Singing and Making the *Inflection*

by

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I hereby declare that I am the sole author of this thesis. This is a true copy of the thesis, including any required final revisions, as accepted by my examiners.

I understand that my thesis may be made electronically available to the public.
Abstract

In my left hand I hold a thin piece of scrap wood about the length of my forearm. In my right hand, a chisel-ground knife called a kiridashi. I push the knife into the wood, and I observe the shaving extend out and curl outward.

This thesis is simultaneously a search of the meaning in that inflection initiated in wood, and an exploration of a way to continue that inflection. As I continue working the inflection of curling wood, I begin a process of making. First whittling pieces of wood, then making spoons and bowls, then making carving tools, then making copper-working tools, then making copper bowls and dishes, and finally renovating a tea pavilion which I built several years before. However, I am interested not so much in the process of making as I am in the process of remaking. As I carve the recess of a bowl, or hammer a curve into the cutting edge of an adze iron, I am not investigating the making of that object in isolation, but instead interpret the act of making that particular thing as an act of remaking the original inflection I first observed in a curling shaving of wood.

I owe the conviction and patience needed for this thesis greatly to my studies in music. It prepared me for the slow and intuitive process of remaking.
I am indebted to the many teachers and wise persons who have guided my life and thoughts. My supervisor, Robert Jan van Pelt, was very forthcoming with his wisdom, as well as Andrew Levitt and Dereck Revington, both of whom have been a source of guidance from my undergraduate days (how long ago that seems). My external reader, David Lieberman, has been unusually generous with his time. Of course, I must acknowledge Marian Jago, who taught me how to sing, and who helped me find my voice.
Chronology

This is a thesis with multiple points of origin. For purposes of clarity I have identified three main strands which collectively span a period of 5 years.

2010 - 2015 Music Lessons
I began taking saxophone and jazz lessons just after my first year of architectural school. During this period I gained not only a technical facility with my instrument, but also a conviction about how play an instrument in a way that makes it an extension of my musical voice.

2015 Making, & Remaking the Inflection
I began with an inflection initiated in wood, and I continue to extend that inflection to carving, tool-making, and copper-working.

2012 Tea pavilion | 2015 Tea pavilion renovation
I built a tea pavilion in 2012, three years before I began the thesis. A renovation took place during the fall of 2015, after I had gone through the exercise of remaking the inflection through carving, tool-making, and copper-working. The inflection that was initiated in wood and sustained through a series of making found expression again in the renovated tea house.
Inflection

An *inflection* is a modulation or change in the form of any given thing. In speech, words are given inflections in their intonation, articulation, and rhythm. The meaning of a single word can be conveyed in any number of ways depending on the inflection the speaker gives it when it is uttered. In other words, the inflection is the *way* the word is said. To extend this phrase into the material world, the inflection is the way a particular thing comes into being, either accidentally, or deliberately through purposeful making. This thesis is an investigation into the latter.
In 2010 I began taking lessons from Marian Jago, a saxophone teacher who studied with saxophonist and jazz great Lee Konitz. At the time, I had been playing saxophone for about three years. It was the summer after my first year of architecture school. I had no intention for the lessons to serve anything except my very modest musical ambitions. During that summer I took 12 lessons, and after that I continued to have several lessons per year, usually between school semesters.

I had already played a few gigs after about a year of mostly self-study. Artistically, however, I was quite lost. An account given by Lee Konitz of two young players reminds me of where I was:

I'm writing this after a trip to Vienna, and while I was there I had the opportunity to hear an Austrian tenor player, fifteen years old, who really played the instrument well, and wowed the audience with his expertise. And a few days ago I heard an Italian alto player of the same age who was really unbelievably accomplished, instrumentally and musically—and he really got the audience shouting approval. [...] These two talented people were not aware, as yet, of a true musical statement, without the sensationalism—something they will learn, we hope.¹

I want to be clear that I was nowhere near “unbelievably accomplished,” although I did have enough skill to elicit approval from an audience of casual music listeners with what any seasoned musician would recognize as embarrassingly cheap sensationalism. I had up to that point also failed to make “a true musical statement,” and I probably never considered what such a thing might be.
I consider myself fortunate that after a period of several years studying music with Marian I was able to read Lee’s words and understand what they mean. Furthermore, I had begun to understand what making meaningful music consists of. As far as my architectural studies were concerned, however, almost the exact opposite situation had transpired. I had begun my studies full of confidence and handily assimilated all the knowledge and skills made available to me. From an academic point of view, my education had been a complete success. However, I had to admit at the end of my undergraduate career that I wasn’t sure if I had yet made a statement that was true to my own sensibility, which was the goal of my music practice.

Even though by any conventional standard I was far more accomplished as a student of architecture than I was as a student of music, and even though I had devoted more of my efforts at architecture than music by an order of magnitude, I realized that it was in music where I felt the strongest sense of conviction in what I was doing.

This thesis is about the process I undertook to bring the sense of conviction I feel so strongly in music to my architectural work. The thesis is not about music, or sound, or composition, or any musical concept. It is not about the translation of musical concepts into space and matter, but about how to be true to one’s own sensibility. The example of musicians I cite is the departure point of this process.
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The Inflection In Words and Notes
I make, remake, and unmake my concepts along a moving horizon, from an always decentred centre, from an always displaced periphery which repeats and differentiates them.

Gilles Deleuze

*Difference & Repetition*, p. xxi
When I play and improvise on a song, I am engaged in the process of remaking. I first play the melody, articulating it in a way that is as spontaneous as possible. This is already remaking, it is remaking the melody shaped to my own sensibility. In the subsequent choruses I continue to play the melody, but slowly I begin to embellish, I add phrases where there was silence, and I insert silence where there were notes. This continues the process of remaking.

I say that music is the departure point for me, but perhaps a more fundamental departure point is Deleuze’s imagery of a concept existing as an extended, temporal process. An exercise in making, remaking, and unmaking is also an act of faith. It is an act of faith to resist reducing it to a singularity, to embark on it before one knows the extent of its purpose or scope. Perusing this thesis requires a reciprocal act of faith. As I make and remake the particular quality I study, that quality is made and remade in your mind. This is quite different from an essay, in which the premise is stated and supported by a series of arguments. I have no arguments. I can only show you something, and then try to show you that same thing in a different way to reinforce what I’m trying to convey.

