship

> The magic power of an instrument is not determined as much by the material of which it is made, or by its shape and color, as by its voice. Tone, invisible and intangible, is stronger than any other magic quality. (Sachs 1940: 42)

There are many different kinds of Jew's harps in all manner of ranges, timbres, and volumes, and some are better suited to certain kinds of activities than others. Some are sweetly melodic, the fitting accompaniment to revelry and dance music; some are plucky, high-pitched, and percussive, and lend themselves particularly well to rhythmic acrobatics; others, deep and booming, can simultaneously make powerful rhythmic and melodic statements; still others, fine-tuned for a long sustain, are ideal for catching the subtleties of breath and articulation. Indeed, there is a Jew's harp for almost every taste and occasion. However, it is characteristic of the Jew's harp that no matter what it is made from, where it is found, or who is playing it, it seems to have a sort of magic power. Whether it's in the hands of a virtuoso or a beginner, the quality of its sound alone is distinct enough to attract the attention of the most casual listener.

According to Hans Fischer, an organologist specializing in the music of Oceania, "the appearance of the same function for a sound-producing instrument in different cultural surroundings does not provide a sure argument for historical relationships, as it can be based on an always repeatable, psychological effect of the sound being the same for all people" (ibid.: 156). Both Sachs and Fischer isolate the quality of sound or tone above the instrument's other features (physical) as the primary determinant of the instrument's ethos. Interestingly, however, when it comes to the distribution of the Jew's harp, Fischer denies that psychological factors are the cause of the instrument's worldwide presence. Instead, he argues that the use of the Jew's harp for courtship indicates an historical relationship rather than a psychological one, claiming that "there is

no original substantiation [for the courtship context] found in the sound of the instrument" (Fischer 1986: 156). While the Jew's harp's use in courtship may not be a direct result of its tone or timbre, it could be said to be the result of a complex overdetermination between the physical and social constraints on its use.

Physical and Social Constraints

> Music, directly transected by desires and drives, has always had but one subject—the body, which it offers a complete journey through pleasure, with a beginning and an end. A great musical work [or a musical instrument] is always a model of amorous relations, a model of relations with the other, of eternally recommenceable exaltation and appeasement, an exceptional figure of represented or repeated sexual relations. (Attali 1985: 143)

The recurrence of the Jew's harp in courtship in places as remote from each other as Papua New Guinea and the Austrian Alps seems to indicate independent manifestations arising from some intrinsic quality of the instrument itself. That the instrument's very construction is symbolic of procreative imagery has led to suggestions that it may possess an innately erotic character (Bakx 1998). Acoustically speaking, the symbolism lies at the core of how the instrument produces sound; a reed rapidly passes in and out of a frame, creating friction in the surrounding air. Biological factors arising from the instrument's interface with the body also come into play. The mouth is an important and busy site in which higher and lower faculties collide. It is both the place where bodily subsistence is ingested, that most basic of needs, and the place where speech is formed, that highest of functions upon which social identity so largely rests.[13] As a site of intimacy between lovers, the mouth is also an appropriate place for would-be suitors to draw attention to.

[13] Just as food is broken down in the mouth into smaller particles, the airflow from the lungs is broken and shaped into vowels and consonants, and the other minute particles that consitute sound and speech. So the mouth is a vestibule of transformation, shaping both what it receives and what it transmits.

The social aspects of Jew's harp use in courtship follow logically upon its ability to function as a speech surrogate, and the use of the instrument to articulate poetic phrases is quite widespread. Instances of its use in serenading and courtship have been reported across Indonesia, the Phillipines, and Papua New Guinea; in Taiwan, China, Vietnam, and Laos; across Siberia; and even in the Alps of Europe[14]. In such contexts, the instruments are frequently used in pairs — wherein one instrument is typically pitched slightly lower and the other slightly higher, imitating the male-female dichotomy — so that lovers can converse back and forth. In some instances, a young suitor will come to the house of his beloved and serenade her with sweet melodies; in others, young couples may use the instruments to have secret conversations that elders and other onlookers cannot understand. Thus, as a voice mask or modulator, it can allow private information to be coded and concealed, and it can be used to convey difficult, intimate, or poetic content.

Mimesis and Playing Techniques

The Jew's harp also exemplifies how an instrument can be a mimetic device reflecting the musical philosophy of a culture. Again evoking Attali's observation that "composition ties music to gesture" (1985: 142), the ways in which the Jew's harp is played provide insight into the habitual gestures, noises of life, and bodily movements of its handlers. In Siberia, it is used to imitate sounds of nature, from running water and wind to animal sounds (Il'ina 1987; Alexeyev and Shishigin 2004). Here the instrument takes on features of the landscape, and is thought to provide a communication link to the

[14] Rock 1939; Picken 1957; Pugh-Kitingan 1977; Reck 1977; Catlin 1990; Proschan 1992; Baes 1997; Haid 1999; Ivanov 1999; Rault 2000.

spirit world. As the vibrations of the Jew's harp take place inside the human body, the instrument is known for having a deeply meditative effect on its player. Its use in shamanic healing in Siberia is widespread, employing the instrument's ability to create altered states in its players and listeners (Rouget 1985; Ivanov 1999; Alexeyev and Shishigin 2004).

In India, the Jew's harp morsing[15] is used to imitate the complex oral rhythmic system of *solkattu*. These spoken syllables correspond to strokes on the double-sided drum *mridangam*, and Indian percussionists must be proficient at reproducing complex rhythmic patterns both verbally and on their instrument. This system, which supports professional mastery on several other percussion instruments (*kanjira*, etc.) has also been adapted for use with the morsing. Here, the instrument's ability to convey verbal material provides a unique way of fusing musical concept with playing technique: the solkattu syllables are enunciated into the instrument in a kind of projected whisper. While it sounds simple in theory, the execution of this concept is complicated by the instrument's physical parameters. The morsing is made of very thick iron, and the lamella has very high tension and short sustain. The result is a loud, high-pitched staccato effect, and as a result, morsing is mostly used to provide rhythmic accompaniment although it sometimes takes virtuosic turns in percussion ensembles.[16] The morsing is unique among Jew's harp traditions in that the instrument is conceptualized in terms of its rhythmic possibilities, in contrast to its usual function as a melodic instrument.

The Balinese genggong employs a playing technique related to the Indian example, in that it involves a direct transference of an oral/verbal music system onto the

[15] "Morsing" in South India/Rajastan, "morchang" in North India. The instrument also has several different names in local dialects throughout India.
[16] Personal communication with Jim Santi Owen, 2008.

instrument. Instead of solkattu syllables, it is the vowel sounds of the Balinese solfege syllables that are enunciated into the instrument. In Bali, the pitches used on the Jew's harp reflect the Balinese conception of mode and paired tuning, and it is played in groups of anywhere from two to twenty people, each playing interlocking *kotekan* patterns with a partner. The pitches used are arrived at by articulating the solfège-related vowel sounds of the five scale degrees in the mode; thus, the pitches called "*ning nong neng nung nang*" are articulated by the vowels "*i o e u a*", each one shaping the resonance of the mouth so that the same pitch is configured to the same vowel each time. While spectral analysis has shown that the pitches sounded by genggong players vary somewhat from the acceptable values of the pitches in the mode to which genggong is said to belong (Rai 2004: 30), the Balinese have found enough likeness in the available pitches that they think of them as the same tuning. The tuning and playing technique of genggong will be examined in depth in Chapter Five; the next chapter looks at the history, development, and social context of the genggong in Bali.

