Tuned Circuits :

∞

Festival Reader

∞

Helen Keller

Catherine Lamb

Daphne Oram

Anne Carson

Dan Sandin

Gloria Anzaldúa

David Griffiths

Tomoko Sauvage

Gins & Arakawa

Pauline Oliveros

James Tenney

Ralph Ellison

A selection of text material in resonance with Oscillation Festival 2021

Table of Contents

A Collective Note (from the Organisers)
Julia Eckhardt, Henry Andersen, & Caroline Profanter *5*

The World I Live In [excpt.]
Helen Keller *7*

interaction of tone
Catherine Lamb *10*

An Individual Note [excpt.]
Daphne Oram *14*

Eros the Bittersweet [excpt.]
Anne Carson *16*

Image Processor [excpt.]
Dan Sandin *19*

Translations
Gloria Anzaldúa *23*

An Individual Note [excpt.]
Daphne Oram *26*

Queer Theory for Lichens [excpt.]
David Griffiths *29*

A Bowl of Ocean: Notes on Hydrophonic Feedback Practice
Tomoko Sauvage *31*

Architectural Body [excpt.]
Madeline Gins & Arakawa *36*

Teach Yourself to Fly
Pauline Oliveros *39*

A History of 'Consonance' and 'Disonance' [excpt.]
James Tenney *40*

Living with Music [excpt.]
Ralph Ellison *47*

A Collective Note (from the Organisers)

In understanding what the stakes are in thinking about sound, tuning is a constant touchstone. Tuning is a system, but also an activity: it plays a major role in how musicians play together, both in improvised and composed music, but it's also deep-baked into the vocabularies of radio, music technology, DIY and environmental awareness. While in music, tuning is primarily understood as the relation of tones, it equally concerns the equilibrium between people and between human and machine. It's a concept that can lead us to reflect further on the limits between natural and constructed; between person and environment; the human propensity for convergence; the self-regulation of systems; and the question of canonicity.

In order to understand the phenomenon better for our festival, we split the broader topic of tuning into three sub-categories of relation, which together form a cycle: attuning – feedback – detuning. These categories are themselves unstable. They overlap and intersect, and many of the artists we have invited to contribute to the festival would be equally at home in two or three of these sub-thematics. We approached attuning as a movement of coming into consonance, to site oneself in regard to others, positioning oneself in a reciprocal relationship to one's surroundings. Feedback creates a dynamic balance of stability / instability which

demands constant calibration, and is a site of reception, correction and learning. In detuning we wanted to remind ourselves that sometimes a cut is necessary, to zoom into another perspective, or to hack the system from the inside. Like sound itself, all of these are actions in time, constantly moving in and out of phase: what is now in tune will not stay that way.

We reserve a special mention for the composer and inventor Daphne Oram, who was a wellspring of inspiration on this topic. Further, we feel a deep kinship with her approach to research as something rigorous, intuitive, subjective and full of space for imagination. Her book, *An Individual Note*, was published in 1972, at a moment in which electronic technology for sound production and generation was changing many underlying assumptions about tuning, feedback and other sound phenomena.

The artists we have invited for the festival contribute in various ways to our reflection on the thematic framework. In this reader we wanted to complement some of their work with writings by authors who were inspiring to them, and to ourselves. The texts hold reflections on parallels between human and sonic interaction, symbiosis and setting, about systems of tuning against their historical backdrops, of feedback as a balancing act, of sound as a tool for political practice. As with any reader, these selections too are subjective and intuitive and (we hope) leave ample space for the reader's imagination.

Helen Keller, The World I Live In (New York: The Century Co., 1910), in: Translation, ed. Sophie J. Williamson (London: Whitechapel Gallery and Cambridge: The MIT Press, 2019)

~~Jesse Darling, extracts from 'A Letter to the Translator' (2018) (https://accessions.org/article4/a-letter-to-the-translator/).~~

from The World I Live In : Helen Keller (1910)

[...] My hand is to me what your hearing and sight together are to you. In large measure we travel the same highways, read the same books, speak the same language, yet our experiences are different. All my comings and goings turn on the hand as on a pivot. It is the hand that binds me to the world of men and women. The hand is my feeler with which I reach through isolation and darkness and seize every pleasure, every activity that my fingers encounter. With the dropping of a little word from another's hand into mine, a slight flutter of the fingers, began the intelligence, the joy, the fullness of my life. Like Job, I feel as if a hand had made me, fashioned me together round about and molded my very soul.

In all my experiences and thoughts I am conscious of a hand. Whatever moves me, whatever thrills me, is as a hand that touches me in the dark, and that touch is my reality. You might as well say that a sight which makes you glad, or a blow which brings the stinging tears to your eyes, is unreal as to say that those impressions are unreal which I have accumulated by means of touch.

The delicate tremble of a butterfly's wings in my hand, the soft petals of violets curling in the cool folds of their leaves or lifting sweetly out of the meadow-grass, the clear, firm outline of face and limb, the smooth arch of a horse's neck and the velvety touch of his nose – all these, and a thousand resultant combinations, which take shape in my mind, constitute my world.

Ideas make the world we live in, and impressions furnish ideas. My world is built of touch-sensations, devoid of physical colour and sound; but without colour and sound it breathes and throbs with life. Every object is associated in my mind with tactual qualities which, combined in countless ways, give me a sense of power, of beauty, or of incongruity: for with my hands I can feel the comic as well as the beautiful in the outward appearance of things. Remember that you, dependent on your sight, do not realise how many things are tangible. All palpable things are mobile or rigid, solid or liquid, big or small, warm or cold, and these qualities are variously modified. The coolness of a water-lily rounding into bloom is different from the coolness of an evening wind in summer, and

different again from the coolness of the rain that soaks into the hearts of growing things and gives them life and body.

[...] Some months ago, in a newspaper which announced the publication of the *Matilda Ziegler Magazine for the Blind*, appeared the following paragraph:

> Many poems and stories must be omitted because they deal with sight. Allusion to moonbeams, rainbows, starlight, clouds, and beautiful scenery may not be printed, because they serve to emphasise the blind man's sense of his affliction.

That is to say, I may not talk about beautiful mansions and gardens because I am poor. I may not read about Paris and the West Indies because I cannot visit them in their territorial reality. I may not dream of heaven because it is possible that I may never go there. Yet a venturesome spirit impels me to use words of sight and sound whose meaning I can guess only from analogy and fancy. This hazardous game is half the delight, the frolic, of daily life. I glow as I read of splendors which the eye alone can survey. Allusions to moonbeams and clouds do not emphasise the sense of my affliction: they carry my soul beyond affliction's narrow actuality.

Critics delight to tell us what we cannot do. They assume that blindness and deafness sever us completely from the things which the seeing and the hearing enjoy, and hence they assert we have no moral right to talk about beauty, the skies, mountains, the song of birds, and colours. They declare that the very sensations we have from the sense of touch are 'vicarious', as though our friends felt the sun for us! They deny a priori what they have not seen and I have felt. Some brave doubters have gone so far even as to deny my existence. In order, therefore, that I may know that I exist, I resort to Descartes' method: 'I think, therefore I am.' Thus I am metaphysically established, and I throw upon the doubters the burden of proving my non-existence. When we consider how little has been found out about the mind, is it not amazing that any one should presume to define what one can know or cannot know? I admit that there are innumerable marvels in the visible universe unguessed by me. Likewise, O confident critic, there are a myriad sensations perceived by me of which you do not dream.

Necessity gives to the eye a precious power of seeing, and in the same way it gives a precious power of feeling to the whole body. Sometimes it seems as if the very substance of my flesh were so many eyes looking out at will upon a world new created every day. The silence and darkness which are said to shut me in, open my door most hospitably to countless sensations that distract, inform, admonish, and amuse. With my three trusty guides, touch, smell, and taste, I make many excursions into the borderland of experience which is in sight of the city of Light. Nature accommodates itself to every man's necessity. If the eye is maimed, so that it does

not see the beauteous face of day, the touch becomes more poignant and discriminating. Nature proceeds through practice to strengthen and augment the remaining senses. For this reason the blind often hear with greater ease and distinctness than other people. The sense of smell becomes almost a new faculty to penetrate the tangle and vagueness of things. Thus, according to an immutable law, the senses assist and reinforce one another. It is not for me to say whether we see best with the hand or the eye. I only know that the world I see with my fingers is alive, ruddy, and satisfying. Touch brings the blind many sweet certainties which our more fortunate fellows miss, because their sense of touch is uncultivated. When they look at things, they put their hands in their pockets. No doubt that is one reason why their knowledge is often so vague, inaccurate, and useless. It is probable, too, that our knowledge of phenomena beyond the reach of the hand is equally imperfect. But, at all events, we behold them through a golden mist of fantasy.