I remember when I learned Taiji how my teacher would first show me a move which I would proceed to copy. If I didn’t quite capture the quality of the movement, he would physically place my body in the right position, or physically move my body to perform the correct movement. I cannot physically reach out to you, but I do believe in the power of being able to feel something through the specificity of touch and movement, something that this thesis aspires to do.
In a video interview, saxophonist Jimmy Heath relates an exchange between himself and two other great saxophonists: Ben Webster – who Heath calls “the greatest ballad player on tenor saxophone ever” – and Johnny Griffin. Heath recalls that Webster asked him if he knew the words to the song “For Heaven’s Sake.” After Webster explains that he learned the words every time he played a love song so he could “speak the words” on his horn, Johnny Griffin interjects: “I don’t need no words, I play the saxophone. I play notes.”

Heath explains the difference in approach between those who play notes and those who speak words on the saxophone. Using the song “Lover Man” as an example, he mockingly sings part of the melody in a disinterested way, using the same syllable: “da da da da, da da da da da da.” As he sings, he taps his fingers on the table, each “da” receiving the same monotone tap. Then, Heath illustrates singing the lyrics of the song: “I don’t know why, but I’m feeling so sad.” As he sings the phrase “soooo sad,” with an emphasis on the extension of the sound “soooo,” his hands opens and moves with a long, yearning gesture.

It is these two gestures that convey all the difference between the two approaches to music. The way Heath taps his fingers on the table to correspond to the notes marks difference in pitch in much the same way a piano keyboard does, his fingers move to the right for higher notes, and to the left for lower notes. The movement from one note to another is purely mechanical and has no meaning. The gesture he makes to correspond to singing is completely different. They are like movements that a singer makes — a clenching fist to
express loss or yearning for instance — and express musical feeling rather than pitch. Heath’s singer approach implies that the note is a vehicle through which feeling is shaped, and that the inflection constitutes the means through which that feeling is manipulated and maintained.

Throughout this discussion Heath continuously defers to singers, and invokes the importance of music that speaks to people, that touches people. Heath declares that as saxophonists and instrumentalists, “we’re all trying to imitate the human voice,” and jokes “I wish I could have been a singer, instead of a saxophone player, that’s what I would have been.”

Heath is not the only instrumentalist who seems to have an ambivalent relationship with his instrument. In a video lesson about improvisation, pianist Jean-Michel Pilc warns against the loss of the musician’s autonomy to the instrument:

When you gonna start playing the horn what’s gonna happen is the horn is going to start playing you. Which means you’re going to start moving your fingers, and what you will hear is not what you hear (he gestures to his head) without the horn. It will be what the horn plays.

He demonstrates by playing an impressive and technically challenging flourish on the piano. He stops abruptly and says with a shrug “I’m not really hearing anything. […] It is mechanical. I can hear what I’m playing but I’m not playing what I hear. I should be able to play what I hear.” Pilc then suggests an exercise to help musicians play what they hear without their instruments. He sings
a series of notes, and mimes playing them on the piano keys without producing any sound. As his fingers touch each key, he sings that note instead of pressing down the key. Musical instruments are very powerful things. The saxophone gives me much more sonic power and fluidity than I will ever have with my voice. Pilc’s insight is that the addition of all this sonic power and technical sophistication that comes with musical instruments can actually impede rather than promote musical expression.

Both Pilc and Heath are accomplished instrumentalists, but they defer to the primacy of the voice. They are responding to a situation in jazz in which technical fluency is often pursued at the expense of playing something that comes from the musician’s true musical voice. I have no doubt that Pilc has instructed many students who do not hear anything without their instrument. Indeed, before I began lessons on the saxophone with Marian, it did not occur to me that playing something originating from my voice, or originating from something I heard in my mind, is something that ought to be pursued. The dominant trend in jazz education is to internalize the jazz language through learning the scales, chords, patterns, and solos that make up the jazz language using one’s instrument. This is a very effective way of embodying this knowledge as it is generally far easier to learn musical technique as muscle memory. That is, I can memorize the F-sharp diminished scale as a finger pattern on my saxophone far easier than I can memorize the sound of it in my mind. The effect is that it often becomes all too easy to deploy combinations of scales, chords, and licks to bombastic and impressive effect, without really “hearing” anything, as Pilc demonstrates.
I have perused several architectural theses which include embodied learning as a stated goal. These theses usually finds the author going through a process of learning to make something with hand tools, a process that is superficially similar to the process I have gone through. This thesis is also an exercise in embodying something, but it is not about embodying technique. Instead, I seek to bring an inflection into the body, to expand it through the body. Given that hand tools play a prominent role in my thesis, I could have put forth a narrative in which the tools are likened to an extension of my body. However, I think such a narrative would have been deceptive. My saxophone, as a tool for making music, is far from an extension of my body. It is an awkward apparatus, and it is all too easy for it to play me rather than the reverse.

Incidentally, there is a connection between my experience playing the saxophone and what I hope to initiate in my architectural work. Although there is not a single instrument used in architecture, there is an amalgam of tools, techniques, and conceptual frameworks that I have relied on in my design work. I fear that I have relied on them so heavily that it has become difficult to distinguish when I use them in a deliberate, purposeful way and when I use them because their use had become so automatic that it would no longer occur to me to investigate other options. My teacher once commented that I ended all of my phrases with a noticeable vibrato. I recorded myself and confirmed that I did indeed vibrate my long notes without even realizing it. I had internalized this inflection, embodied it, but I embodied the vibrato to the point that I wasn’t even able to hear it at all. I simply wasn’t listening anymore.
During my thesis, I set aside what I have grown accustomed to as an architecture student, not to abandon my learnings, but in order that I can “hear” myself more clearly. I do this in order to bring a greater sense of awareness about how I make, in order to once again be guided by my own inner voice.
Fig. 1.1
I understand why Webster would want to know the words to a song before he played it. I was taught by my teacher to learn a song by first listening to a vocalist’s recording of it and singing along with the recording. The goal is not only to learn the words, but to learn to say the words in the same way as the vocalist, and therefore learn all the subtleties in meaning conveyed not only in the words themselves, but also the way the words are shaped through vocal inflections. As Heath explains, saxophonists like Webster and himself want to “get the inflections of the voice” in their playing.