4 GENGGONG: A CULTURAL BIOGRAPHY

John Wright, a well-known Jew's harp player, once said of the instrument: "An enormous amount of information is hidden within [its] very simplicity" (J. Wright 1972: 59). Indeed, one of the most remarkable features of the Jew's harp is the deceptiveness of this simplicity, and much can be revealed by tracing the social and historical trajectory of a single Jew's harp tradition. Using the conceptual tool of the "cultural biography of things" (Kopytoff 1986), this chapter biographizes the Balinese genggong, charting the instrument's development, circulation, and contextualization in Bali. By asking where it comes from, who makes it and how, and identifying the recognized periods in its life thus far, this section illustrates how its use and valuation have changed over time (ibid.: 66-67).

Bali is an island in the Indonesian archipelago well-known for its rich cultural heritage. Soon after I began studying and playing Balinese gamelan music in Vancouver, I was bitten by the gamelan bug. Aware that Bali had a unique Jew's harp playing tradition about which very little had been written, I decided to combine a visit to the island with an investigation into the Balinese genggong. At first, my focus was on playing technique, or more acurately, getting the notoriously finicky genggong to emit any sound whatsoever. However, as lessons and interviews progressed, I became increasingly aware of complex social dynamics and ideological forces underlying the ways in which the instrument was played. Realizing that the history and social dynamics of genggong playing were inseperable from the playing itself, I began assembling the varied and often conflicting stories told in both written and oral sources. While the following history does not claim to be complete, it is intended to reflect the various

versions of the story of genggong as faithfully as possible. Furthermore, the case study presented over the next two chapters is still in its preliminary stages, and is intended as a springboard to future research.

4.1 Genggong

> This diverting instrument, cut from the rib of the sugarplum leaf, is heard everywhere, strummed by children and men alike, in quiet solitude or in a companionable little group. (McPhee 1955:79)

While Colin McPhee's 1930s era description of genggong wins points for its whimsy, it nonetheless bears pointing out that there are no sugarplums in Bali, nor is the instrument strummed. The Balinese genggong, rather, is an idioglot type Jew's harp made from the leaf stem of the *jaka* sugar palm tree (see Figure 3.1). It is carved from a single rectangular piece of wood that can range in length from 14cm to over 20cm, and in width from about 1.6cm to 2cm. A piece of cloth, ribbon, string, or dried leaf is attached to the left end of the instrument for the left hand to stabilize it with. On the right end is affixed a string that is tied to a smaller piece of wood, which is grasped by the right hand and jerked crisply to the right to set the frame and the lamella into motion. The left hand's stability counterbalances the right hand's motion, providing the traction that allows the tongue to vibrate properly. In heteroglot metal Jew's harps, this is accomplished by the instrument's pressure against the player's teeth; the genggong is instead placed lightly between the player's lips without touching the teeth.

Genggong may have developed from its simpler cousin and alleged precursor, the *enggung* (see Figure 3.2).[17] On the Sachsian principle that the simpler form of the

[17] The term "enggung" refers to the name of a type of frog (Rai 1998), while the term "genggong" is probably pure onomatopoeia.

instrument is the oldest, it is likely that the enggung, a single free reed enclosed in a frame and activated solely by the breath, came first. Since enggung is easier to engineer, genggong may very well be the result of a morphological elaboration on an enggung-like instrument. Whatever the case, both instruments continue to be used in association with each other today.[18]

Today, both genggong and enggung are made from jaka wood, and everyone, even the fiercely proud genggong musicians of Batuan village,[19] agrees that the best jaka trees grow in Karangasem province, east Bali. The best wood for genggong is the old wood, but the oldest jaka branches sit at the very top of the tree, beyond reasonable climbing height. The potential genggong maker has no choice but to wait until a branch gets so old that it finally dies and falls to the ground, where it can be collected and set to dry in the sun. The art of making genggong requires patience, and for every ten genggong attempted, only one good quality instrument is made.

[18] At some point during the 1980s and 1990s, at least one instrument maker in Peliatan was carving elongated instruments which included both a genggong and an enggung cut out of the same piece of wood. The enggung was carved into the far left end, and used as the handle when the genggong side was being played, and vice versa. See Crane 2004: 92-95 for photos.

[19] The majority of my fieldwork was conducted with musicians from Batuan, which probably has the highest per capita ratio of genggong players on the whole island. The information in Chapter Four and Chapter Five is drawn largely from these Batuan souces, especially Pak Marca, Ketut Karuan, Pak Suparta, Wayan Pande Pageh, Ketut Kicen, I Made Djimat and Nyoman Budiasa; and, from Budakeling village, Ketut Naba.

Figure 4.1 Two genggong from Batuan village. Above: Outer face of instrument. Below: Inner face of instrument.

Figure 4.2 Three enggung from Batuan village. Middle instrument reversed to show underside.

Origins and Early Development

> At first, genggong seems to have been an instrument that was played alone, by oneself. A player of the genggong would show his abilities by improvising on melodies that he knew. Genggong were played by farmers as a way of relaxing in the rice fields, and sometimes they were played at home. (Rai 1998: 36)

Genggong appears to be a very old instrument, but since it is made of wood which decomposes relatively quickly, there is very little material evidence on which to construct a chronology of the instrument's presence in Bali. Most people agree that genggong was invented by farmers in the rice fields; practical interpretations hold that it must have been the product of idle whittling to pass the time, its form and function stumbled across by accident, while more poetic sensibilities maintain it was inspired by the sounds of the wind, the rustling of trees in the breeze, and of course, the croaking frog choruses found all over the island. Whatever the case, it can be assumed that genggong was mainly a solo instrument, used to pass the time in contemplation and imitation of the sonic environs.

Fischer (1986) makes a connection between musical instruments that arise out of the "pure joy of sound" and those used in courtship in Oceania:

> Some instruments can indeed only serve the pleasure of an individual as their sound is so quiet that it can only really be heard by the player (e.g., jaw's harp). Particularly jaw's harps, musical bows, panpipes, end-blown and notched flutes are all played for personal enjoyment in Oceania. It is notable that these are precisely those instruments to which love magic properties are ascribed. (156)

In Bali, according to many people's best guess, the genggong too arose out of the pure joy of sound. It was primarily an instrument for personal pleasure, but one that could also be played in the company of others; a player could play alone, in a pair (as in the courtship context), or even in a small group of other genggong players, although it was generally not used with other types of instruments. Rai concedes that:

> It was not rare for someone to play genggong with the intention of attracting the ladies, as is often done with the flute. This tradition is not just true for Bali, but also is true in many places, such as in Europe, in Laos among the Hmong people, and others. It should be mentioned that with the

> rapid pace of development in the world these days, the use of the genggong to attract women is more rare. (1998: 37)

Though the use of genggong in courtship has sadly fallen out of favour, I did meet one female player of the genggong, Ni Wayan Sunting. Well into her seventies, she still recalled many of the tunes that were said to be courtship songs, and played them for me with her younger brother I Ketut Naba. Many of these older genggong pieces are also found in the repertoire of the *gamelan angklung*, a four-tone ensemble of metallophones. According to Colin McPhee, the compositions in the angklung repertoire are "said to have their origin in the simple folk tunes known as the *gending genggong*" (1966: 255). However, it is not clear which came first, as many people say that both the repertoire and tuning of genggong were derived from angklung. The connection between genggong and angklung will be expanded upon in Chapter Five.

Genggong is primarily a secular entertainment; despite reports of genggong being used during marriage and toothfiling ceremonies, its presence at a ceremony is considered to be purely for the entertainment of the people, and not intended for the gods (Rai 1998: 40). Genggong has also been known to make appearances in other secular genres. *Cakepung*, an all-male social folk dance, which originated in Karangasem, begins at the *banjar* (community hall) with the singing of classic love songs and the imbibing of liquor. As the evening progresses and the effects of the alcohol begin to be felt, the occasion turns into a raucous song and dance party that continues well into the night. At these occasions, "One or more of the men may have a Jew's harp (*genggong*) in his pocket; he will dance and play at the same time" (Bandem and deBoer, 1981: 111). Because of its portability and relatively quiet sound, genggong was ideal for bringing out

at informal gatherings, allowing its player to demonstrate his skills on the solo instrument.