There is nothing, however, misty or uncertain about what we can touch. Through the sense of touch I know the faces of friends, the illimitable variety of straight and curved lines, all surfaces, the exuberance of the soil, the delicate shapes of flowers, the noble forms of trees, and the range of mighty winds. [...]

Helen Keller, extracts from *The World I Live In* (New York: The Century Co., 1910) 5–8, 38–43.

~~Amanda Baggs~~
~~In My Language//2007~~

~~The previous part of this video was in my native language. Many people have assumed that when I talked about this being my language that means that each part of the video must have a particular symbolic message within it designed for the human mind to interpret. But my language is not about designing words or even visual symbols for people to interpret. It is about being in a constant conversation with every aspect of my environment. Reacting physically to all parts of my surroundings. In this part of the video the water doesn't symbolise anything. I am just interacting with the water as the water interacts with me. Far from being purposeless, the way that I move is an ongoing response to what is around me. Ironically, the way that I move when responding to everything around me is described as 'being in a world of my own' whereas if I interact with a much more limited set of responses and only react to a much more limited part of my surroundings people claim that I am 'opening up to true interaction with~~

When these clouds, often lined up in horizontal groups, appear gleaming white in their upper part in full sunlight, separated from and rising against a distant deep blue, then underneath they show grey tones as shaded white. These shades merge, or even hinge, with the same but here very close blue...This grey is of the same light intensity as the neighboring blue below. Thus, the boundaries between grey and blue vanish, and we do not see where clouds end and where sky begins.

– Joseph Albers, from Interaction of Color

tonality

The interaction of tone, as though a tone were a being. The tone itself may contain a complex spectrum or it may be a more reduced, transparent, or singular vibration. But it is always influenced by what is happening around it, in its periphery, and there are always other tonalities altering its condition.

I use the word tonality to suggest a tone in its interaction with other tones and noises. The tone(s) most audible are, perhaps most "full", are in the foreground. But each of these tones embodies their own peripheral shadowed parts, their own breadth of spectrum.

"Light is colorless". If so, then in the sense in which numbers are colorless.

– L. Wittgenstein, from Remarks on Color

colors and numbers

The attempt is not to describe a tone as a color, but to rather open a space from the most basic elemental parts. One may define very specific tonal relationships through the use of simple numbers. Various relationships have various vibrational qualities, but those vibrations are affected by peripheral elements.

I have mapped out with various charts, color combinations (or vibrational combinations) using numbers, as one may hear, in the overtone series. (But even an overtone series may be warped by the thickness of the material doing the sounding).

I have extracted the most vibrant portions of the rainbow spectrum

(which we may call red, orange, yellow, green, blue, indigo, and violet) as mere frequency. I have sounded those frequencies, (many octaves below), together, while listening to their interactions.

Yellow as 525 Hz, Violet as 750...Yellow: Violet=10:7, a name of a "pure" relationship

primary colors

I have learned that there is no such thing. Helmholtz vied for the idea of three and Newton named "indigo" as a means to have a seventh. The naming of colors is the naming of fluctuating perception of light, much like the fluctuating perception of vibrating sound.

transparent and opaque tones

Transparency is hearing through to the other, isolated tone, one or two. In multiple tones together—they blend and become opaque. Perhaps the lower the tone, the more opaque the sound. The shade becomes stronger as low, thinner as high. Shade verses variation in opaque and transparent parts.

Candle-light at twilight acts powerfully as a yellow light: this is best proved by the purple blue shadows which, under these circumstances, are evoked by the eye.

– J.W. von Goethe, from Theory of Colors

shadow

The tones that are less clear than the foreground elements. "Hues" and "shades" of the central tone, "coloring" its tone by their presence, yet ultimately the source creates the shadows. Faint tones sounding much higher or much lower than the source, but because of a tone's interaction with another, they are created.

A shadow cast by the sun, in its full brightness, on a white surface, gives us no impression of color; it appears black, or, if a contrary light (here assumed to differ only in degree) can act upon it, it is only weaker, half-lighted, grey.

– J.W. von Goethe, from Theory of Colors

periphery

I have been exploring—gradations in color within simple gestures. As tuning foreground to the environmental space in order that the periphery is brought in closer, or creating artificial peripheral elements (such as use

of generative oscillators) within the environmental space, so that interactions are made clear. In a way, allowing for an attention to be made—through the coloring of an element that is coloring another.

The mutual influencing of colors we call—interaction. Seen from the opposite viewpoint, it is—interdependence.

– Joseph Albers, from Interaction of Color

interaction

Tonal spectrums fan one another, bleed, or create a wash. I layer them in space, through a clear form, intuitively and freely. A tone exists in the world. Elements cross. The world alters its state and our ears alter its opening.

Is cloudy that which conceals forms, and conceals forms because it obliterates light and shadow?

– L. Wittgenstein, from Remarks on Color reduction

I have reduced material to a mid range, as a microcosm of the macrocosm, the world we perceive. Narrowed interactions create intensity in activity, within human range at ease. There is a clarity of vibrations including their shadows with reduced tones, and in their interactions, they suggest a very broad listening space.

intimacy

Or attention made to the actual being performing a tone. By working with only a few beings together, or one (myself), interactions are intimate. The material is bare, stripped. The voice (or tone) is of human range at ease. Flaws are enhanced and made saintly.

movement/being

In a moment, the shades of a tone coalesces with others—the tone that opens into others, the tone that shifts and holds, the tone that splits into two. Tones becoming a wash—(perhaps color exchanges in the wash, passing). Tone and timbre as separated or as combined elements; becoming an area, within a space. The space fills with a few tones and their spectrums. The motion that moves the sound, the wave that moves in the air—our perception of that wave as it is in the air. (Where it moves to, how it is, what it becomes).

Listening is very difficult. Difficult to listen to others in the silence... When one comes to listen, one often tries to rediscover oneself in others. To rediscover one's own mechanisms, system, rationalism in the others. Instead of hearing the silence, instead of hearing the others, one often hopes to hear oneself. That is an academic, conservative, and reactionary repetition...Perhaps one can change the rituals; perhaps it is possible to try to wake up the ear. To wake up the ear, the eyes, human thinking, intelligence, the most exposed inwardness.

– Luigi Nono

influence

When Gerhard Richter makes a painting, he begins with vibrant and distinct, "primary" colors. He makes individual, quick strokes/gestures with those colors. Over time, his gestures become more maximal and slowed down, and the colors begin to blur into their interactions. He then squeegees over the whole thing and the colors enmesh into washes of grey.

Mani Kaul described the musician/being as a moving, fluctuating consciousness, and in her striving for perfection, she fails in unusual and distinctly personal ways. The sound is interacting with the being making it.

When I listen to the Luigi Nono string quartet *Fragmente-Stille*, I hear gradations of a quiet, possibly grey, color. I hear isolated tones, transparent, mixing in a moment, becoming opaque, and disappearing.

When I spend time in a room with Agnes Martin's *The Islands*, at first my eyes are overwhelmed by the luminosity of white. Overtime, I begin to see whole spectrums of color emerging to the surface, which may later become variations of grey.

Whatever looks luminous does not look grey. Everything grey looks as though it is being illuminated.

– L. Wittgenstein, from Remarks on Color

reflection

Grey is distinct portions enmeshing, as a tone may never be completely separate from another. I may search for distinct vibrational "beings", and yet the combination may sound as another variant of grey. It is within the chaos of the world one attempts to distingiush one portion from another and call it a name. Through elemental, relational, layering, we being to listen to the reality of the world, more closely, more intimately. Through that intimate space there is transformation.

vertical lines, representing (by their height) the amplitude of each overtone – just as Fig. 6a gives a recipe for a square wave. Here is a musical recipe for a violin sound. (Of course it will vary from instrument to instrument, from string to string, and from note to note.)

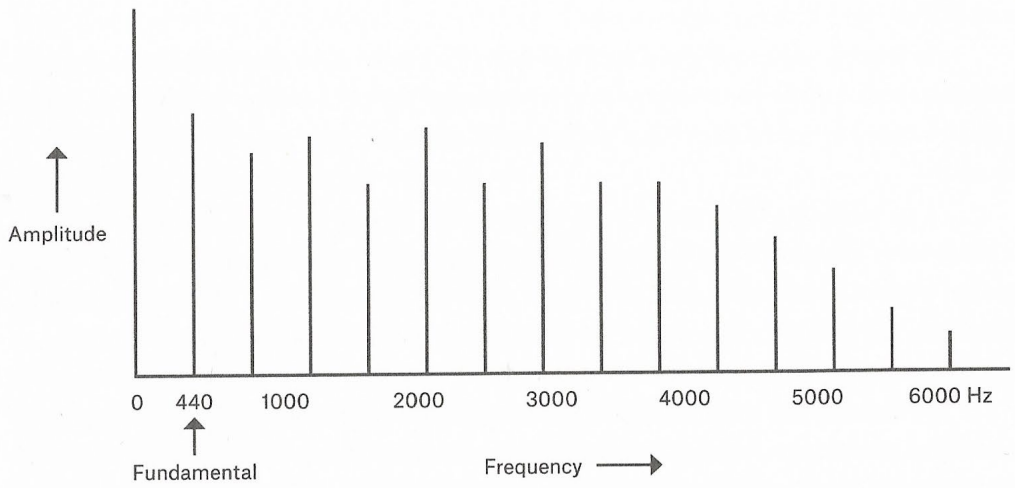

Fig. 9. Violin 'recipe' for the A string.