I once had a conversation with a woman in a park while I was playing the saxophone. She complimented my playing and then lamented on her own experience with learning to play an instrument. During a lesson on the clarinet, she played a piece of music for her teacher, and her teacher’s comment was: “now play it musically.” She then gave a look indicating that those words were insulting to her. Although I can imagine how such a comment can be discouraging, I believe that the teacher was indicating that she has played the music and the instrument with the requisite technical skill, but now the real work of playing music begins. For me, “playing musically” refers to the kind of vocal sensibility that Heath talks about. Playing musically is not a result of technical fluency, but a separate exercise that demands its own practice. It means capturing the nuances that great vocalists capture, playing music with a sense of feeling and conviction.

Richard Serra said that “drawing is a verb,” and his work *Verb List* reminds us that drawing is a verb that includes many other verbs. Singing is also a verb, and implies other verbs. A glance at Serra’s

Fig. 1.2
list reveals many verbs that I associate strongly with music, such as “to suspend,” “to join,” “to hang,” “to tear,” “to bend,” and “to flow.” I see “to hang” in Serra’s Prop, 1968, one of his many works based on propping. In this case, “to prop” also begets many verbs of increasing subtlety. In the sculpture, a large sheet of metal is held against the wall by a metal rod. There are three points of contact, the point where the metal rod contacts the sheet, the point where the rod contacts the floor, and the point where the metal sheet contacts the wall. As with all of Serra’s sculptures, only the friction of the objects holds the assemblage together, and the feeling of “hanging” is felt as a state leading towards “falling.” Similarly, I can imagine any number of solos in which a performer lets a note hang there, lingering longer than we expect, before letting it fall. Serra works with mass and gravity, and also a viewer’s expectations about how gravity acts on mass. We have expectations for the way gravity acts on a large sheet of steel, and manipulating these expectations is the source of much of the power in Serra’s work. The musician also works with equally compelling forces because we have expectations of songs and melodies. If we know a song, we have certain expectations about where certain notes are placed. When a musician lets a certain note linger, she effectively creates a feeling of hanging. Serra’s sculpture is as much about “hanging” and “falling” as much as it is about steel and propping.

Although the word “prop” accurately describes the state of the sheet of steel, it does not evoke the nuances of the inflections in the work. As I mentioned, a sense of hanging and falling is part of the feeling evoked in the work, and these verbs further inflect and add specificity to the state of propping. The anticipation of an
impeding fall gives the sense of propping an inflection of
uncertainty. What we feel in Prop is not a feeling of stability, but
a suggestion of a small calamity. I imagine, for stance, of how a
sudden jolting of the floor may cause the rod to lose its grip on
the smooth wood floor, and send the steel sheet crashing down, its
narrow profile crushing the fibers of the wood beneath like a dull
axe.

Although it is outside the scope of my thesis to give a detailed
analysis of Serra’s work, I want to suggest that much of his
steel sculptures subsequent to Prop continues to exhibit various
inflections of that verb. As his works are generally not fixed or
placed in the ground, they are by definition propped. However, no
sculptures are propped the same way. His steel sculptures share
many of the same qualities. They are propped, they are made of
steel, and they are large in scale. What changes in each piece is
the inflection. How much they are tilted, how precarious the prop
seems to be, and how heavy and therefore how stable they are or
how potentially destructive they would be should they collapse.
Much of these inflections are too delicate for language.

Looking at Serra’s Verb List again, I see that there are a lot of
verbs that he does not incorporates into his work. For example,
“to shave,” “to tear,” and “to chop,” does not seem to apply to his
late career work. On the other hand, “to prop,” “to bend,” and “to
modulate” continues to be a part of his repertoire. Obviously, there
are enough nuances in these inflections as they are expressed in
steel, mass, and gravity to interest Serra still.
Although the verbs that make up *Verb List* are of varying levels of specificity, one of them stands apart from the rest. The last verb, “to continue,” does not imply any specific action. Serra has not continued — to my knowledge — to make lists, but he has continued to create artworks that explores the meaning of a smaller list of verbs again and again. That is, he has continued to prop, continued to bend, continued to modulate. He props and bends steel, and modulates our perception of gravity and mass. He is an artist who continues to be interested in remaking the subtle inflections in his work. In this way, he is similar to the musicians who inspire this thesis. It is also in this way that I also seek to frame the work I present here. Not as architecture that is particularly musical, but as architecture that taps into the ethos of musicians who continually engages in the task of shaping the inflections in a song, in a note, and in a word.

I once had a discussion with a friend who professed his love of Keith Jarrett’s album “Koln Concert,” a completely improvised live album. He said that he wanted to learn the album note for note. While I admire his enthusiasm, he had completely missed the ethos of how Jarrett approaches his music. Jarrett’s recording of that particular performance is not an end in itself, but is a point in a process of continuation. To want to learn the work note by note without first partaking in the process of learning to play improvised music is against the ethos of the musician who created that work. Similarly, I do not want to take something musical and translate it into a physical substance. I think trying to make a work of architecture based on a Keith Jarrett solo would also be
completely antithetical to the ethos of the improvising musician. Instead, I start with what is fundamental in the process that led to the Koln Concert, a process that continues beyond the Koln Concert: a process of making and remaking.
Making & Remaking The Inflection
Unlike Deluze, I am not remaking a concept, but a quality. It is a quality that has a specific relationship to the material I work with, but is not specific to any material. I call it an inflection because it is a quality that is introduced through an action. To inflect is to manipulate something that already exists: a word, a note, or a material.

It is an inflection initiated in wood. This is a process that requires following my intuition. I begin by whittling wood and making a series of feathering shavings. Then, I move on to carving spoons. There is no obvious link between the feathering shavings and the spoons, but my intuition guided me to remake the inflection in a new form. I pursue carving, tool-making, copper-making, and creating the tea pavilion as a means to further my understanding of that inflection by forcing myself to remake it. The inflection originated in a feathering shaving of wood, and it continues to take new forms: in the stroke of a finger, in a bent blade of steel, in a rolling leaf of copper. Each new material offers up its unique aesthetic properties and resistances. It is through working each material and learning to remake the initial inflection that I become more attuned to this particular quality.
Kiridashi
Fig. 2.1
I don’t think about what I’m about to make, instead, I proceed immediately to the making. If I want to play something, I don’t think to myself: what notes do I want to sing? Instead, I simply begin singing. I begin with something.