Like cakepung, genggong is thought by many to have come from Karangasem, a claim substantiated by the presence of genggong among the Balinese communities on the neighbouring island of Lombok, once a vassal state of Karangasem. Seebass et. al. (1976) noted the use of genggong on Lombok, as well as a second type of Jew's harp called *selober*, whose lamella was plucked directly with the finger instead of being activated by the pulling of a string, and which Seebass concluded had died out on Bali after vain attempts to find it there (45).

As tends to be the case with bygone genres, the older generation nostalgically laments the passing of the good old days, and the case of genggong is no different. When asked, musicians and taxi drivers alike seem to unanimously recall a time when "everyone used to play". For many, genggong making and playing was a family tradition; most active players today were taught by a family member, and recall playing together either at home or in the local hall. One genggong player in his eighties said that genggong was more popular in Bali before Indonesian independence (1945), and that it has declined this century as dance has become more popular. Another genggong player agreed that while genggong is now used to accompany dance, "real genggong" is meant to be a purely instrumental ensemble. Today genggong is played primarily for tourist performances in an ensemble combined with other instruments.

4.2 Gamelan Genggong

> All solitary people tend to while away the time by song, or by making a palm-leaf or a bit of wood or a catgut string sing for them. So solitary peasants or girls in palaces amused their idleness by combining the tones of several *genggongs*. It is the ideal accompaniment to whispering voices, suppressed laughter, small pleasure parties in water palaces. Out of these modest beginnings has grown the *genggong* orchestra, which has become famous in several villages for its delicious music. (deZoete and Spies, 1938: 250)

Creation of Gamelan Genggong

Genggong, like many of the arts in Bali, underwent a massive refashioning during the tourist wave of the 1930s. Many community art forms were redesigned and staged as new performance genres. The most notable of these is the vocal ensemble *kecak*, or "monkey chant", a theatrical form said to have been influenced by the Dutch painter Walter Spies in the 1930s, which continues to be a mainstay of Balinese cultural tourism today. According to I Wayan Rai, the current director of the Bali Arts Institute (ISI), genggong was not formalized into a gamelan ensemble until the twentieth century, and was actually the result of foreign influence. Rudolph Bonnet, a Dutch painter who lived in Ubud village in the 1930s, frequently held get togethers for his foreign friends that included performances by local musicians and dancers (Rai 1998: 37). Legend has it that Bonnet, upon hearing the sound of a single genggong, suggested that several genggong be brought together and combined with other instruments to form a group (ibid.). Thus, the first arts organization (*sekaa*) devoted to the art of genggong was formed around 1939, and called "Genggong Catur Wangsa Budaya Ubud"[20] (ibid.).

Prior to the formation of the Ubud group, the Canadian composer Colin McPhee had also tried to revive genggong in 1938 in the nearby village of Sayan. His intention to

[20] Genggong for the Four Peoples/Cultures of Ubud.

form a practicing children's gamelan club in Sayan began with a suggestion to the local boys that they form a *sekaa genggong* (genggong club). That genggong ensembles existed before 1939, and not solely in Ubud, is substantiated elsewhere; Beryl deZoete and Walter Spies (1938) observed genggong being played in the villages of Batuan and Sanur in the 1930s. In both cases, they report that the ensemble was accompanied by dance; a solo dancer would emerge from among the seated genggong players, in pantomime of a frog character.

To complicate matters further, McPhee's description of the material taught to his boys group indicates a level of musical complexity that was not thought by many of my teachers and informants in 2007 to have emerged until after the 1960s. After only two months, however, the Sayan group disbanded; according to McPhee, "the *genggong* club lost interest because the teacher came from too near by and…his music was out of date" (1955:83). Today, genggong is mostly played by men and it is considered by some to be too difficult to teach to children. In Bali this is saying something, as children play other gamelan instruments to stunning levels of proficiency. Truth be told, the patience required to construct a genggong is rivalled only by the patience required to learn how to play it, and it is easy to be deterred by the instrument's perplexing playing technique.

Genggong Revival: The Frog Dance

The most famous genggong groups of the last forty years have emerged from Batuan village, a community well-known for its musicians and artists. During the 1960s, genggong underwent a surge of popularity in Batuan; many of the young men picked it up, and a banjar (community) group met regularly to practice in the home of the local

priest, sometimes playing during prayers and religious ceremonies at the Pura Desa temple. In 1968, the banjar group officially became a sekaa, named "Batur Sari".

From about 1970 onwards, tourism in Bali was booming and many private performances were being commissioned from Batur Sari. It was in this climate of genggong enthusiasm that the famous dancer I Made Djimat, one of the founding members and teachers of Batur Sari, came up with the Frog Dance, a new performance context for the genggong ensemble. A storyline was added to make the ensemble more entertaining and provide it with a dramatic framework, and a new dance choreographed to enact the characters. The plot is based on the Balinese version of the Princess and the Frog folktale, which is familiar to Western audiences save for some notable twists. The frog begins the story as the human King of Kauripan, whose fondness for hunting dragonflies angers the god Siwa. Siwa turns the king into a frog as punishment, promising to remove the curse if the frog marries the beautiful princess of the neighbouring kingdom of Daha. Frog and princess meet and fall in love, Siwa returns to give his blessing, and they all live happily ever after.[21]

In 1973, Batur Sari moved from the priest's house to the home of Nyoman Artika, who with his two younger brothers still leads the group today. That same year, Djimat left Batur Sari to make his own genggong group, called Panti Pusaka Budaya. Since then, copycat groups have appeared all over Batuan, all doing a similar version of the Frog Dance. As of 2007, there were groups actively performing the Frog Dance in Batuan,

[21] According to I Wayan Sudirana (personal communication, 2008) there may a connection between this story and the storyline used in the Arja Godogan (Balinese opera about a frog character).

Ubud,[22] Sanur, and Budakeling (and undoubtedly others). Many of these groups were hiring Batuan genggong musicians for their performances and supplying the rest of the ensemble from local talent, indicating a current shortage of those proficient on the instrument. Writing in 1981, Bandem and deBoer noted that: "Genggong is often heard nowadays at Balinese tourist hotels, where it is used to provide a kind of pleasant background music" (112), and very little has changed in this regard. The new Ubud group, Pondok Pekak, stages their version of the Frog Dance for tourists biweekly, and groups are often hired for private parties at hotels. Every year, there is at least one genggong performance on the bill of the month-long Bali Arts Festival (*Pesta Kesenian Bali*), and genggong musicians in both Pejang and Tenganan villages are now featured in music-themed commercial tours of the island.

Instrumentation

The instrumentation of gamelan genggong varies from group to group, but largely consists of instruments borrowed from other ensembles. Generally speaking, they tend to be inexpensive, often those made from bamboo and wood rather than metal. In addition to its low cost, a mostly wood-based ensemble is quieter, and means the genggong do not have to vie for dominance volume-wise. The modern gamelan genggong usually consists of the following instruments:[23]

1) one or two *suling* (small flutes) that function to introduce and play the melody of the piece;

[22] Not the original Catur Wangsa Ubud group, which appears to have disbanded, but a new group called Pondok Pekak.
[23] The following list is compiled from Rai (1998: 38-39) and my own fieldnotes.