However, in my experience, interesting musical sounds are far more complicated than this. In my work I am not concerned with synthesizing orchestral sounds – we have excellent orchestras for making those sounds: my interest is in making new sounds which are musical. But I find that the adding of sine waves together in these 'classical recipes' gives a very 'electronic', inhuman sound with a clinical quality, lacking the possibility of subtlety and nuance.

To be human is to have great ranges of expression, to have such infinite range that one moment there can be warmth and the next moment coldness. But what a dreadfully inadequate description that is … it needs a poet to give even a hint of the richness of being human. What words can hope to describe it?

But could we, perhaps, here just attempt an analogy? For it is as if the human being has thousands upon thousands of energy stores, each tuned for a purpose, each charged with a potential that allows it to sound forth. It is as if each human being is an instrument of concord and discord, consisting of thousands upon thousands of finely tuned circuits; each circuit with its own control of pitch and loudness, able to adjust its voice, in harmony or dissonance, in balance and accord, so that it becomes part of the great pattern which makes the individual.

from An Individual Note
Daphne Oram (1972)

Daphne Oram, An Individual Note – of Music, Sound and Electronics, (London: The Daphne Oram Trust and Anomie Publishing, 1972/2016)

from Eros the Bittersweet : Anne Carson (1986)

Finding the Edge

Eros is an issue of boundaries. He exists because certain boundaries do. In the interval between reach and grasp, between glance and counterglance, between 'I love you' and 'I love you too,' the absent presence of desire comes alive. But the boundaries of time and glance and I love you are only aftershocks of the main, inevitable boundary that creates Eros: the boundary of flesh and self between you and me. And it is only, suddenly, at the moment when I would dissolve that boundary, I realize I never can.

Infants begin to see by noticing the edges of things. How do they know an edge is an edge? By passionately wanting it not to be. The experience of eros as lack alerts a person to the boundaries of himself, of other people, of things in general. It is the edge separating my tongue from the taste for which it longs that teaches me what an edge is. Like Sappho's adjective *glukupikron*, the moment of desire is one that defies proper edge, being a compound of opposites forced together at pressure. Pleasure and pain at once register upon the lover, inasmuch as the desirability of the love object derives, in part, from its lack. To whom is it lacking? To the lover. If we follow the trajectory of eros we consistently find it tracing out this same route: it moves out from the lover toward the beloved, then ricochets back to the lover himself and the hole in him, unnoticed before. Who is the real subject of most love poems? Not the beloved. It is that hole.

When I desire you a part of me is gone: my want of you partakes of me. So reasons the lover at the edge of eros. The presence of want awakens in him nostalgia for wholeness. His thoughts turn toward questions of personal identity: he must recover and reincorporate what is gone if he is to be a complete person. The *locus classicus* for this view of desire is the speech of Aristophanes in Plato's *Symposium*. Here Aristophanes accounts for the nature of human eros by means of a fantastic anthropology (189d-93d). Human beings were originally round organisms, each composed of two people joined together as one perfect sphere. These rolled about everywhere and were exceedingly happy. But the spherical creatures grew overambitious, thinking to roll right up to Olympus, so Zeus chopped each of them in two. As a result everyone must now go through life in search of the one and only other person who can round him out again. "Sliced in two like a flatfish," says Aristophanes, "each of us is perpetually hunting for the matching half of himself" (191d).

Most people find something disturbingly lucid and true in Aristophanes' image of lovers as people cut in half. All desire is for a part of oneself gone missing, or so it feels to the person in love. Aristophanes' myth justifies that feeling, in typical Greek fashion, by blaming the whole situation on Zeus. But Aristophanes is a comic poet. We might look, for a more serious exegesis, to more serious lovers. A feature of their reasoning will at once strike us. It is outrageous.

Anne Carson, Eros the Bittersweet
(Illinois: Dalkey Archive Press, 1986)

In the '70s, Dan Sandin created a modular video synthesizer called "The Sandin Image Processor". It's still working and exists in Chicago. He published all of the plans for this synthesizer. This was before the concept of open source in software really existed, but he published under this idea of "distribution religion," the idea that as an academic he felt obliged to share what he had learned with other people. That's really inspiring to me as a sort of a blueprint for open source in creative software. He designed each module to maximise the sorts of interaction between all of them. He talks about how this realtime feedback in art was like putting yourself in a feedback loop, where you can see something and change a little aspect of it, react, and change again.

Often, technology tries to predict and control things, and I think being within a feedback loop is just saying: "I am gonna learn, and put something out there, and then learn more, and then put something out there again", as a creative process, rather than necessarily this topdown technological control of everything.

—Olivia Jack

Dan Sandin,
The Dan Sandin Image Processor (Self published pamphlet: University of Chicago Illinois, 1973)

from Image Processor : Dan Sandin (1973)

CONVENTION & AL PROCESS): DAN SANDIN - INVENTOR OF THE IMAGE PROCESSOR, ASST PROF UNIV. OF ILL.
PHIL MORTON - COPIER OF THE IMAGE PROCESSOR, ASST PROF ART INST. OF CHGO.

lettering

NOTE: *SAIC/VIDEO students should try to get-in a look/see:hear/here at video cassette # 26 (re: Dan Sandin Image Processor) before next Thursday, Nov. 15...DAN and his STUDENTS will be here for two days with the COLOR IMAGE PROCESSOR to give a "...free color video synthesis event by the NEWSPACE CULT...5:00-8:00, 11/16/73.*

WE'RE DOING IT:::

I look at it from the 'design' point of view...I look at how I interact with my environment, with machines and other things in the environment...and then extract what appears to be the relevent descriptions. feedback-control-theory is the primary relevent description...and that everything that I do is dependent upon feedback, from walking across the room as example (you know you don't start out to walk across 35 feet by pointing in one direction...you are continually correcting your actions until you get to the place) that's the way you pick up a pencil or anything else. To prove that all you have to do is mess-up the feedback loop and you're stopped or severely handicapped the classic example thing is to talk into a microphone and have a delay coming back into your ear that is off by a few tensth of a second and you just can't talk...

WHEN YOU MESS_UP THE FEEDBACK, YOU MESS UP THE RESULTS...that's all there is to it!

So I got into designing machines mainly in terms of their feedback...one of my personal problems when into photography and film was the removed feedback; I couldn't get where I wanted to go fast enough...to learn things I needed to know to do what I wanted to do.

SO, I WENT ABOUT DESIGNING THE VIDEO IMAGE PROCESSOR...

The primary idea was to do instant modification of instant feedback...simply the experience of getting INSTANT feedback is an extra-ordinary thing...it is a NEW thing with the realization of electronics...

IT HAS BEEN LESS THAN A QUARTER OF A CENTURY SINCE WE HAVE HAD non_HUMAN, or at least NON-LIVING real-time INFORMATION PROCESSING ENTITIES IN THE UNIVERSE...

all of our other infromation processing entitites like print, photography, painting, and any number of them have been very much in DELAYED-TIME. So 'real-time' information processing is a new thing! (That is, outside of the human-sphere; humans have always been real-time information-processors) That's one of the things that makes such an extra-ordinary distinction between something like:

"writing something down for someone" /"and telling to someone about it"

It is simply the real-time information processing verses the stored-time processing...

PUT YOURSELF IN A FEEDBACK LOOP

yes, the reason you put yourself in a feedback loop is so you can learn something, or rather learn to do something...you know, you do something and the results get processed somehow, perhaps just by yourself just looking at it,...and you do another thing and the results of that get processed etc...and your action can constantly be tuned or corrected or refined by what you see...

IT'S BEEN THE HISTORICAL PROBLEM AT LEAST WITH 'ART' MEDIA, THAT THE DELAY OF THE FINAL PRODUCT IN ANY EVENT HAS ALWAYS BEEN FAR-BEHIND THE INITIATING-ACT-OF-IT...

in other words, even tho you get instant feedback while dobbling paint on a canvas, it takes a hu-mungously long time before you get the 'finished' product...

WITH A VIDEO-IMAGE YOU INSTANTANEOUSLY HAVE THE WHOLE 'PICTURE' THERE ALL-THE-TIME///
///THAT IS,
NO VISUAL FEEDBACK DELAY...