I use a knife, and I simply begin cutting. I begin with a knife because it is a way for me to begin manipulating something with my hands slowly and deliberately. Each cut is an opportunity to feel a resistance and to observe a quality.

I don’t know exactly why I began with a knife and with wood. I cannot entirely justify it, and I don’t want to dwell on it. It is simply a point of departure. The knife is a kiridashi, a Japanese tool that I have heard described variously as a marking tool and a utility knife for school children (fig. 2.1). It is a beautiful tool: hard white steel is forge-welded to a piece of wrought iron to yield a blade that marries the hardness of high-carbon steel with the resilience of the softer iron. The chisel ground cutting edge makes it very versatile. It can substitute for a plane in a pinch to smoothen or scrape. I bought the knife from E-bay a few years ago when I began working on my tea-house, even though I had no real idea of how to use it. Since then, it has sat in my box of miscellaneous small tools, unused and neglected. Something about simply whittling a stick with this tool was just deeply satisfying, perhaps because the activity is so non-purposeful. I knew it was a good idea to allow myself this act of pleasure as a beginning to my thesis. To simply indulge in the act of making something without thinking.
Shaved Branch
Fig. 2.2

Feathering
Fig. 2.3
I will sometimes use the phrase “for the lack of a better word” in this thesis. This is a thesis about pursuing an initially intangible but attractive quality. I say initially intangible because it is the purpose of the thesis to become ever more specific about this quality. Nevertheless, it begins here, with this word: feathering. When I say this word, I may accompany my verbalization with the following gesture: I make a loose grip as if holding something such that my thumb just touches my first three fingers. As I say “feathering,” I let my lips build a little tension before releasing it, emphasizing the fricative quality and letting the word flutter out, and I let my first four digits unfurl, releasing the tension held by my thumb.

I call my wood objects “featherings,” for the lack of a better word. It is not the quality of a bird feather that I am after. Instead, I am after its own quality. The sonic properties of the word “feather” itself is a better description of the quality I’m looking for rather an actual feather. An actual feather, to my knowledge, does not contain the states of tension and release that the word does.

I began the thesis simply cutting into a branch. I was not making anything at this point, merely repeating an action that was pleasurable in itself. By the end of it, I had merely a section of branch from which I had shaved off the bark (fig. 2.2).

I repeated the action of shaving, but this time with a long and thin piece of scrap wood. As it was more difficult to cut on the flat side, I began cutting into the thin edge. I pushed the knife into the wood, and as the shavings began to be lifted from the wood,
Feathering - detail
Fig. 2.4
I stopped the cut. As a result, the shavings are left on the piece in their motion of being lifted up and away from the wood (fig. 2.3).

If the piece is intended to represent the action of cutting, it would serve that purpose quite well. Each shaving corresponds to a single cutting motion, and the length and degree to which the shaving curls out corresponds to the length and force of the cut. However, the piece is not supposed to represent anything. It captures a quality that I can look at and try to replicate (fig. 2.4). The motion of cutting itself, while it was the beginning of something, did not give me enough time to adequately reflect on it. The feathering shavings evokes the motion of cutting in a form that allows for contemplation.

The making of this initial quality is something that happens by accident. By chance, I stumbled on this quality. However, the decision to seize this accident as something worth pursuing is mine. The accident initiates a purposeful process that follows it.
The song is “All The Things We Are.” Although I can play the song, my interpretation is lacking in authority and confidence.

That opening interval freaks people out. It’s hard to play in tune. You’re going from this nice warm baaaaa… up to a note that’s a little bit weighty. And there’s this tendency to sub-consciously to go –gasp- right? Or to put a little moxy on the second note, the Bb. To either cover up the fact that it might not be completely in tune, or whatever. So, I think the key of this tune is being able to play that opening interval un-selfconsciously. And it starts with the first note, Baaaaa… if that’s warm and woody and Baaaaa…. Daaaa…. It doesn’t feel as far to the next interval, right?

We have a discussion on pitch before Marian asks me if I can sing the song.

You know the words?
(I begin to sing)
You… are… the promised kiss of spring time…

So play the words more than the notes. That takes the “oh my goodness the Bb is freaky!” out of it. You…. Are… And it’s a different equation as well whether it’s You. (pause) Are. (pause) Or it’s Yooooou… Arrrrrrre… To not stop the air-stream again gives it a bit of confidence.
(I play the first 4 bars)

(Claps) Way better. Did you feel it?

Yeah.

**Do it again to remember how it feels.**

(I play the first 2 bars, stopping somewhat awkwardly)

Okay. Now do it again, and keep that feeling going, let’s see how long the feeling is maintained.
“let’s see how long the feeling is maintained”
Raising the Shaving
Fig. 2.5
I begin the exercise of remaking by continuing to cut wood with the kiridashi. As much as I am remaking an object, I am also remaking a quality, and a feeling that accompanies that quality. I try to tune into what it feels like to make that quality because ultimately it is through understanding how it feels that I will understand what the quality is.

As I am at the very early stages of exploring the inflection, I want to go very slowly. I want to remake the feeling of the inflection I initiated, and I want to maintain it so I understand what it feels like with my body.
Fig. 2.6
Kiridashi Series 2

Fig. 2.7
Kiridashi Series 3

Fig. 2.8
Kiridashi Series 4

Fig. 2.9
Carpenter’s Axe

Fig. 2.10
The Inflection In Cutting and Striking

One of the most difficult judgements to make during this process of remaking is determining whether or not I am indeed still remaking the same quality. Remaking is not about replication. I begin with a feathering inflection, but I expect that inflection to be remade in a new form. But how do I know when the inflection has changed substantially?

I bought a carpenter’s axe because I thought it shared many of the same characteristics as the kiridashi. I’m still using a blade to cut wood. However, the inflection I produced with this axe was of a very different kind. The shavings were no longer featherings. They did not curl, but splintered. The shavings bore the trauma associated with the momentum of the axe strike.

Axe Inflection
Fig. 2.11
Axe Series 1

Fig. 2.12
I failed to remake the inflection I initiated with the kiridashi using the carpenter’s axe. The axe wants to split and break instead of cut. What success I had with the axe in producing a feathering inflection came about through using the axe like a kiridashi, gripping it by the back of the bit instead of the handle and supporting the workpiece against my body to control and temper the force of the cut.