2) one small *kendang* (double-sided drum), taken from the *arja* (Balinese opera) ensemble, and played in the solo drumming style of that ensemble. Functions to carry the rhythm and give cues and accents;
3) Several genggong, (usually four to eight, but varies depending on the group), playing an interlocking elaboration on the basic melody;
4) One set of *cengceng* (small cymbals), which have the function of enriching the rhythm, and also with the drums in making *angsel* (rhythmic accents and cues).
5) Two *guntang*, or *tawa-tawa* (slit drums) one small and one big. These are also part of the folk ensembles *gamelan joged* and *gamelan geguntangan*. In gamelan genggong, the bigger of the two functions as the gong (hit by a mallet with the right hand while the left hand waved over the open left side of the tube to make a gong-like vibrato). In some groups, a *gong pulu* (two big iron keys suspended over a box resonator, one tuned slightly higher than the other and struck in unison to create a beating effect) is used instead of the large guntang. The smaller guntang, also called *klentit*, functions as the time-keeper
6) A *klenang* (small kettle gong), that interlocks with the small guntang, playing on the offbeat.

While this is the standard grouping used in the Batuan Frog Dance, the actual instrumentation of the gamelan genggong ensemble varies by region as well as by individual group, and some groups, like the one in Pejang village, use an all-genggong ensemble without any supporting instruments. According to Rai (1998), the 1930s era genggong ensemble consisted of several genggong, *suling*, *guntang*, *cengceng*, *enggung*,

kendang, and a bottle that was hit with a small piece of wood.[24] Pak Pandji's list of Balinese gamelan ensembles (1973) lists the ensemble as consisting of "8 or more mouth harps, suling, tawa-tawa (guntang), *rebana* (frame drum), *ricik* (rattles), 1-2 drums, and vocal" (2). Seebass et. al. (1976) noted that the instrumentation of a genggong ensemble in Barajulat village on Lombok was similar to that found in Bali: "The smallest possible ensemble is a duo of two genggongs…often there are bigger groups and those enlarged with *suling*, *ricik*, and one or more *guntangs*. Thus the genggong instrumentation is the same on both islands" (45).

The 2007 instrumentation of the genggong group in Budakeling village (Karangasem province) varied from the standard Batuan set-up, replacing the kendang with several smaller percussion instruments, and using a *rebab* (spike fiddle) to play the melody instead of the suling. The instrumentation is as follows: several genggong to play the melodic line and ornamentations; two guntang; two *ricik* (coconut rattles, used with the same musical function as cengceng); an unnamed instrument made of two large snails' shells stuck on wooden prongs (it is played by passing a finger or a stick between the two shells, and functions as a sort of rasp, used to imitate the sound of a frog); three "blown genggong" as a sound of the big frog (enggung); two unnamed bamboo instruments (to function as the sound of rain); one *rebab* (spike fiddle, used by this group instead of suling to play the melody); two unnamed coconut shell instruments (to function as the sound of frogs); and one *gerantang* (pitched bamboo tube). When asked about these instruments, some of which had no names, the group's leader Ketut Naba

[24] According to Rai, the bottle functioned as a rhythmic enrichment, similar to an instrument called *gumanak*, from the flute ensemble *gamelan gambuh*, which consists of two small metal rods struck against one another. Rai notes that the 1930s-era genggong group of Ubud is the only group to have used the bottle, but deZoete and Spies (1938) describe a "bottle fixed on the back of a wooden tortoise and beaten with a stick" used by a genggong group in Batuan village as well.

explained that they were all old folk instruments and that he preferred this instrumentation because he felt simpler, older instruments better complemented the ancient genggong.

Accessories

Glumpah, also called *tebeng*, is a small, hand-held resonator made of pig skin or dried leaf. Sometimes painted paper with decorative carvings is glued on the side facing the audience. It is held in the player's left hand (the hand that also stabilizes the instrument), and amplifies the sound of the genggong so that the player can better hear their part in ensemble playing. The glumpah doesn't make genggong sound significantly louder to an audience, but is primarily for the benefit of the person playing the instrument. It is usually seen in performances of gamelan genggong, where the relatively quiet instruments risk been drowned out by the other instruments in the ensemble. As such, it is generally not used in solo playing as the genggong doesn't have to compete for volume.[25]

Gambir (Balinese), or *tanah merah* (Indonesian), is a type of red clay that, in addition to being one of the ingredients in the popular betel nut chew, is also used to change the pitch of genggong. It comes in a hard block, and water must be added to make it malleable. Once softened, a small piece can be stuck to the free end of the instrument's tongue, at the point where it narrows. This makes the tongue heavier, thus lowering the pitch. It is safer to tune this way, as removing any material from the instrument itself

[25] Although the genggong is the loudest of wooden jew's harps, the problem of volume is never totally resolved in performance. Genggong players today are almost always amplified with microphones, though some of the subtlety of the instruments' overtones is inevitably lost in the process.

creates changes that cannot be undone. In this way, genggong players can tune to each other and the suling. Most genggong groups use instruments that are all tuned to each other already, i.e. made specifically for the group in a batch, but the inconsistencies of the genggong making process mean that further adjustments are often needed.

Chapter Five will examine the tuning and playing of genggong, its relation to gamelan angklung, and its repertoire in detail, illustrating how the rich panorama of Balinese music has been mapped onto a small piece of wood.

4 GENGGONG: TIMBRE, TUNING, AND TECHNIQUE

> But then why three tracks devoted to the trivial, commonplace *genggong*? (In Bali, *genggong* music is at the low rung of the ladder. I have never understood the disproportionate appeal to outsiders of this minimal jug band of a gamelan, which can basically make only one sound and play one tune. Focusing on it is like opting for Mozart's musical dice game over his symphonies, and confusing their relative artistic merit.) (Tenzer 2000b)

As we have seen, elitist dismissals of the Jew's harp based on a perceived lack of value go all the way back to the seventeenth century, and have not been subject to much scrutiny until recently. At the heart of such opinions lies a question not of value, but of perception. John Blacking wrote, "It should […] be our task, as anthropologists, to experience others' bodies through our own bodies" (1977: 6). Likewise, it could be said that our task as ethnomusicologists is to experience others' music through our own bodies. To dismiss genggong because the way it is used is not complex enough is to overlook both the complexity of the physiological process that goes into creating the tones on the instrument, and the phenomenon of adapting the musical concepts of a metallophone orchestral ensemble onto a small, mouth-resonated instrument made of wood. It is in the limitations of the Jew's harp that its very possibilities lie; on it, a few select tones are extracted from an entire harmonic spectrum of possibilities in order to express and highlight a particular view of the sound universe.

So far, this study has looked at various approaches to the study of musical instruments, the technology and contexts of the Jew's harp family of instruments, and the development of Jew's harp use in Bali. Returning to the questions posed in Chapter Two, the present chapter focuses on the musical conceptualization of genggong in Bali, asking how its playing technique is determined by physical and social constraints, and noting the overlapping of these categories. I will explain how social constraints, including the

perception of pitch, scale, paired tuning, and interlocking parts, emerge in conjunction with physical constraints, such as the necessity of regular breathing and consistent activation of the lamella, which together shape the genggong playing technique.