****NEWSPACE CULP is the name-tag that University of Illinois, Circle Campus, students call themselves...

I CONSTANTLY HAVE THIS FEELING OF 'MORE' ALWAYS BEING AVAILABLE ALL THE TIME THAN I CAN SEE...THAT'S A FAR-OUT STATE TO FIND ONES' SELF' DEFINE IN.

You know how we often don't feel too good about the tapes we just get done processing...? Well, I think it is because we, when making them, always are looking at the image as 'negative-feedback', that is, we are oriented to it to find out what is wrong-so-as-to-tune it on to be 'better' that we end up when the tape is over with this feeling that the whole tape was an experience-string of 'not-so-good' images...later on in a couple of weeks when we see the tape played back we usually feel that it was considerably more successful than we had thought...

A PERSON 'SEEING' IN A FEEDBACK LOOP THAT IS HIGHLY INTERACTIVE is considerably different than 'SEEING' in stored-time-lag...

A polaroid camera even has a 10 second or a minute delay in its feedback loop. Any typical photographer has many hours or even days of time delay in his feedback loop.

YOU CAN'T LEARN ANY FASTER THAN THE DELAY IN YOUR FEEDBACK LOOP...

SO WE SUBSTITUTE ALL KINDS OF PREDICTING TOOLS BECAUSE WE DON'T HAVE ENOUGH FEEDBACK...SO WE USE EXPOSURE METERS TO PREDICT HOW THE PHOTOGRAPH WILL TURN OUT..WE TRAIN OUR VISION NOT TO REALIZE HOW THINGS CAN BE VISUALLY STRONG OR POWERFUL, BUT SIMPLY TO JUST BE ABLE TO PREDICT WHAT IS GOING TO HAPPEN.

THAT BECOMES SO IMPORTANT THAT MOST OF A PHOTOGRAPHERS TRAINING IS ONE OF LEARNING HOW TO PREDICT WHAT THE PICTURE IS GOING TO LOOK-LIKE!!!

WITH ELECTRONIC-VISUAL-EYE-ZATION DONE PROPERLY, THE FEEDBACK IS

WITH ELECTRONIC INFORMATION PROCESSING DONE PROPERLY THE FEEDBACK IS

NO LONGER THE LIMIT...

then the limit becomes how fast your own mind can process information; and that is a much-higher limit in some cases, especially when processing visual information. We are able to take in just incredible amounts of visual information as far as I can figure out...its alittle hard to define it. But putting yourself in that feedback loop allows you to:

TUNE AND GROW FAST AT A RATE THAT IS SELF-LIMITED
RATHER THAN LIMITED BY AN EXTERNAL-MEDIUM..

You're still limited by the charater of the feedback butno-longer by the time it takes for the feedback to get 'back'.

SIMPLY TO GET 'INSTANT' FEEDBACK IS A PLEASUREABLE EXPERIENCE...JUST TO TOUCH SOMETHING AND SOMETHING HAPPENS IS FAR-OUT-EDUCATIONAL-EXPERIENCE.

***COSMIC SNAILSPACE was the 'title' of their 'ing) event (an inflato-environmental/IMAGE PROCESSOR
they did co-laboratively last year...see VIDEO CASSETTE # 58 in Video Data Bank....

Of course to push something and to have it happen considerably later can be a pleasure too...especially if it is a big-bang...if it is just alittle thing it is not as nice.

tee-hee-tee-hee...

(...a ONE-MAN show...)

See if the ART SYSTEM could give everybody a BIG-BANG every month/then it might still make sense to make what 'they' call ART. But shit, all I ended up doing 4 or 5 years ago was crowding myself out of my living-studio place by being filled up with art-objects. I was really into learning fast you see so I had to make stuff to get the feedback-back fast; quickly what I did was make myself right out onto the street with no-room for me to move around...I polutted myself out!

To go back to basics: my claim is that the car teaches you how to drive the car.

-of course somebody came in and told you about clutches, levers, brakes and stuff like that , but beyond that...everything you learn about driving a car you learn by driving a car. The car taught you...in general. That's a paradigm...

I mean most musicians learn how to play something pretty much on their own...you certainly can take lessons on musical instruments but a great number of people have done the majority of their learning, and at some point all-musicians have done the majority of their learning without being 'taught'...okay, well who is teaching you? LEARNING IS BEING DONE. At one level you are teaching yourself and that makes sense; but at another level the INSTRUMENT is teaching you. the fact that you can hear stuff you are producing and then you 'push' on the instrument differently which produces different stuff you hear...it's that LOOP which is teaching you about the instrument and how to use the instrument and how to make sounds that you like.

PART OF THE REASON THAT MUSIC HAS SUCH A UNIVERSAL APPEAL AND IS SUCH A HIGHLY EVOLVED FORM IS THAT MUSICIANS HAVE ALWAYS HAD REAL-TIME FEEDBACK SYSTEMS TO WORK WITH...

THEY HAVE NEVER HAD TO WORK WITH STORED-TIME FEEDBACK SYSTEMS AS A PERFORMER; NOW THE COMPOSER HAS A DIFFERENT ORIENTATION TO IT

why it is that ELECTRONIC MUSIC ISN't particulary 'popular' is that electronic-musicians who use the powerful tool like electronic sound synthesizer, have had their own sonic-perception so radically amplified...they have sped-up their own sonic learning so quickly with this powerful tool they've had, THAT THEY HAVE RUN away and out-distanced their audience. '...learned their way away from the culture.....'

SOUND-ARTISTS HAVE ALWAYS HAD REAL-TIME TOOLS TO WORK/PLAY WITH...
VISUAL-ARTISTS HAVE NEVER HAD REAL-TIME TOOLS TO WORK/PLAY WITH...EXCEPT NOW.

SO THE PREDICTION IS THAT THE SAME THING IS GOING TO HAPPEN AND IS HAPPENING TO THE VISUAL ARTIST (US) WHO ARE USING REAL-TIME VISUAL PROCESSING INSTRUMENT...IT MAY GOES AS FAR AS TO HAVE A HIGHLY ARTICULATED LANGUAGE...I MEAN A LANGUAGE LIKE THAT I AM USING RIGHT-NOW WHEN TALKING/NOT LIKE NOW WHEN I AM WRITING, WRITE-NOW...

YOU NEED A REAL-TIME MANIPULATOR TO DEVELOPE VISUAL-LANGUAGE RIGHT NOW...*developing a language is a very complex thing and you need fast-feedback to be able to do IT.*

I took inspiration from a poem by Gloria Anzaldúa called “Interface”, in which she is interacting and having an affair with a female entity. And I thought it was nice to connect it to my idea of having the vocal part of my piece attributed to a different kind of entity, which I called Lia, who is devoided of ethical backgrounds. It was somehow freeing me. I would attribute decisions to Lia, not to myself. Gloria Anzaldúa mentions that the interface is telling of the material impossibility that they have basically. So I was thinking a lot about that, how could I forget about my body a little bit in this process. And this is also connected to a book by Clarice Lispector, A Breath of Life, in which she is creating an artificial entity that starts to gain consciousness and creative abilities

–Lucrecia Dalt

Translations
Gloria Anzaldúa (1970s)

en el agua, *in the water*
chicharras, *cicadas*
la pared, *the wall*
la puerta, *the doorway, or door*
la sala, *in the living room*
algo, *something*
huesos, *bones*
de cada cuarto, *of each room*
el espejo, *the mirror*
entremados, *support beams or spaces between the walls*
nervios, *nerves*
vengo tarde, *I'm late*
¿Quiubo corazón?, *What's up sweetheart?*
¿Tienes hambre?*, Are you hungry?*
ay que fresca, *my but you're fresh*
sí, pero no comida, *yes, but not for food*
ruca, *Pachuco word for girl*
pa' no gastar tiempo, *so I wouldn't waste any time*
la cama, *the bed*
tetas, *tits*
pero tu panocha y gusanito estan a toda madre, *but your pussy and clit are hot shit*
querida, *dear, lover*
aquí, *here*
el cabrón, *that asshole*
y tu familia, *and your family*
novia, *girlfriend, lover*
mi pobre madrecita, *my poor mama*
'ta bueno, *it's alright*
dos pinches horas, *two fucking hours*
la luz de la luna, *the moonlight*

en el sueño una mujer, *in the dream a woman*
antes de que se de cuenta, *before she realizes it*
zempasuchitl, *a kind of morning glory called "flowers for the dead"*
jíjole, *shit, damn*
ándale, *come on*
vámanos, *let's go*
la vaca, *the cow*
chichis, *tits*
cuando esta ordenando, *when she is milking*
primas, *cousins (female)*
chinga tu madre, *(literally) fuck your mother*
chingao, *fucked*
una de las otra, *one of them*
monte, *woods, thicket, chaparral*
Ese libro desgraciado me va volver loca, *That no good book is going to drive me nuts.*
todo el, *all the*
diosa mía, *my goddess*
chin, *damn*
y este pinche sol, *and the goddamn sun*
troca, *pick-up*
una santa, *a saint*
curandera, *healer*
pero no es nada, *but it's nothing*
El mal aire le había entrado, es todo. Algo le había entrado. *The bad spirits had entered her, that's all. Something had gotten into her.*
Quiúbole jefa, vine a ver si quieres que trabaje mañana. *What's up boss, I came to see if you want me to work tomorrow.*
No, no te voy a necesitar hasta el lunes. Quiero que comiences muy de mañanita con la pizcadora de algodón. *I'm not going to need you 'til Monday. I want you to start picking the cotton early in the morning.*
Y¿si llueve? *And if it rains?*
¿Qué miras? Nada, jefa, *What are you looking at? Nothing, boss.*
Quiero que me ayudes a componer esa pinche troca, *I want you to help me fix that goddamn truck.*
Bueno, jefa. Ojalá que no llueva. Ojalá que no pierdas toda tu cosecha.