As an exploratory exercise, I continued to remake the tendency of the axe to split. Instead of cutting the wood, I use the momentum of the axe and strike the wood without cutting through it. All of the cracks in the wood is the result of my axe striking only at the edge of the block of wood. The crack is perpetuated through the force expanding throughout the wood block. The results is a piece of wood being fractured into an accordion like form. There is an inflection here, but it is not the inflection of feathering. It is more akin to the cracking of ice that expands from a point of impact.
Brush & Ink Stone
Fig. 2.13
I resolved to reflect on the work I made with the kiridashi and carpenter’s axe, and I decided to study the pieces that I felt most successively captured the quality of the inflection in the original piece. Indeed, several pieces surpassed the original. I photographed them, using a flash to better isolate the quality. I also began to paint them in ink wash on rice paper.

I realised that the ink wash paintings captured the inflections much better than the axe did. This was the first time I began to become conscious of the fact that the quality is not something that is inherent in the wood. The quality is not the natural product of a sharp edge entering the wood. It is about the quality of the cut, a quality that is not endemic to metal and wood, but to a gesture, a specific type of motion.
Inflection in Wood

Fig. 2.15
Inflection in Ink
Fig. 2.16
Inflection in Wood
Fig. 2.17
Inflection in Ink
Fig. 2.18
Carved Spoon In Progress
Fig. 2.19

Carved Spoon
Fig. 2.20
I’m not trying avoid using the word “spoon.” These are certainly spoons. However, it would be misleading to call what I did simply “spoon-making.”

Remaking does not mean replicating. I have investigated the initial quality of the cut, but now I must go beyond simply cutting. Once again, I take a leap of faith to begin an act of remaking. I follow my intuition to make spoons, an intuition that I did not fully understand. I do not, however, undertake the task of spoon-making as an end in itself. I do not begin by making a spoon for a purpose. The spoon I make is not a soup spoon, or tea spoon. It is in fact a spoon that I have never put in my mouth.

Making spoons does seem like a leap from raising feathering shavings in wood. However, it was ultimately more productive than a more logical choice such as using an axe instead of a kiridashi in the hopes that the larger tool will make a corresponding larger inflection. The latter was more of a rational choice. Small blade = small inflection, therefore large blade = large inflection. My experience has proven such rationale to be unproductive.
Spoon Carving Motion
Fig. 2.21
At first I thought little of the first spoon I carved. It was an exploration, like the explorations I made with the axe, or the brush, or even the initial exploration with the kiridashi. To an extent, failure to make a consistent inflection is acceptable, even necessary. How do I know where the boundaries of the quality I am searching for are, if I don’t periodically find myself outside of them?

As it turns out, it was my thesis supervisor, Robert Jan, who recognized that I did indeed remake the inflection in the spoon. I gave him the spoon as something to look at quite casually. It was not yet an object that was to be included in my thesis. He took the spoon, and immediately grasped it in the way pictured (fig. 2.22). He then proceeded to rub his thumb along the interior hollow of the spoon, and commented on how well proportions of the spoon’s hollow corresponded to the motion of his thumb extending out while being guided by that concave surface.
Carved Long Spoon
Fig. 2.23
These are spoon-like objects. They are objects that are meant to be rubbed, touched, and held. In my photographs of them I try to demonstrate the way they relate to my body through how they are held. The relationship of their form to my body is not planned. In fact, it is the result of not having a plan, not consciously “designing” something. Since I had no intention in how they were to be used, their form is largely the result of how they were made. The shape of the bowl in my first spoon, for instance, corresponds to the sweeping motions I made with the knife that scooped out its bowl (fig. 2.21). I found that each spoon, ladle, or bowl responds to the proportions of my body in some way. This is entirely unplanned.
Carved Ladle
Fig. 2.26
Carved Ladle  *Index finger extending with handle*
Fig. 2.27

Carved Ladle  *Wrist leading into handle*
Fig. 2.28
Carved Bowl

Fig. 2.29
Carved Bowl *Bowl resting in palm*
Fig. 2.30

Carved Bowl *Fingers following bowl curvature*
Fig. 2.31
Bent Knife Sketch
Fig. 2.32
As I begin to talk about how I made knives and tools, I want to once again remind the reader to not dwell on any associations you may have about those words. I began this thesis with the word “feather,” and I spoke of how I dwelled on the meaning of that word in saying it, in noticing the tension and release of its sound as it finds a reciprocal tension and release in my lips and teeth. I did not associate the word “feather” with the word “bird,” and then with the word “flight,” and then with Icarus or any of the other ideas that this exercise of casual association may lead. Instead, I want to remain in this territory of the word “feather” only insofar as it relates to the inflection directly at hand. Then, ever so slowly, I can begin to remake that inflection once I have firmed grasped that inflection through a tangible motion in my body.

This exercise in tool making is still an exercise in remaking the inflection, and finding a way to stay with the same inflection in a combination of steel and wood. I will therefore not be describing the making of each tool exhaustively, but only as they are relevant either to the inflection itself or simply to provide context as to what I have actually done.

The original inflection is the result of a single knife stroke. Carving the hollow of the spoon allowed me to refine that inflection in its negative shape through a repeated motion. Making the spoons, which increase in size until they become ladles, and then, finally, bowls, occured in reciprocity with making the tools.
Spoon Carving Motion
Fig. 2.33

Spoon Carving Motion *exaggerated*
Fig. 2.34
The inflection begins in the chisel ground edge of the kiridashi. When the edge of the kiridashi is drawn across the thin side of a piece of scrap wood, a curling shaving is raised. The spoon is a remaking of this inflection in a negative form. Instead of raising a shaving, the spoon is hollowed out with a knife whose blade profile resembles the positive, curling inflection.

The inflection made in the spoon is the *gesture* of feeling it. That motion is the result of a similar motion made with my hand through carving that hollow shape.