5.1 Scale and Tuning

> As each *Genggong* produces only one vibrating tone, at least two are needed to produce a melody. (deZoete and Spies 1938: 250)

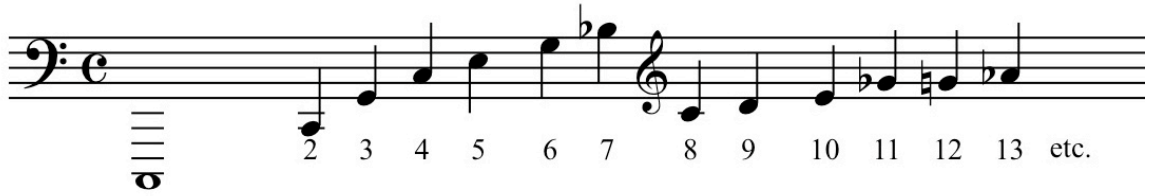
The misconception that genggong (and Jew's harps in general) only produce one note is based in the fact that the fundamental pitch can be heard droning underneath the harmonics played above it. To the untrained ear, the fundamental frequency can sometimes seem to dominate and obscure the other frequencies present; with time, however, the subtler overtones become clearly perceptible. Far from being able to "make only one sound and play one tune", genggong has a four to five tone range, which means that it is capable of playing the same material as the larger metallophone ensemble angklung. Despite the limited number of tones in a Balinese scale, the interlocking *kotekan* figurations used by both genggong and larger gamelan ensembles have shown how "A small array of building blocks can produce a large vocabulary of possible combinations" (Vitale 1990: 6). Using the same principle, genggong is also capable of musical complexity, and it is simply incorrect for it to be seen as a subordinate art form.

Scale

As discussed in Chapter Two, the pitches available on any given Jew's harp correspond closely to the pitches of the harmonic overtone series. A fundamental pitch contains within it many partial wavelengths; these partials (harmonics) vibrate at frequencies that are multiples of the fundamental. The first harmonic is the fundamental itself, the second harmonic is two times the frequency of the fundamental, the third, three times the frequency, and so on. As a result of this equation, the first few harmonics are widely spaced from each other, but as the series progresses the distances between pitches lessens. Figure 5.1 represents the overtones series on a theoretical genggong with a fundamental pitch of low C.

However, only a handful of these overtones can be resonated within the mouth cavity's possible range of movement. As a result, only the overtones five through ten are actually playable, and it is these pitches which are used to constitute the genggong "scale". This scale is considered by the Balinese to be related to the *slendro* scale, to which the gamelan angklung is also tuned.[26]

Figure 5.1 The overtone series for a fundamental of low C



[26] There is no standardized pitch in Bali, so attempting to reflect the pitches used on genggong with Western notation based on equal temperament is necessarily inaccurate (nor are the values of the harmonic series congruent with equal temperament). This system, however, provides a useful tool for illustrating general concepts of tuning and composition on genggong.

Slendro, Angklung, and Solfège

Slendro is a five-tone tuning system that is said to have been imported to Bali from Java, along with the seven-tone system *pelog*. While *pelog* is characterized by a series of uneven intervals between its pitches, the pitches of slendro tend to be more equidistant. These two systems are the conceptual foundation for most of the tunings used on Bali, although in practice, both gamelan and vocal pitches do not always fit neatly into either one (Gold 2005: 34). Most gamelan tunings are pentatonic extractions of *pelog*; the gamelan angklung, to which genggong is said to be related, is a four-tone derivation of slendro.

Angklung were originally bamboo rattles each of a single pitch, a number of which were shaken in succession to play a melody. The modern gamelan angklung consists predominantly of small bronze metallophones, and the ensemble is used both recreationally and for temple festivals. As mentioned earlier, gamelan genggong and gamelan angklung share much repertoire, though it is not clear which is older.

The Balinese solfège system gives each of the degrees of any given scale a name, and as the majority of scales are pentatonic, the following five syllables are used: *ning, nong, neng, nung, nang*. *Ning*, by definition, is the first degree of the scale, though this varies according to ensemble. On gamelan anklung, for example, the first scale degree is often considered to be *neng*. Figure 5.3 shows how slendro is conceptualized on gamelan angklung, using the degrees of the scale and their names.

Figure 5.2 Typical four-tone slendro conceptualization on angklung

Metallophone Key	1	2	3	4
Solfège	Neng	Nung	Nang	Ning

Laurence Picken notes that: "Remarkably enough, the scale of the *gamelan Angkloeng*: G A B D, the 123.5 sequence of the commonest Chinese mode…is considered by the Balinese to be identical with the four chief notes produced by a Jew's harp, *genggong*: G Bb C D, that is 134.5, and tunes for the one are played on the other"(1957: 171).[27] Interestingly, Picken (drawing from McPhee) names the very pitch values that correspond to the genggong with a fundamental of C in the table above, only starting with G as the first scale degree. So, while the middle two notes of the angklung and genggong scale sequences differ slightly from each other, the Balinese allow for the slight discrepancy as the intervals of the genggong (overtone) scale are closer in relationship to slendro than to pelog. Having said that, the "slendro" used on genggong is further complicated by the concept of paired tuning, which employs two genggong of different fundamental pitches, and therefore, different harmonics.

Paired Tuning

The principle of *ombak*, roughly translated as vibrato, is at the core of tuning in Bali. In a gamelan ensemble, all the instruments are tuned in pairs, with one slightly higher and the other slightly lower. When the same note is sounded on both instruments, a visceral pulsating effect is created, not unlike the tangible vibration of a large gong. The

[27] Here Picken was referring to a study done by Colin McPhee (1937) on the angklung, "Angkloeng gamelans in Bali" published in the journal *Djawa*, p.122, in which he discusses the relationship of genggong tuning to angklung tuning.

higher instrument is said to be *pengisep*, while the lower is *pengumbang*. A pair of instruments may also be referred to as *lanang* (male; high-pitched) and *wadon* (female; low-pitched).

In the case of genggong, whether there are two players or ten, the instruments are always used in lanang-wadon pairs. During my fieldwork I had observed that the relationship between the two fundamentals of the pair usually hovered around an interval of a minor third. Curious about how this interval was arrived at, I tested the perception of paired tuning by asking several different genggong players to select matching pairs of genggong from an assortment of instruments with different tunings. The process was not what I expected: each time, the person would pick up an instrument, and instead of listening to its fundamental pitch, he would play a scale or a brief melody, listening closely to the instrument's overtones. For genggong players, tuning wasn't about the fundamental; I later learned that the spectrum of sound generated by the lamella is full of many non-harmonic partials, and it is often difficult to perceive a definite pitch for the fundamental (Rai 2004: 39).[28] While I was straining to hear and construct an intervallic relationship between the genggong fundamentals, the fundamental pitch had absolutely no effect on tuning as far as my teachers were concerned. A pair of genggong were instead determined to be a good match based on the pitches of the overtones arrived at in actual playing. In this way, the low ning of the genggong wadon was meant to match the high ning of the genggong lanang (see Figure 5.3).

[28] While at the same time, ironically, some people can only hear the fundamental and not the partials.

Figure 5.3 Tuning of a lanang-wadon pair of genggong (pitch values are approximate)

Genggong Lanang (Fundamental: Eb)			Neng (Bb)	Nung (Db)	Nang (Eb)	Ning (F)
Genggong Wadon (Fundamental: C)	Ning (E)	Nong (G)	Neng (Bb)	Nung (C)	Nang (D)	

Genggong lanang is considered to be the leader and uses the same four-tone conceptualization of slendro as angklung, with ning as the highest pitch in the scale. Genggong wadon, on the other hand, uses a low ning. In genggong tuning practice, the low ning of wadon and the high ning of lanang should be tuned roughly an octave apart, so that lanang is slightly higher (pengisep) and wadon is slightly lower (pengumbang). Musically, genggong lanang is the leader as well, and it will often play the opening melody or introductory section of a piece. If a suling is being in this function instead, the suling's high ning must match the high ning of genggong lanang.

Genggong wadon typically has a range of harmonics from the 5^{th} (low ning) to the 9th (high nang). While genggong lanang technically has the same range, in practice its scale usually starts on the 7^{th} harmonic (conceptualized as neng) and goes to the 10^{th} (high ning). Occasionally, lanang will play either a low nong (below neng) or a high nong (above ning), but the high nong is often difficult to sound as genggong lanang's fundamental is usually too high to make that harmonic reachable.