¿Que tienes, 'tas enferma? *Alright, boss. Hopefully it won't rain. Hopefully you won't lose your harvest. What's the matter? Are you sick?*
No, es que no dormí anoche, *No, I just didn't sleep last night.*
caliche, *coarse rock used on dirt roads*
brasas, *coals*
y otra pared, *and another wall*
ceniza, *ash*
tres peras peladas, *three peeled pears*
agua, *water*
noche del tigre, *the night of the tiger*
troquero, *truck driver, one who hauls harvested crops*
chinga tu puta madre, *fuck your mother of a whore*
fue bien fácil, *it was so easy*
me cagué de miedo, *I was so scared, I shit my pants*
té de hojas de naranja, *orange leaf tea*
sí, yo sé, *yes, I know*
la gente, *the people*

Gloria Anzaldúa, "Reading LP", in The Gloria Anzaldúa Reader, ed. AnaLouise Keating (Durham and London: Duke University Press, 2009)

from An Individual Note
Daphne Oram (1972)

Daphne Oram, An Individual Note – of Music, Sound and Electronics, (London: The Daphne Oram Trust and Anomie Publishing, 1972/2016)

signal? Each time the signal goes from playback to record it will be raised in volume and, as we are repeating it over and over again every ⅔ of a second, it will get greater and greater. The record amplifier will soon find this feedback signal is too high and will start squaring off the peaks of the wavepatterns, thus adding overtones. As well as this, the hiss and hum of the tape and amplifiers will also be raised and raised in volume as the signal is fed back repeatedly. The result will be a terrible howl, which will mount higher and higher in volume, until you cannot stand it any longer. As it screams out of the loudspeaker your ears will be suffering so much that you will have to turn the playback volume knob down, and … what a relief … the howl will subside and die out. You will soon learn to set the volume knob so that you get just the number of repetitions you want for your 'echo', at the same time ensuring that the repeat is softer than the original, so that the echoes die out and never build up to a howl.

Tape feedback echo has been used a great deal in the last 15 years both in avant-garde tape music and in pop music. But one can hardly say it is new in conception, for that incredible writer Francis Bacon, writing in about 1624, foresaw something of the sort. When describing, in his *New Atlantis*, the 'Sound Houses' on his imaginary Utopian island, he writes:

> 'Wee have also diverse Strange and Artificiall Eccho's, Reflecting the Voice many times, and as it were Tossing it: And some that give back the Voice Lowder then it came, some Shriller, and some Deeper; Yea some rendring the Voice, Differing in the Letters or Articulate Sound, from that they receyve'.

But let us wander back from Bacon's Sound Houses … to tape feedback, and do a little wondering about the human being. About a hundred years ago Karl von Baer came to the conclusion that we humans require a certain length of time to become conscious of a stimulus from outside – a sensory impression needs somewhere between 1/10 and 1/20 of a second to reach our consciousness. Nowadays, this response time is usually quoted as averaging 1/18 sec (about 55 milliseconds). (Some fish are said to respond in 1/30 of a second, but the poor old snail seems to need a ¼ of a second, five times as long as we do!)

Could tape feedback be in some way an analogy of brain response? Could this 1/18 second be not only the time taken for the stimulation to travel along the nerve fibres, but also include the time for it to be 'recorded' and 'played back'? Is there a feedback system so that a thought, resulting from an internal stimulus, or a thought resulting from internal reasoning, is retained for as long as it is allowed

What do lichens have to say about our own human nature? Not so long ago, lichens were considered to be a single organism. Now we know that they consist of two and more separate entities — fungi, algae, yeasts, bacteria. The article discusses the problem of identity of an organism consisting of symbiosis of multiple and brings focus to us — humans, consisting mainly of bacterial cells. Who are we really, when most of the cells in our body are not "our own"?

-Jonáš Gruska

David Griffiths, "Queer Theory for Lichens", in Underurrents: Journal for Critical Environmental Sciences Vol 19 (Toronto: York University, 2015)

Queer Theory for Lichens David Griffiths (2015)

We Have Never Been Individuals

So how is a human like a lichen? Every human cell has a bacterial power source, much like the lichen's reliance on its photobiont. Mitochondria are organelles within the eukaryotic cell that have distinct DNA and are involved in the production of adenosine triphosphate (ATP), a source of chemical energy. Further, as Margulis suggested in 1967, eukaryotic cells were once non-nucleated prokaryotes that survived absorption by another cell. Mitochondria thus provide animal cells with energy in much the same way as a photobiont provides photosynthetic energy to the lichen. Further, human health also depends upon bacteria, particularly the bacteria living permanently in the gut. These bacteria (or "human gut microbiota") produce enzymes absent from the human genome, which allow humans to gain energy from complex sugars in terrestrial plants. As Ruth E. Ley et al. emphasise, these plants have dominated diet throughout human evolution. Their research demonstrates the symbiotic relationship between human and bacteria, through a comparison of "the bacterial assemblages that are associated with humans and other mammals, metazoa and free-living microbial communities that span a range of environments" (776). Importantly, this research emphasizes the consequences this symbiotic relationship has had on bacterial, as well as human evolution. They state that their "analyses indicate that gut-associated microbiotas are profoundly different from other free-living microbiotas from across the biosphere" (786). The symbiotic co-evolution of human and gut bacteria has shaped the morphology and behaviour of both humans and gut bacteria. Neither is viable without the other; human gut microbiota have evolved to live in the specific environment of the human gut, while humans have evolved to depend upon food that could not be fully digested without this specific internal symbiotic community. What becomes

clear from this perspective is interconnectedness in an ecological "mesh," to use Timothy Morton's term, in which relationships are formative and co-constitutive (The Ecological Thought).

This is what Gilbert, Sapp, and Tauber call the symbiotic view of life. And it depends upon one of the most important consequences of Margulis's theory of symbiogenesis: the impossibility of thinking of life in terms of individuals. As Margulis states:

> of all the organisms on Earth today, only prokaryotes (bacteria) are individuals. All other live beings ("organisms"—such as animals, plants and fungi) are metabolically complex communities of a multitude of tightly organized beings. That is, what we generally accept as an individual animal, such as a cow, is recognizable as a collection of various numbers and kinds of autopoietic entities that, functioning together, form an emergent entity—the cow. "Individuals" are all diversities of co-evolving associates. ("Big Trouble" 273)

This diversity of co-evolving associates is observable at the level of symbiotic gut microbiota and at the level of the human cell. It is impossible to think in terms of individual human bodies, as these bodies are emergent entities formed through the co-evolution of more-than-human agencies. As Dorion Sagan describes: "The human body . . . is an architectonic compilation of millions of agencies of chimerical cells" (367). Crucially, in Margulis's symbiogenetic account it is not the case that lichens are anomalies in being symbiotic fusions of more than one species; rather, humans are like lichens because there are no such things as individuals, except perhaps prokaryotic bacteria (although these too depend upon their interconnectedness and co-involvement in the ecological mesh). Symbiosis is the rule, not the exception. All organisms are emergent multispecies aggregates and communities.

A Bowl of Ocean
Tomoko Sauvage (2020)

A BOWL OF OCEAN: NOTES ON HYDROPHONIC FEEDBACK PRACTICE

Ingredients:
Six porcelain and glass bowls, water, hydrophones, analogue mixer, sound system.