There is a relationship between making the tools and the way the tools feel and are used as well. However, that relationship is not conveyed well by describing the different processes of tool making. This thesis is about describing something in common, and it is misleading to describe the process of tool making as a list of operations: cutting the blade shape, grinding the edge profile, honing the profile, heat-treating the steel, honing the edge to final sharpness, then attaching the handle.
Stropping

Kiridashi Stropping
Fig. 2.36

Bent Knife Stropping
Fig. 2.37

Crooked Knife Stropping
Fig. 2.38
Instead, I want to focus on motions that connect the tool-making process to the process of carving. There is a reciprocal relationship to much of the motions involved in remaking the inflection. The motion of wood shaving curling out, the motion of the bent knife scooping out wood from the hollow of a spoon, the motion of a thumb tracing the inflection of feathering in the spoon.

Perhaps the greatest amount of time involved in tool making and maintenance is spent in honing and stropping the edge. Here, a series of photographs shows me stropping the kiridashi (fig. 2.36), the bent knife (fig. 2.37), and finally the crooked knife (fig. 2.38). Each motion is produced in a sweeping shape. Honing and stropping the kiridashi’s straight edge is fairly straightforward. I simply hold the knife perpendicular to the length of the strop, and sweep across, rolling the blade slightly upwards to produce a slight rounding to the edge profile, which produces a more durable edge.

Honing both the bent knife and the crooked knife is also done in a sweeping motion, but since the blade is curved, it is rolled throughout the motion. The motion begins with the handle perpendicular to the floor. As I push the knife out along the length of the strop, I simultaneously begin to point blade downwards. This done in a fluid motion to ensure that the entire blade meets the strop at the same angle.
Crooked Knife
Fig. 2.39

Crooked Knife Carving Motion
Fig. 2.40
The Pulled Blade

I begin by making a tool similar to the bent knife, but larger in size. It is single edged, with a much larger blade, allowing for much more powerful pull strokes. Unlike making the feathering shaving, which is limited in size by the wood’s material properties, the size of hollow is limited only by the size of the wood from which it is carved. The crooked knife is modeled on a tool of North-American eastern woodlands origin. It is a blade held with an underhand grip in the dominant hand, pulled towards the body.

Crooked Knife Sketches
Fig. 2.41
Large Bent Knife

Fig. 2.42

Large Bent Knife Carving Motion

Fig. 2.43
The large bent knife is similar to its smaller relative. The crooked knife’s very shallow curvature makes it much more useful for aggressively removing wood than for making carefully rounded hollows. This tool allows for faster hollowing of larger spoons, as well as finish the interior of larger bowls. It is held in the underhand grip when pulled, which is the most powerful grip. However, it can also be pushed. The handle length allows for a second hand to provide greater power and leverage, a technique that also applies to the crooked knife.
Elbow Adze
Fig. 2.46

Short Adze
Fig. 2.47
The Struck Blade

I return to a striking tool, this time an adze instead of an axe. Adzes are traditional tools for bowl carving, along with the gouge. However, whereas the gouge is typically used with two hands — along with a mallet — the adze is used with one hand like an axe. This allows the carver to use his free hand to hold the work piece, instead of needing to hold the work piece down with a clamping device.

I made two adzes. The elow adze was acquired as an unhafted blade made by the blacksmith who made the bent knife. I made the handle and assembled the tool. The short adze was made later for detail work.

Elbow Adze Sketch
Fig. 2.48
Elbow Adze Motion
Fig. 2.49

Short Adze Motion
Fig. 2.50
The distance of the blade from the handle as well as the angle of the blade in relation to the handle dictates how the tool is wielded. The elbow adze, with its larger handle, is typically used for more aggressive strokes with a larger range of motion (fig. 2.49), while the short adze has a shorter handle used with a shorter range of motion and more accuracy (fig. 2.50).
Long Tool
Fig. 2.51

Long Tool Sketch
Fig. 2.52
The Long Tool

The long tool is similar to the Japanese tool Yari Kanna, or spear plane, except with a more pronounced curvature in the blade. The original intention of making the tool is to allow me to hold a work piece under my body, using my feet to hold the work piece against the ground, while allowing my hands free to remove a lot of material with a degree of precision. To that end, the tool accomplishes its task well.

Holding Long Tool

*Overhand grip (dominant hand)*

Fig. 2.53
Long Tool Motion *Full range of motion*
Fig. 2.54

Long Tool Motion *Initial pull*
Fig. 2.55

Long Tool Motion *Follow through pull*
Fig. 2.56
The long tool allows for a much greater variety of holding positions in comparisons to the smaller knives. The long handle allows me to use both hands and place the center axis of motion virtually anywhere along the length of the handle. Here (fig. 2.54) I demonstrate perhaps the most powerful stroke, with the center of axis near the middle of the handle, the hands pulling and pushing in conjunction.
Long Tool Motion *Overhead stroke*
Fig. 2.58

Long Tool Motion *Shoulder level stroke*
Fig. 2.59
In this position, the work area is above my eye level. The center of axis is near the shoulder to benefit from the greater stability afforded by being closer to the body. Most of the work is done by the arm pulling downwards near the blade.
**Long Tool Motion** *Pulling stroke with workpiece secured by body weight*

Fig. 2.61

**Long Tool Motion** *Pushing stroke with workpiece secured by body weight*

Fig. 2.62
This tool is designed to be used in conjunction with the body as a holding device when working with smaller pieces. By being on top of the work piece, my body weight and the ground acts as a vice. The length of the tool as well as its ability to cut on a push or pull stroke allows for a lot of flexibility to cut around my foot. If any part of my body blocks an area I want to cut, I simply shift my body or the workpiece as necessary.
Remaking

The Inflection In Copper-working

I begin by remaking the previous inflection in wood, making the hollow. This provides the form into which copper is shaped by striking with a mallet. Copper-working is not subtractive, unlike wood. The finished workpiece has the same amount mass that I start with. Instead of removing material with a blade, I move the mass around with a hammer or mallet.

Copper-working Workbench
Fig. 2.63
Roughing Mallet
Fig. 2.64

Raising Hammer
Fig. 2.65

Ball & Peen Hammer *purchased*
Fig. 2.66

Chasing Hammer *purchased*
Fig. 2.67
Striking Tools

The striking tools have either a rounded striking surface or a flat striking surface. Most incorporate both into the same tool. The flat surface is used to strike against a convex form, while the rounded surface is used to strike against a concave form. The range of motion is similar to all the tools, as each tool can be used with a large motion for more powerful strikes, or a small motion for precise strikes.
Round Stake
Fig. 2.70

Raising Stake
Fig. 2.71
Forming Tools

There are two categories of forming tools: convex tools, which are called “stakes” (fig. 2.70 & fig. 2.71), and concave tools (2.72). The stakes are generally mounted to a vise, while the concave tools can be worked directly on the ground.