Not surprisingly, genggong makers have a hard time tuning pairs of instruments to each other. As mentioned earlier, only about one genggong emerges from every ten attempted, and it's rare that any two come out the same pitch. Thus, a genggong maker

can not simply make all his lanang instruments at once and then make a batch of wadon instruments to match. Instead, a maker will often work on several instruments simultaneously, working the wood not to any standard of pitch, but to a standard quality of sound or timbre. The resulting instruments, which may vary widely in pitch, are then adjusted to each other using gambir clay until they are deemed to be a good pair.

5.2 Playing Technique

Colin McPhee recounts the pedagogical approach of the genggong teacher he brought to Sayan, who insisted that the children learn to sing the tunes using the solfège syllables before playing them on the genggong:

> Each night the children sat in a ring on the verandah, the teacher in the center, chanting as they learned the wordless tunes. Most of these were brief, repeated over and over without a break. They then began to learn longer pieces, composed of two sections—the first, the *polos* or plain, sung in unison, and the more animated finale, the *chandetan*, a syncopated two-part affair, in which two separate but interlocking rhythms are combined to create an unbroken musical continuity. It sounds complex, and it is, but not to the Balinese, who throw themselves into such passages with sheer delight…It was only after a month had passed, when the chorus knew a dozen or more tunes and had gained some precision in ensemble, that the *genggongs* were produced. (1955: 79)

This teacher's approach, reminiscent of the vocal chant *genjek* to which genggong is said to sometimes be a part of, highlights the importance of Balinese solfège to the musical conceptualization of the genggong.

Basic Technique: Solfège and Phonemes

While it is clear that the solfège note names correspond to the pitches played on genggong, how are these pitches sounded in practice? The key to genggong technique is to whisper the phoneme, or the most minimal defining unit of the note's name, into the instrument. In Balinese solfège, it is the vowel of each note's name which is its defining

characteristic. Figure 5.4 demonstrates the phonetic correlation between the solfège name of each note and the phoneme enunciated into the instrument.

In the act of playing, the enunciation of a particular phoneme shapes the mouth to produce a particular resonance, which corresponds to one of the partial harmonics (overtones) of the instrument's fundamental pitch. Rai (2004) explains: "Although the lamella by itself produced the one kind of sound quality, with complex non-harmonic partials, and thus without clearly defined pitch, the adjustments of the mouth cavity and the blowing or inhaling, can dramatically change the sound quality and permit to amplify the partials that can be perceived as the pitches of the melody" (39).

Compared with other Jew's harp playing techniques, genggong uses an open glottis, using the oral cavity at its maximum resonant capacity. That is what gives genggong its characteristically deep and guttural sound. It is interesting that the same partials (the 5^{th} through the 9^{th} harmonics, for example, E, G, B^{b}, C, D on a Jew's harp with a fundamental of C) can be sounded when the glottis is closed—but can be arrived at with different phonemes. However, the resonance is totally different with a closed glottis, and open glottis playing is much louder because of the extra resonating cavity.

Figure 5.4 Scale of a genggong wadon with fundamental C

Scale Degree	**Solfège**	**Phoneme**	**Approximate pitch**
1	Ning	I (ee)	E
2	Nong	O (oh)	G
3	Neng	E (eh)	Bb
4	Nung	U (oo)	C
5	Nang	A (ah)	D

When I began learning how to play genggong, I was astonished at the complexity of this technique. Without any frame of reference, I struggled to configure my mouth to the correct resonances without understanding the difference between an open glottis and a closed glottis, or how whispering "ning" was supposed to create the exact pitch of ning. Pak Marca, my primary teacher from Batuan, summed up the challenge of genggong by contrasting it with suling: on suling, you can stop a hole and get a sound, but "genggong you play with your mind. If you want the sound *neng*, you have to think *neng*" (personal communication 2007). The imaginary aspect of the instrument is part of what makes it so hard to play, and the would-be genggong player needs time to work out the combination of muscle memory and visualization required to play it. As Marca put it, "This instrument is very easy, but very difficult."

Kotekan Technique: Breath and Accentuation

Genggong is not just used to play melodic material, but to create the interlocking figurations known as *kotekan* which are a staple feature of modern Balinese music. Genggong kotekan is not a direct transposition of the patterns used on the large bronze gamelans, but rather an adaptation of them, shaped by the physical challenges of translating a metallophone part onto a mouth-resonated instrument. The way kotekan is used on genggong stems from the necessity of certain playing techniques physically dictated by the Jew's harp itself.

Many Jew's harp traditions employ the use of breathing in and out in rapid succession, as it keeps the momentum going on the instrument and allows for faster playing. Rai explains that:

> To make a good sound, you have to use a technique that is called *ngengkahin*, (*menghembusi* in Indonesian), but in general, genggongs can make the tones ding, dang, dung, and deng [genggong lanang]. Two of the aforementioned tones, that is, dang and deng, are made with the technique of *ngengkahin* (exhaling), and dung and ding are not (inhaling). (1998: 36)

As kotekan patterns generally consist of sixteenth notes, half the notes are played while exhaling and the other half are played by inhaling. When playing a melody consisting of quarter notes or eighth notes, this technique is unnecessary as its primary function is to facilitate speed. Therefore, in melodic playing, the notes are all generally sounded by exhaling, while in faster kotekan patterns the rapid in and out breathing is used.

What Rai doesn't mention, however, is that some of the notes are accented while others are not. The genggong lamella has a relatively short sustain, and must be constantly kept in motion by pulling the attached string. A loose but precise snapping of the wrist at regular short intervals not only keeps the genggong sounding, but affects the music played on it. Figure 5.5 shows how the accents coincide with the technique of inhaling and exhaling during a sixteenth note kotekan pattern:

Figure 5.5 Accents and passing notes (genggong wadon)

Ning	**Nong**	**Neng**	**Nung**	**Nang**
Exhale	Inhale	Exhale	Inhale	Exhale
Accent	Passing note	Accent	Passing note	Accent

Therefore, the pitches ning, neng, and nang are accented sixteenth notes and nong and nung are unaccented, effectively acting as passing tones between the stronger pitches. When a genggong kotekan pattern is sung, as was done by the genggong teacher in Sayan in 1938 as well as by many of my teachers in 2007, it gives a sense of a general melodic contour. When the same pattern is played again on the instrument with the percussive accents in the right places, an entirely different rhythmic pattern emerges from the stream of notes. The emphasis on certain notes and not on others is where the truly genggong-style patterns emerge. There are, then, two layers in a genggong kotekan pattern: the first is the overall melodic flow of sixteenth notes, and the second is the rhythm that emerges as certain notes are accented and others are not. The superimposition of these two layers, i.e. accented notes with audible passing notes in between, is part of what gives genggong music its unique sound.

5.3 Further Questions

On a few occasions, I encountered elderly genggong players who did not play kotekan. Two men from Batuan, both in their eighties, played parts which consisted mostly of eighth notes without passing notes. This was a slower, reduced playing, at half the density of the sixteenth note kotekan patterns. Both would occasionally add a passing note, but only between non-adjacent tones, and would not do so frequently. Younger genggong players said that this was a simplified technique, which didn't cause as much physical exertion as the faster way of playing. Could it have also been a remnant of an older style of playing?

While fieldwork has provided some clues as to how genggong is culturally and musically constructed, it has also generated many questions for further investigation. To what extent are the melodies and kotekans of genggong related to those of gamelan angklung? To what degree are genggong parts improvised? What kind of consistencies and discrepancies exist among different versions of the same piece? While I have done some preliminary musical transcription and analysis of genggong repertoire, the current sample size of my recordings is not broad enough to represent the full range of genggong styles on Bali; much remains to be done. In the future, such musical excerpts will be key to understanding how the playing techniques outlined in this chapter are realized in performance practice.