A bowl of ocean. Calm water favors the oscillations and accelerates the feedback cycle. I touch the water's surface to make waves and it feels like I become wind blowing onto the sea. The waves cool down, intensifying the feedback tones by undulating them and destabilizing their loop. I drip water drops from my fingers to make the bowl ring, slowly pushing the fader up at the same time so that the attack note does not decay but spreads out into feedback. I see the ripples go back and forth between the 'shores' of the bowl. The sound waves travel faster than water ripples. They resonate between the coasts of my micro-ocean before going out into the air to oscillate between the walls of the room. I see and hear a mass of water sculpted by my hand, changing its shapes and floating in the air like a cloud. The tactile becomes the auditory.

Tomoko Sauvage, "A Bowl of Ocean: Notes on Hydrophonic Feedback Practice" in Spectres II: Resonances (Paris: Shelter Press / INA GRM, 2020)

In search of resonant frequencies, the bowls are tuned by adjusting their water level. Each bowl has different characteristics: the material (ceramic or glass), its thickness, and the presence of microfissures all produce different harmonics. Although details such as the positioning of the hydrophones and speakers make a difference, the most drastic factor is the reverberation of the room, which naturally amplifies the sound and makes the air, the bowls, and the water fully vibrate.

When there's a specific frequency and sufficiently high gain, a loop of sound emerges that continuously circulates between microphones and loudspeakers. This is called feedback–a perfect circle of fullness that is self-sufficient, forever recycling the same sound source. With less gain the cycle slows down and disappears, with more gain it becomes saturated. I work slowly, with great concentration, in order to maintain the balance point of this fullness, like a tightrope walker. I don't use a limiter or a compressor, so it's a tightrope walk with no safety net. My left hand always remains on the mixer, carefully fingering the faders and controlling the gain, while my right hand shapes the water to modulate the pitch. My ears and hands are the limiters and modulators.

Feedback is generally considered as something to be avoided, which was also my attitude to start with. Methods for avoiding feedback are all about separation: preventing sounds from communicating with one another by using headphones, turning speakers off or down and separating the space; cutting specific frequencies on EQ's, etc. For me, choosing the opposite approach opened the door to new possibilities that

were about connection and wholeness. The instrument is still evolving in that direction. It doesn't like the kind of space that separates the audience and the musicians, where the stage has its own acoustic space with its monitors, and outside of the stage the directive speakers precisely target the audience's seats and diffuse the sound that comes through the main console situated on the opposite side of the room.... I don't see the point of diffusing the feedback loops I create into a separated room. The loops are meant to circulate throughout the whole room, to penetrate and vibrate all of the bodies and objects that the room contains. The whole resonant space becomes an element of my 'natural synthesizer'.

> *I change something every time someone else comes in, I change directions. Because the public is a part of the music too; if somebody comes in, the acoustic changes. The music goes all the way around them and then comes back, so I can hear it.*
>
> –Sun Ra

My current obsession is deliberately using sympathetic resonance, a harmonic phenomenon, to play with overtones. Every frequency produced by each bowl interacts with every other frequency, and this makes for a surprising 'automatically well-tuned' web of harmonics that are intricately and mathematically interconnected. I can just slowly turn up the gain of each microphone until some feedback occurs. There's something like an 'Auto-Tune' effect when a note (often a harmonic–an octave, a fourth, a fifth, etc.–but sometimes a fundamental) starts to feed back because it shares harmonic similarities and responds to the

frequencies already ringing from other bowls, as well as to all the other vibrations in the room (outdoor noise, humming refrigerators and ventilation systems... the sensitive hydrophones can even pick up low frequencies caused by people's small movements, especially via a wooden floor...). Water evaporates constantly from the bowl, which alters the pitch and a new frequency starts to ring naturally. I also sink my palm into the water and lower the pitch (approximately one semitone) to search for new harmonics that might be available to respond to the existing harmony.

In her book *Between Air and Electricity: Microphones and Loudspeakers as Musical Instruments*, Cathy van Eck uses the concepts of resonance and resistance to characterize the relationships between a musician and an instrument. These two bodies–the instrument's and the player's–interact with one other to develop their musical capabilities through a long-term communication called practice. In my case, I didn't have any preconceived musical intentions as the instrument was being born. I wanted to make the most out of the materials that were there to experiment with and to contemplate. The instrument put up resistance in the form of feedback. After trying to control it, I decided to let it go. Full resonance was obviously what the bowls wanted. Then the dimensions of the sound seemed to change. Clouds appeared in the room. I started to hear the environment within the music I played.

Like many Japanese who took piano lessons at very early age, I've always had perfect pitch, but heavily influenced by equal temperament. I can recognize

notes or tonalities played on decently tuned Western musical instruments without reference, but cannot tell those played on non-Western instruments or those of non-instrumental sounds such as birdsong. As I get more and more into listening carefully to overtones and pure intervals through my tuned water, I now sometimes feel a kind of dizziness when listening to long notes and chords played on the piano. Something that used to be so self-evident for my ears has recently begun to make me feel lost. The whole thing is still mysterious to me, but my intimate relationship with this instrument, through many years of dialogue, is re-tuning my ears, which had been 'polluted' by equal temperament.

Madeline Gins and Arakawa, Architectural Body (Tuscaloosa: University of Alabama Press, 2002)

4
Architectural Surround

Let our species cease being stunned into silence and passivity, into defeatism, by a formal architecture that seems so accomplished but that leads nowhere. Members of our species have been stunned into passivity by what should be their greatest ally. To counter the deer-in-the-headlights effect, we have turned from speaking of architecture, vast architecture, to speaking of what of vast architecture a person can encompass in any given moment, naming this the architectural surround. This is architecture at the ready, at everyone's disposal. It is not monumentality but an approachable workaday architecture our species is in need of.

∞

An architectural surround's features: its boundaries and all objects and persons within it. Each circumjacency has a characteristic set of features. Here are some architectural surrounds and their characteristic sets of features. In the case of an architectural surround that is nothing more than a small enclosure in a wheat field formed by many stalks having been trampled upon, the set includes a floor of trampled-upon wheat stalks, walls consisting of wheat stalks, bent stragglers mixed in with intact ones, and sky for a ceiling. The set of features for a kitchen will be all that makes it a kitchen, including the woman putting a roast in the oven. The set of characteristic features for an immensely large architectural surround such as a city will be everything that makes it a city, including all those bustling or ambling through it.

∞

Similarly to how she flexes her muscles, a person flexes her surroundings—both are with her and of her always. Landing-site dispersal and a flexing of the circumambient determine and describe the world that lies within one's ambit of the moment. A person who is noting what is around her is dispersing landing sites; as body-wide landing-site dispersal registers the body's immersion within a volume held in place by

certain demarcations, recording particulars about boundaries, a person will feel herself surrounded first according to one description of the world, then another. Moving within an architectural surround, a person fashions an evolving matrix, an architectural surround not entirely of her own making. Repeatedly, incessantly, a person surrounds herself by conforming in a particular set of ways to what surrounds her. Constrained by her environment, she proceeds to piece together an architectural surround that maps onto the one within which she finds herself. In a glance, she takes in a tree, a lake, or a wall. Glancing in that direction again, but this time having lifted, for example, her right leg to start walking toward X, she . . .

∞

A rounding of multiple foci into a supposed whole occurs again and again, continually. One such surrounding of oneself follows upon the last, and there comes to be a layering of surroundings, a summing up of surroundings, into the singular plural of "the surroundings." So much happens all at once, and *surrounding* and *to be surrounded* are spatio-temporally multilayered, this plural oneness ("the surroundings") lets you know. The words *confines* and *bounds* deliver the same message of a multiplicity of events, the active everything through which one moves—from a supposedly single viewpoint. These terms are conveniently all-inclusive; the word *surroundings* in one of its uses designates the people in one's vicinity or members of an entourage.

∞

One's living room is and isn't one's own sensorium. All that is tentative is in the realm of sensoria; all that appears to be definite has been physically constructed.

∞

Environment-organism-person is all that is the case. Isolating persons from their architectural surrounds leads to a dualism no less pernicious than that of mind and body.

Teach Yourself To Fly, is the first of Pauline Oliveros' "Sonic Meditations"; largely developed in the early 1970s, and explored many times in real musical situations before ever being written down. The musical outcome engages the whole body and imagination. Its original dedication was to pilot Amelia Earhart: the suggestion of the engine sound, changing altitude, tiny sound-events in drone-monotony, full of interference. I often think about this exercise as an experiment in self-care, an embrace during a long and lonely flight.

Oliveros played long, extended drones on her accordion, spending nearly a year on a single note: an A. She wrote, "I have listened to many refrigerators. There is often a flickering between the sixth and seventh harmonic. Once, while in the process of drinking ouzo [...] a refrigerator sent its harmonics out to surround my head with circles, ellipses and figure-eights".

I came across the mention of Amelia Earhart in an article by Elana Mann, introducing deep listening practice into the Occupy Wall Street protests in L.A. A little booklet written with light blue ink has Teach Yourself to Fly clearly addressed to the she-pilot. And Oliveros herself was very happy to be placed in this context.