Hollow Form
Fig. 2.72
Copper Objects

I begin by making copper bowl, as it is more complicated to make than a simple leaf form (fig. 2.76). I make it simply to get a feel for the techniques that goes into shaping copper. However, it is not a good expression of the inflection. I remake the spoon/bowl shape in copper, this time abandoning any utilitarian aspect or resemblance to useful objects.
About a year later, we are once again working on “All The Things You Are.” This time, the focus is not on playing the melody, but when to depart from the melody and when to come back to it.

It sounds like you know what you're doing, you're hearing things. But I'm not a hundred percent convinced that you're hearing them organically from the melody. And maybe you are, but it's not coming out that way. If you spend a bunch of time going from the end of the tune to the beginning of the tune, I think it's all in the “what the hell do I play now,” right? And I think again, allow yourself to start those choruses with F, you know?

She demonstrates by singing the melody with a few embellishments. She then demonstrates the opposite approach, mockingly starting the second chorus with a cacophony of notes.

We're not trying to be the bebop machine. I think you can easily be the bebop machine if you want. So try that, let's just play the melody straight, not stiff, but straight. Get into the second chorus, and whatever you play, have it start on F, and have something to do with the melody.

Marian puts on the metronome, and I start to play. First I play the melody straight. The next chorus I indeed start on F, which is how the melody starts, and proceeds to add very minor embellishments, still staying fairly close to the melody.
Waaay better! Way better. The sound got better, the time got better. It didn't feel forced. There's nothing wrong with playing like that. The opening chorus sounded exactly like “All The Things You Are” being played by somebody that knows how it goes that has something to say on it and wasn't doing much with it. But, that's kind of what we want from the first chorus. That's what we pay Frank Sinatra for, right? That sounded great. And the second chorus: less fancy, but you meant it. And some of the things you played were really nice. And I think you need to give yourself permission to sit for half an hour or whatever with the metronome and do that. And if it takes you half an hour to get from where you just were to some of the kind of things you were playing earlier, great. Because by the time you get to those sort of ideas, you'll own them. They won't feel forced, they won't feel practiced, and they'll have this organic connection to the stuff that came beforehand. But you need to give yourself permission to play just like that.
“they’ll have this organic connection to the stuff that came beforehand”
Forming Copper Leaf
Fig. 2.77

Annealing Copper Leaf
Fig. 2.78

Copper Leaf Curvature
resting on stump
Fig. 2.79
These copper leaves represents the final stage in my process of remaking the inflection that I initiated in wood with the kiridashi. In order to make the leaves, I first remake the hollow inflection in a wooden form, then I strike the copper repeatedly until it takes the curvature that I want.

Seven leaves were made of various sizes. These were attached together and used as the curtain of the renovated tea pavilion. Although these leaves were conceived as being a curtain for the tea pavilion, I did not initially conceive copper-working as something that would lead to a curtain. It has been a very slow process of remaking the inflection from something at the scale of a feathering shaving, made by a subtle flick of the wrist, to something that involves the use of my entire body in its making (fig. 2.77). The process has resulted in making something that is organically connected at each step to what came before hand, not just formally resembling it.
Reflections on Tool-making

I initiated the exercise of tool-making in order to get to the source of the inflection. The tool, however, is not the source of the inflection. I was not remaking the inflection of feathering when I was bending the steel into shape, or when I was cutting out the shape of a blade on a band-saw. Some of these actions I did merely for the sake of expediency, or because it was necessary.

The process of tool-making, however, did make me become more conscious of how my body moves. Is the motion of my body the source of the inflection? I don’t think so either, but I do think it forms an important part of how the inflection is to be understood. Certainly, I feel that a way of making which takes into consideration the way the body moves connects with both the maker and the user in a way that a purely visually motivated design cannot.

Getting to the source of the inflection is perhaps antithetical to the process of making, remaking, and unmaking. Deleuze makes, remakes, and unmakes his concepts “from a decentered center, from a displaced periphery,” which I think means that one always approaches the meaning of what one pursues from a slightly tangential perspective. The inflection is never grasped in its pure form. It is an inflection, which I think by definition means that it is a quality that is bound up with something already existing. One adds an inflection to a word, a note, a piece of wood. However, one never creates the inflection in itself.
The Inflection of Entering
Based on the Japanese Chashitsu, the tea pavilion I built in 2010 had aspirations of being something other than a small, non-enclosed yard ornament. It had aspirations of being a work of architecture that was experienced in time. To this end, I borrowed the general lay-out of the chashitsu and deployed the temporally extended program to the 4' x 10' floor space I had available to me.

When I built this tea pavilion I wanted to deploy my skills as a designer as much as possible. As a result, despite the fact that the tea pavilion was very compact spatially, its space was thoroughly planned according to a very specific temporal narrative.
Tea Pavilion Plan Diagram
Fig. 3.2
Tadao Ando writes of the Chashitsu:

In the Japanese aesthetic, [...] eternity is represented by a moment into which everything is metaphorically compressed. It was the Japanese concept of time and the Japanese aesthetic sense which made such compressed space possible.⁸

Some hyperbole aside, Ando’s words do resonate with my intuition that the Chashitsu deploys a sophisticated temporal understanding into compressed spaces. In my own tea pavilion, I applied the most basic spatial organization principles of the Chashitsu: a temporal separation of the tea pavilion into several distinct regions corresponding to formalized events. There is a space for waiting where one sits before invited in by the host. After one enters, a tokonoma (alcove) used to draw the gaze and suggest a trajectory of movement along the length of the tea pavilion. The placement of the guests’ seating area directs the guests’ gaze in the opposite direction of the first tokonoma, turning the gaze and the body, making the tea pavilion feel bigger through this arranged sequence of movement (fig. 3.2). All of these functions are compressed into a small space, so that some of the transitions are more metaphorical than real. One does not really need to wait outside the tea pavilion, but it’s a strategy of extending the pace of the experience. One is not really outside or inside the tea pavilion, but the inside and outside are suggested through the treatment of materials and visual divisions.
Tea Pavilion Ceiling
Fig. 3.3

Tokonoma
Fig. 3.4
The tea-pavilion is organized as a formal sequence of entering. Although the sequence is conceived as series of separate events, in reality, due to the small size of the space, the experience is much more of a single, fluid experience than a series of separate ones. Once one enters the tea-pavilion, although the tokonoma initially draws the attention linearly down the length of the space, one's eyes move quite naturally across to the view of the backyard (fig. 3.4). Once one moves in, the turning is also quite natural.