The information presented in this chapter is only a sampling of the kind of in-depth inquiry that can be done using a single musical instrument as a point of entry into a culture's musical self-fashioning.

6 CONCLUSION

I have moved from the broad to the specific in order to demonstrate that musical instruments are at once technology and material culture, machines that are created as extensions of the human body, and artifacts that both shape, and are shaped by, their players. I have suggested that a clearer picture of the attitudes toward the Jew's harp may emerge from an examination of its interaction with the body, and its ability to transmit patterns of its physical and sonic character into patterns of body movement and sound. I have used the case study of the genggong to illustrate how the interface between the human body and the morphology of the instrument constitutes a symbiotic relationship in which physical, social, and psychological realms commingle. I have shown, finally, that musical instruments contain vast amounts of information, and are tangible manifestations of the intangible entity that is culture.

While this study has at times raised more questions than it has answered, it has proposed a theoretical and methodological framework for future research. Arguing that the human body needs to be considered a crucial part of any musical instrument, a clearer picture of the Jew's harp in all its various permutations must take account of phonetics and acoustics, and contextualize this information in terms of performance practice. Once a significant database of this information has been generated, comparison across different versions of the instrument will be possible. To this end, the study I have presented here is about an organology that combines the strengths of both comparative and ethnographic approaches. While the comparative musicology of the early 20th century fell out of favour for its colonialism and ethnocentrism, these obstacles have now been largely deconstructed by decades of thoughtful critque. While musicologists like Hornbostel and

McPhee never touched the instruments they wrote about, music research today need no longer be confined by the same paradigms. It is time to bring in new perspectives to revitalize and rediscover the value of approaching large concepts using minimal units.

I find it reasonable, then, to use the Jew's harp to crystallize the potential of an instrument-based approach to better understanding the human relationship with sound. Throughout its many forms, the intrinsic nature of the Jew's harp links it to love and courtship, magic and communion with spirits, the masking and modulating of the voice, and the passing of time in solitude; it is equally a vessel for the sacred, the profane, and the mundane. The body of the instrument itself is a lyre plucked, a reed blown, a buzzing insect, a motion of water or wind, and a surrogate tongue that speaks for its player. Further shaped by the multitude of playing techniques and contexts, from percussive accompaniment to melodic solo, from imitation of the sounds of nature to articulation of vowels and words, from groups to pairs to individuals, and from competition to cooperation, the primordial simplicity of the Jew's harp generates a kaleidoscopic image of human musical experience, bound up equally in the tiny machine fine-tuned by the master metalsmith, and the trinket bumping around inside the child's pocket.

REFERENCES

Adkins, C.J. 1974. "Investigation of the sound-producing mechanism of the Jew's harp." *Journal of the Acoustical Society of America* 55: 667-70.

Alexeyev, Ivan, and Spiridon Shishigin. 2004. "The Music of the Yakut Traditional Khomus." *Journal of the International Jew's Harp Society* 1: 88-94.

Anonymous. 1890. "Perverted Talent." *The Musical Times and Singing Class Circular* 31: 398-399.

Appadurai, Arjun. 1986. "Introduction: commodities and the politics of value." In *The Social Life of Things: Commodities in Cultural Perspective,* edited by Arjun Appadurai, 3-63. New York: Cambridge University Press.

Attali, Jacques. 1985. *Noise: The Political Economy of Music.* Minneapolis, University of Minnesota Press.

Baes, Jonas. 1997. "Subing: An Iraya-Mangyan Trump from the Philippines." *Vierundzwanzigsteljarsschrift der Internationalen Maultrommelvirtuosengenossenschaft* [Journal of the International Jew's Harp Virtuosi] 6: 106-112. All subsequent references to this journal use the acronym *VIM*.

Baily, John. 1977. "Movement Patterns in Playing the Herati dutar." In *The Anthropology of the Body*, edited by John Blacking, 275-330. London and New York: Academic Press.

Bakx, Phons. 1998. "The Jew's harp and the Hindu God Shiva: Into the Symbolism of Procreation." *The Thoughts' Dispeller Booklet Series* 1. Middelburg: Stichting/Foundation Antropodium.

Bandem, I Made, and Fredrik Eugene deBoer. 1981. *Kaja and Kelod: Balinese Dance in Transition.* Kuala Lumpur: Oxford University Press.

Blacking, John. 1977. "Towards an Anthropology of the Body." In *The Anthropology of the Body*, edited by John Blacking, 1-28. London and New York: Academic Press.

Bradley, D. 1979. "Speech through Music: The Sino-Tibetan Gourd Reed-Organ." *Bulletin of the School of Oriental and African Studies, University of London* 42: 535-540.

Buckley, Ann. 1986. "Jew's Harps in Irish Archaeology." In *Second Conference of the ICTM Study Group on Music Archaeology: Vol. 1*, edited by Cajsa Lund, 49-71. Stockholm: Royal Swedish Academy of Music.

Catlin, Amy. 1990. “Harmonizing the Generations in Hmong Musical Performance.” In *Selected Reports in Ethnomusicology, Volume 8: Issues in Organology*, edited by Sue Carole DeVale, 83-97. Los Angeles: UCLA Press.

Crane, Frederick. 1969. “The Jew’s harp as an Aerophone.” *Galpin Society Journal* 21: 66-69.

-----. 1982. “Jew’s (Jaw’s? Jeu? Jeugd? Gewgaw? Juice?) Harp.” *VIM* 1: 29-41.

-----. 1985. “*Punch* and the Jew’s Harp.” *VIM* 2: 36-48.

-----. 2000. “Joseph Rock on the Naxi Trump.” *VIM* 9: 55-63.

-----. 2003a. “Three 17th-Century Organologists View the Trump.” *VIM* 11: 62-65.

-----. 2003b. *A History of the Trump in Pictures: Europe and America.* Mount Pleasant: Iowa.

-----. 2004. “Catalog of the F. Crane Trump Collection: Part 2—Asia and Nearby Islands.” *Journal of the International Jew’s Harp Society* 4: 70-105.

Dawe, Kevin. 2003. “The Cultural Study of Musical Instruments.” In *The Cultural Study of Music*, edited by Martin Clayton. New York and London: Routledge.

DeVale, Sue Carole. “Organizing Organology.” In *Selected Reports in Ethnomusicology, Volume 8: Issues in Organology*, edited by Sue Carole DeVale, 1-28. Los Angeles: UCLA Press, 1990.

de Zoete, Beryl and Walter Spies. 1938. “Genggong.” In *Dance and Drama in Bali*, 249-251. London: Faber and Faber.

Dournon-Taurelle, Geneviève and John Wright. 1978. *Les guimbardes du Musée de l’Homme.* Paris: Institute d’Ethnologie.

Fischer, Hans. 1986. *Sound-Producing Instruments of Oceania: Construction and Playing Technique—Distribution and Function.* Edited by Don Niles, translated by Philip W. Holzknecht. Boroko: Institute of Papua New Guinea Studies.

Fox, Leonard. 1988. *The Jew’s Harp: A Comprehensive Anthology.* Lewisburg: Bucknell University Press.

Frazier, Gordon, ed. 1992-2000. *Pluck*: *A newsletter for and about jawharpists* 1-10.

Galpin, Francis W. 1965. *Old English Instruments of Music*. Fourth edition. London: Methuen and Co. Ltd.

Gold, Lisa. 2005. *Music in Bali: Experiencing Music, Expressing Culture.* New York: Oxford University Press.

Haid, Gerlinde. 1999. "The Trump and Eroticism." *VIM* 8: 60-66.

Il'ina, L. G. 1987. "Aspects of Yakut Folklore Traditions in N. Berestov's *Concert Improvisations for Khomus and Orchestra.*" *VIM* 3: 70-85.