—Edyta Jarzab

Note: see Pauline Oliveros, "Some Sound Observations" in Christoph Cox and Daniel Werner (eds.) Audio Culture: Readings in Modern Music (London & New York: Continuum, 2004)

Note: see Elana Mann, "The People's Microphony Songbook" (online: https://soundstudiesblog.com/2013/03/11/radical-listening-elana-mann-and-the-peoples-microphony/)

Teach Yourself to Fly : Pauline Oliveros (1974)

—1—

Teach Yourself to Fly

Any number of persons sit in a circle facing the center. Illuminate the space with dim blue light. Begin by simply observing your own breathing. Always be an observer. Gradually allow your breathing to become audible. Then gradually introduce your voice. Allow your vocal cords to vibrate in any mode which occurs naturally. Allow the intensity to increase very slowly. Continue as long as possible naturally, and until all others are quiet, always observing your own breath cycle.
Variation: Translate voice to an instrument.

Pauline Oliveros, Sonic Meditations
(Sharon Vermont: Smith Publications, 1974)

from A History of 'Consonance' and 'Dissonance' James Tenney (1988)

Section V

Helmholtz and the theory of beats (CDC-5)

It is unlikely that anyone's list of distinct conceptions of consonance and dissonance could ever be complete, especially with regard to music theory and practice in the 19th and 20th centuries, and I will not even attempt an exhaustive treatment of the subject for this more recent period. The distinctions that have already been made in this book will serve, I think, to clarify the semantic problems associated with 'consonance' and 'dissonance' quite considerably—and incidentally to clear the way for some useful new theoretical formulations regarding the physical (or other) *correlates* of consonance and dissonance. There is, however, one additional form of the CDC which cannot be ignored, however much its relation to musical practice might be questioned, and that involves the correlation of consonance and dissonance with beats, proposed in the 19th century by the famous scientist, Hermann Helmholtz. In his classic work, *On the Sensations of Tone...* (1862), Helmholtz outlined a theory of consonance and dissonance which has survived to this day as the most prominent and frequently cited of all such theories—especially in the literature of psychoacoustics—in spite of the fact that it has provoked fierce controversy among music theorists. Our interest here, however, is not so much in the *theory* as such, as in the question whether its underlying *conception* of consonance and dissonance is identifiable with any earlier form of the CDC, or is a distinctly new one. This can only be inferred from Helmholtz's writings, and from certain implications of the theory itself, whether or not these are made explicit in those writings.

Helmholtz equates the dissonance of a simultaneous aggregate with the "roughness" of the sensation caused by beats between adjacent partials (and to a lesser extent, between "combinational tones") in the combined spectrum of the tones forming the aggregate. He says, for example:

> When two musical tones are sounded at the same time, their united sound is generally disturbed by the beats of the upper partials, so that a greater or less part of the whole mass of sound is broken up into pulses of tone, and the joint effect is rough. This relation is called *dissonance...* But there are certain determinate ratios between pitch numbers, for which this rule suffers an exception, and either no beats at all are formed, or at least only such as have so little intensity that they produce no unpleasant disturbance of the united sound. These exceptional cases are called Consonances.[61]

He estimates that this roughness is maximal for beat rates of some 30 to 40 per second, and describes the perceptual effect of such roughness as follows:

> In the first place the mass of tone becomes confused...But

87.

Note: In this book, James Tenney debates the semantic problem of what he calls the "consonance/dissonance-concept", abbreviated as "CDC". What is perceived as consonant or dissonant has changed throughout the history of Western musical culture, and is in this book divided in five different periods (DCD-1 to CDC-5-) from the 3rd century BC up to today. The chapter here reproduced addresses the emergence of the ideas contained in CDC-5, in connection to scientist Hermann von Helmholtz (1821-1894).

James Tenney, A History of 'Consonance' and 'Dissonance' (New York: Exelsior Music Publishing Group, 1988)

> besides this...the sensible impression is also unpleasant. Such rapidly beating tones are jarring and rough. The distinctive property of jarring is the intermittent character of the sound[62]...[and again]... A jarring intermittent tone is for the nerves of hearing what a flickering light is to the nerves of sight, and scratching is to the nerves of touch. A much more intense and unpleasant excitement of the organs is thus produced than would be occasioned by a continuous uniform tone.[63]

In a later passage, Helmholtz summarizes his beat theory as follows:

> ..it is apparent to the simplest natural observation that the essence of dissonance consists merely in very rapid beats. The nerves of hearing feel these rapid beats as *rough* and unpleasant, because every intermittent excitement of any nervous apparatus affects us more powerfully than one that lasts unaltered... The individual pulses of tone in a dissonant combination...form a *tangled* mass of tone, which cannot be analyzed into its constituents. The cause of the unpleasantness of dissonance we attribute to this *roughness* and *entanglement.* The meaning of this distinction may be thus briefly stated: *Consonance is a continuous, dissonance an intermittent sensation of tone.* Two consonant tones flow on quietly side by side in an undisturbed stream; dissonant tones cut one another up into separate pulses of tone. This description of the disstinction at which we have arrived agrees precisely with Euclid's old definition, 'Consonance is the blending of a higher with a lower tone. Dissonance is incapacity to mix, when two tones cannot blend, but appear rough to the ear.'[64]

There is no doubt that what Helmholtz intended his theory to *explain* was what he took to be a (or rather, *the*) "traditional" conception of consonance and dissonance, as when he says:

> The enigma which, about 2500 years ago, Pythagoras proposed to science, which investigates the reasons of things, 'Why is consonance determined by the ratios of small whole numbers?' has been solved...[65]

But a careful comparison of his own statements—and of certain implications of the theory—with what we know of each of the earlier forms of the CDC will show that there was a new form of the CDC underlying Helmholtz's theory—one which will hereafter by designated CDC-5.

First, it should be clear that we are not involved here with some variant of CDC-4, since Helmholtz's entitive referents are generally dyads or other simultaneous aggregates *isolated from any musical context.* He speaks of Rameau and his theories with great respect, and yet the dissonant-note concept as I have interpreted it does not play an important role in his own theoretical work; he treats it, in fact, as little more than a verbal convention, as in the following:

> Those tones which can be considered as the elements of a compound tone, *[*i.e. tones which are equivalent to low-order partials of a compound tone, as in a major triad*]* form a compact, well-defined mass of tone. Any one or two other tones in the chord, which do not belong to this mass of tone...are called by musicians the *dissonances* or the *dissonant notes* of the chord. Considered independently, of course, either tone in a dissonant interval is equally dissonant in respect to the other, and if there were only two tones it would be absurd to call one of them only *the* dissonant tone...*[*and thus*]*...although the expression is not a very happy one, we can have no hesitation in retaining it, after its real meaning has been thus explained.[66]

Now this seems to me an eminently logical explanation of the "real meaning" of the term, *dissonant note*, but it is not the meaning given to it by Rameau. Yet Helmholtz had been strongly influenced by Rameau's theories. He does not question the assumption—so clearly made possible only by the *separation* of the dissonant-note concept from considerations of sonorous quality—that a dissonant chord has some inherent tendency toward motion, as when he says of the dominant seventh chord:

> As a dissonant chord it urgently requires to be resolved on to the tonic chord, which the simple dominant triad does not.[67]

and this in spite of the fact that he considers it to be "the softest of all dissonant chords."[68] But the form of the CDC implied by his beat theory has absolutely nothing to do with such tendencies toward motion, resolution, or chordal connections of any kind. It refers merely to the perceptual character of individual chords.

While it is fairly clear that a critical distinction can be made between CDC-5 and CDC-4, such a distinction between CDC-5 and CDC-1 is so obvious as to be trivial, but I mention it here because of the curious fact that one can also find in Helmholtz's work suggestions of what has been called a second, alternative theory of consonance and dissonance[69]—one which could be considered as a possible explanation of that "similarity" or "affinity" between tones sounded successively, which characterizes 'consonance' in CDC-1. I will not go into this alternative theory here, but reserve it's discussion for another paper dealing with the physical correlates of consonance and dissonance in their various forms. The point to be made here is simply that the theory of beats, because it deals only with individual simultaneous aggregates, has nothing to do with CDC-1.

Having eliminated CDC-1 and CDC-4 as possible equivalents of CDC-5, we are left with but two other candidates: CDC-2 and CDC-3. The latter, however, can be disposed of quickly, on the basis of one of its most important characteristics—the designation of the perfect fourth as a dissonance. Helmholtz's theory would find the fourth definitely consonant—only slightly less so than the fifth. In fact, the rank order of common intervals according to their relative consonance or dissonance in CDC-5 is virtually identical to

those associated with CDC-2. Is it possible, then, that CDC-5 is merely a latter-day manifestation of CDC-2?