In the execution of the tea-pavilion, the concept of separating the spatial-temporal sequence has been deteriorated. However, the effect is that the movement through the tea-pavilion is actually much more natural than the diagram would suggest.

One point in which the temporal sequence has been much more rigidly separated is the transition between waiting and entering. The tea-pavilion’s canvas screen is opened from the inside, and extends down almost to floor level. This barrier effectively separates the experience of waiting from the experience of entering. Although the concept of waiting is something I was interested in exploring in the exploratory phase, it is the least effective element in the finished work. The natural progression of entering the tea-pavilion and moving through it contrasts with the artifice of waiting just outside of the tea-pavilion.
Exterior Tokonoma  *The second tokonma directs the gaze again*

Fig. 3.6
Tea Pavilion *the tea pavilion after dark*
Fig. 3.5
Tea Pavilion (post-renovation) *Curtain opening sequence*

Fig. 3.7
The second phase of my tea pavilion is focused on entering. I’m no longer trying to design a tea pavilion. That is done. The renovation is about adding a purposeful inflection to the experience of entering that the previous iteration lacked. The inflection is the one which originates in the feathering wood. It originates in a curling out of the wood shavings, is remade in ink drawings, remade again in the hollow of spoons, remade in the larger hollow of a wooden mold, then finally remade through hammering copper into the shape of that mold. I made and remade many copper leaves of varying sizes, attached them together and connected them to a handle made of a bent branch.

**Tea Pavilion (post-renovation)** Looking up at the open curtain
Fig. 3.8
Pulling Motion Sequence
Fig. 3.9
Pulling

I grasp the handle in an under hand grip, I pull myself up and onto the step and the handle towards me. The entire motion lifts up the curtain only a few degrees at a time. In order to lift up the curtain fully, I need to repeat this motion many times. This motion is a familiar one, it is the sweeping motion I have explored throughout the process of carving.

Pulling Motion
Fig. 3.10
Pulling Motion and Curtain Opening

Fig. 3.11
Reciprocal Motions

As I pull the handle towards me, the copper curtain is pushed out away from me. The copper moves slower than I do. It takes several minutes to fully raise the copper curtain.

Pulling Motion and Reciprocal Curtain Motion
Fig. 3.12
Raising Copper Curtain
Fig. 3.13
Opening the Curtain

Curtain Opening Motion
Fig. 3.14
Entering Motion
Fig. 3.15
Entering Motion
Fig. 3.16
Moving Inflection

Entering Motion

Fig. 3.17
Carved Floor Texture
Fig. 3.18
Subtle Inflections

As I perform the renovation, I take advantage of the opportunity to stay with the inflection as much as I can. The one piece fabric curtain was replaced with several smaller pieces so that they catch the breeze more effectively (fig. 3.22). The curtain’s primary purpose was no longer to visually separate the backyard from the tea pavilion interior, but to resonate with the over feeling of being in the tea pavilion.

The interior wood surfaces were carved to give a scalloped texture consisting of hundreds of small, shallow hollows (fig. 3.21). The fabric ceiling droops to form a sweeping form (fig. 3.24).

Fabric Curtain Motion
Fig. 3.19
Carved Floor Texture
Fig. 3.20

Fabric Ceiling
Fig. 3.21
Fabric Ceiling
Fig. 3.22

Copper Curtain Texture
Fig 3.23
Tea Pavilion (post-renovation)
Fig. 3.24
Tea Pavilion (post-renovation)
Fig. 3.25
Unmaking
Lee Konitz’s 10 Step Process
Fig. 3.26
Reflections on Unmaking

I make, remake, and unmake my concepts along a moving horizon, from an always decentred centre, from an always displaced periphery which repeats and differentiates them.¹

Once again, I reflect on how I play music in order to understand Deleuze’s phrase “unmake.” I don’t think I have unmade the inflection during the course of this thesis, and I don’t think I have unmade a song during course of my playing. However, I do have an idea of what unmaking may be.

There is an on-line article in which Lee Konitz breaks down his method of improvisation into a 10 step process. He begins by playing a melody in its original written form, then writes down 9 variations, each one departing from the original melody slightly. On the 10th line, no notes are written. In its place are the words: “an act of pure inspiration.”

As Konitz remakes the melody again and again, it begins to lose its resemblance to the original melody. It is no doubt arbitrary to say that this occurs in the 10th remaking. At some point, the original melody has changed so much that there is no longer a single note that is the same. Taken as a whole, however, the relationship is clear. Each step is connected to the last, as each new step is a remaking of the earlier step.

This method is not dependent on slavishly following or mimicking a certain form or idea. However, it also does not allow for arbitrary ventures into the unknown. Instead, it ventures into the unknown, one step at a time, always guided by following what is familiar into
the territory of the unknown. I have experienced this as a listener. Some jazz musicians play like this. Bach also does this in his fugues. It allows the listener to be truly surprised because of how well the musician connects each remaking with the last remaking, while exploring territory that seems completely original. I find it difficult to really invest myself in “act of pure inspiration,” as Lee Konitz puts it, without first becoming intimately familiar with what that inspiration is based on.

The primary motivation of this thesis is to put into place a process of making that gives me the same feeling of conviction in my work that I feel in playing a song that I have played again and again. When I can look back on what I did, I can say that there is not a single decision that was arbitrary. I made many decisions without planning, but they were guided by an intuitive conviction. Everything is linked by a feeling. Not a vague, emotional feeling, but a feeling that has a definite character. A feeling with a form that can be articulated through the motion of my body, through material, through space, through time. I want to be guided by that feeling, to be captured by it, to continue it, to remake it and be surprised by where it leads me, as I have been surprised in the course of this thesis, joyfully.
Notes


Bibliography