Ivanov, Semyon. 1999. "The Lyrical Poetry of the Music of the 'Talking' Khomus." *VIM* 8: 81-84.

Kartomi, Margaret. 1990. *On Concepts and Classifications of Musical Instruments*. Chicago: University of Chicago Press.

Kelly, Kevin. The Technium (blog). "Lumpers and Splitters" <http://www.kk.org/thetechnium/archives/2008/01/lumpers_and_spl.php>

Kolltviet, Gjermund. 2000. "Archaeological Jew's Harp Finds in Europe: Chaos or Coherence?" In *Studien zur Musikarchäologie, Volume II: Musikarchäologie früher Metallzeiten*, edited by Ellen Hickmann et al. Rahden: Verlag Marie Leidorf.

-----. 2006. *Jew's Harps in European Archaeology*. BAR International Series 1500. Oxford: Archeaopress/The Basingstoke Press.

Kopytoff, Igor. 1986. "The cultural biography of things: commoditization as process." In *The Social Life of Things: Commodities in Cultural Perspective,* edited by Arjun Appadurai, 64-91. New York: Cambridge University Press.

Ledang, Ola Kai. 1972. "On the Acoustics and the Systematic Classification of the Jaw's Harp." *Yearbook of the International Folk Music Council* 4: 95-103.

Leo, Tadagawa. 2007. "Asian Excavated Jew's Harps: A Checklist." *Journal of the International Jew's Harp Society* 4: 5-11.

Maceda, José. 1998. *Gongs and Bamboo: A Panorama of Philippine Music Instruments*. The Philippines: University of the Philippines Press.

McPhee, Colin. 1955. "Children and Music in Bali." In *Childhood in Contemporary Cultures,* edited by Margaret Mead and Martha Wolfenstein, 70-98. Chicago: University of Chicago Press.

-----. 1966. *Music in Bali*. New Haven and London: Yale University Press.

Montagu, Jeremy, and John Burton. 1971. “A Proposed New Classification System for Musical Instruments.” *Ethnomusicology* 15: 49-70.

Moulin, Jane Freeman. 2002. “Kaputehe: Explaining Word-Based Performance on Marquesan Musical Instruments.” *The Galpin Society Journal* 55: 130-160.

Oler, Wesley M., Jeremy P. S. Montagu, and Friedemann Hellwig. 1970. “Definition of Organology.” *The Galpin Society Journal* 23: 170-174.

Olsen, Dale A. 1990. “The Ethnomusicology of Archaeology: A Model for the Musical/Cultural Study of Ancient Material Culture.” In *Selected Reports in Ethnomusicology, Volume 8: Issues in Organology*, edited by Sue Carole DeVale, 175-97. Los Angeles: UCLA Press.

Panji, I Gusti Bagus Nyoman. 1973. “Bali: Types and Uses of Musical Ensembles.” Amsterdam: University of Amsterdam.

Picken, Laurence. 1957. “The Music of Far Eastern Asia.” *New Oxford History of Music*, *Volume 1: Ancient and Oriental Music,* edited by Egon Wellesz, 135-189. USA: Oxford University Press.

-----. 1984. “The Sound-Producing Instrumentarium of a Village in North-East Thailand.” *Musica Asiatica* 4: 213-244.

Pignocchi, José Luis. 2004. “Trompas in the Zapata Gollan Collection, Found in the Ruins of Santa Fe la Vieja, from the years 1573-1660.” *Journal of the International Jew’s Harp Society* 2: 11-21.

Plate, Regina. 1992. *Kulturgeschichte der Maultrommel*. Bonn: Musikwissenschaft.

Proschan, Frank. 1992. “Poetic Parallelism in Kmhmu Verbal Arts: From Texts to Performances.” In *Selected Reports in Ethnomusicology, Volume 9: Text, Context, and Performance in Cambodia, Laos, and Vietnam*, edited by Amy Catlin, 1-31. Los Angeles: UCLA Press.

Pugh-Kitingan, Jacqueline. 1977. “Huli Language and Instrumental Performance.” *Ethnomusicology* 21: 205-232.

Rai, I Wayan. 1998. Translated by Michael Tenzer. “Perkembangan Genggong Sebagi Seni Pertunjukan.” *Tentang Seni Pertunjukan*: 35-41.

-----. 2004. “Scale of Genggong and its Relations to the Four Tone Slendro Tuning System in Bali.” *Mudra Jurnal Seni Budaya*: 30-40.

Rault, Lucie. 2000. *Musical Instruments: Craftsmanship and Traditions from Prehistory to the Present.* New York: Harry N. Abrams, Inc.

Reck, David. 1977. *Music of the Whole Earth*. New York: Charles Scribner's Sons.

Rock, Joseph F. 1939. "The Romance of K'A-Ma-GYU-MI_GKYI." *Bulletin de l'ecole francaise de l'extreme orient* 39: 1-152.

Roda, Allen. 2007. Material World (blog). "Towards A New Organology: Material Culture and the Study of Musical Instruments." <http://blogs.nyu.edu/projects/materialworld/2007/11/toward_a_new_organology_materi_1.html>

Rouget, Gilbert. 1985. *Music and Trance.* Chicago and London: University of Chicago Press.

Sachs, Curt. 1917. "Die Maultrommel. Ein typologische Vorstudie." *Zeitschrift für Ethnologie* 49: 184-200.

-----. 1940. *The History of Musical Instruments*. New York: W.W. Norton and Company, Inc.

Scarre, Chris, and Graeme Lawson, eds. 2006. *Archaeoacoustics*. Cambridge: McDonald Institute for Archaeological Research.

Schlereth, Thomas J. 1985. "Material Culture Research and Historical Explanation." *The Public Historian* 7: 21-36.

Seebass, Tilmann, et. al., eds. 1976. *The Music of Lombok: A First Survey*. Bern: Franke Verlag.

Tenzer, Michael. 1998. *Balinese Music.* Singapore: Periplus Editions.

-----. 2000a. *Gamelan Gong Kebyar: The Art of Twentieth-Century Balinese Music*. Chicago and London: The University of Chicago Press.

-----. 2000b. Review of *Living Art, Sounding Spirit: The Bali Sessions*, by Mickey Hart. *Asian Music* 31:183-185.

Tenzer, Michael, editor. 2006. *Analytical Studies in World Music*. New York: Oxford University Press.

Trias, Sylvain. 2008. From Morchang to Munnharpa: A journey into the body's sound (blog). "Jew's harp playing – a bioacoustical approach." http://trias.over-blog.fr/article-19529327.html

Weber, Max. 1958. "Value-judgments in Social Science." In *Max Weber: Selections in Translation*, edited by W.G. Runciman. Cambridge: Cambridge University Press.

Vitale, Wayne. 1990. “Kotekan: the technique of interlocking parts in Balinese music.” *Balungan* 4: 2-15.

von Hornbostel, Erich M., and Curt Sachs. 1961. “Classification of Musical Instruments: Translated from the Original German by Anthony Baines and Klaus P. Wachsmann.” *The Galpin Society Journal* 14: 3-29.

Wright, John. 1972. “Another look into the organology of the Jew’s harp.” *Brussels Museum of Musical Instruments Bulletin* 2: 51-9.

Wright, Michael. 2003. “Penning the Air: Looking for the origins of the name ‘Jew’s harp’.” *Jewsharper*, http://www.jewsharper.info/research-archive/penning-the-air.

-----. 2005. “Trump Manufacture in the West Midlands.” *Journal of the International Jew’s Harp Society* 3: 5-14.

-----. [forthcoming]. “The Jew’s harp trade in Colonial America.” *The Galpin Society Journal*.