In several earlier drafts of this book I did in fact interpret the situation in this way—and this, in turn, forced me to conclude that Helmholtz's equation of dissonance with "roughness" (and this with beats) had resulted in a "theory-induced distortion" of CDC-2. But certain implications of the beat theory—especially as these have been developed in more recent psychoacoustic work—now persuade me that the two forms of the CDC are not the same, and that CDC-5 must be considered a separate and relatively independent form. These implications of the theory are (1) that, in CDC-5, consonance and dissonance (or "smoothness" and "roughness") must depend on pitch register, timbre, and perhaps even dynamic level, and (2) that the terms 'consonance' and 'dissonance' must be applicable not only to dyads and larger simultaneous tone-combinations but to *single tones* as well. In none of these ways is there any clear correspondence between CDC-5 and CDC-2.

The fact that the consonance or dissonance predicted by the beat theory for a given dyad would vary with the absolute frequencies of its tones, rather than simply the interval between them, has been pointed out by many other writers—and generally used as an argument against the validity of Helmholtz's theory. Helmholtz himself was obviously as aware of this relationship as anyone, but evidently did not consider it to be a problem. In more recent extensions or refinements of the beat theory, however, this factor becomes quite explicit (see, for example, Plomp and Levelt (1965),[70] Kameoka and Kuriyagawa (1969),[71] or Hutchinson and Knopoff (1978)[72]).

The relationship between consonance and dissonance in CDC-5 and *timbre*, on the other hand, is mentioned frequently by Helmholtz, since it is an obvious and unavoidable consequence of the beat theory. The consonance or dissonance of a given dyad or larger aggregate—even in a given register—is highly dependent on the overtone structure (i.e. the distribution of relative amplitudes among the harmonic partials) of each compound tone in the aggregate, and therefore (since steady-state timbre is primarily determined by this amplitude distribution, or "spectral envelope") on the specific timbre of each tone. Helmholtz devotes some seven pages of his book to this relationship, from which the following passage is of particular interest for our purposes:

> The *clarinet* is distinguished from all other orchestral wind instruments by having no evenly numbered partial tones. To this circumstance must be due many remarkable deviations in the effect of its chords from those of other instruments...when a clarinet is played in combination with a violin or oboe, the majority of consonances will have a perceptibly different effect according as the clarinet takes the upper or the lower note of the chord. Thus the major Third d' f'♯ will sound better when the clarinet takes d' and the oboe f'♯, so that the 5th partial of the clarinet coincides with the 4th of the oboe. The 3rd and 4th and the 5th and 6th partials *[*i.e. the oboe's 3rd and 5th, against the clarinet's 4th and 6th*]*, which are so disturbing in the major Third cannot here be heard, because the 4th and 6th partials do not exist on the clarinet. But if the oboe takes d' and the clarinet

> f' ♯, the coincident 4th partial will be absent, and the disturbing 3rd and 5th present. For the same reason it follows that the Fourth and minor Third will sound better when the clarinet takes the upper tone.[73]

Now the question as to which of these two arrangements sounds "better" than the other obviously depends on what I have called "aesthetic attitudes" toward consonance and dissonance, and it is possible to cite musical examples—especially from the 20th-century literature—in which the same acoustical considerations)and perhaps, therefore, the same form of the CDC) may well have determined the composer's decisions regarding instrumentation, even though the aesthetic attitudes have been reversed. Thus, for example, the wonderfully searing dissonance (in the sense of CDC-5) created by the piccolo and E clarinet at rehearsal number 1 (measure 16 in the revised edition)[74] near the beginning of the second movement of Varese's *Octandre* would have been far less effective (assuming, as we may, that a strong dissonance is what Varese wanted here) if the parts had been arranged in the more "normal" way, with the piccolo above the clarinet, since the latter has very little if any energy in its second partial (i.e. at the octave) for the production of beats with the high F, whereas *most* of the energy in the piccolo's tone is probably concentrated precisely in that second partial.

There is some disagreement in the psychoacoustical literature as to whether auditory roughness should depend on absolute amplitude or intensity. No such dependence was ever suggested by Helmholtz (although it might be inferred from his analogy between auditory roughness and the effect of "scratching on the nerves of touch"—i.e. it would not be surprising if "roughness" varied with the absolute intensity of the stimulus in both cases). Such a relationship does emerge, however, in the recent work of Kameoka and Kuriyagawa, in which the effects of mutual interference between every pair of partials in a simultaneous aggregate are incorporated into a measure of "dissonance intensity" which, as the authors point out, has the dimension of *power*, and is thus proportional to the squares of the amplitudes involved.[75] There can be no disagreement, however, that any roughness caused by beats would have to depend on the *relative* amplitudes of two or more mutually interferring partials, and since the spectral envelopes of most musical instruments vary with changes of overall dynamic level, there must be at least an *indirect* relationship between this parameter and consonance and dissonance in CDC-5.

One might object that—in CDC-2 (i.e. during the early polyphonic period during which CDC-2 was the prevailing form of the CDC)—the practical ranges in all three of these parameters were so narrow (restricted as they were to medium registers, vocal timbres, and moderate dynamic levels) that there could have been no opportunity to *discover* any such dependency on them of consonance and dissonance, even if it existed. This argument is a cogent one, and seems to be unanswerable at present. I believe, however, that answers will be forthcoming when the problem of consonance and dissonance is approached from another direction—psychoacoustically, rather than historically. If physical correlates can be found for both CDC-2 and CDC-5, and these correlates are themselves clearly distinguishable, then we may be justified in maintaining the distinction between CDC-2 and CDC-5—even if no certain

time or another in the history of western music. Certainly it is not "what the beat theory is designed to explain," although Helmholtz himself was not very clear on this point.

CDC-5 was not "invented" by Helmholtz, of course. It is conceivable that it was always present, in some degree, as a component in earlier forms of the CDC (excluding CDC-1), and merely obscured by other, momentarily stronger components. But it seems to have developed gradually during the first half of the 19th century, as a result of (or in parallel with) several of the stylistic and other innovations characteristic of that period. Its emergence as a dominant component may have only become possible after the appearance of new factors—new aspects of the musical experience—that were unique to this first half of the 19th century. Several such factors suggest themselves immediately: the increasingly dramatic rhetoric of Beethoven, and the radical experiments of Berlioz, had created a new discipline—"orchestration"—in which the specific characteristics of each instrument acquired a new importance in the compositional process; the development of the modern "piano-forte," improvements in certain instrumental mechanisms, the invention of new instruments, and the rapid growth in the sheer size of the orchestra—all these had resulted in a considerable extension of *range* in several parameters (pitch register, timbre, dynamics—precisely those parameters that are of such importance in CDC-5); in addition, with the increasingly chromatic character of the harmonic language, some of the expressive and formal harmonic devices available to the 18th-century composer were undermined by assimilation or "absorption" into the ongoing texture, harmony became less and less effective as a means of formal articulation, and some of the functions of formal articulation formerly carried by harmony alone now had to be taken over by other factors, including dynamic and timbral or textural contrasts, etc.

It was in this milieu that a new conception of consonance and dissonance was eventually articulated—not by a composer (since the major composers of this period were not as inclined toward theoretical speculation as their predecessors of earlier centuries had been), nor even by a music theorist (perhaps because the traditional disciplines of counterpoint and harmony had by then become so totally infused with CDC-3 and CDC-4, respectively), but by a scientist-and one of the very highest calibre—Hermann Helmholtz. Unfortunately, however—for the clarity of the ensuing debate—Helmholtz did not imagine that his assumptions regarding the very nature of consonance and dissonance constituted a new form of the CDC. The theory which he proposed to explain this new conception of consonance and dissonance is presented to the world with all the weight of scientific authority behind it—and rightly so—as when he says:

> ...I do not hesitate to assert that the preceding investigations, founded upon a more exact analysis of the sensations of tone, and upon purely scientific, as distinct from aesthetic principles, exhibit the true and sufficient cause of consonance and dissonance in music.[81]

and it never seems to have occurred to him that there might be more than one meaning of each of the terms 'consonance' and 'dissonance'. But neither has

such a possibility been considered by the many critics of Helmholtz's theory, and the division into two opposing "camps" thus initiated has continued to this day, with most musician-theorists insisting on a "functional" definition of these terms (i.e. some form of CDC-4), and the scientist-theorists interpreting them in the sense of CDC-5.

Yet—as musicians—I don't think we can quite discount this form of the CDC. It is probably the prevailing conception implicit in the *colloquial* uses of 'consonance' and 'dissonance', and we have not been altogether innocent of such colloquial usages ourselves. In addition, the terms, used in this sense, do describe a very real aspect of the sonorous quality of the sounds we produce and hear—and for the composer, certain aspects of Helmholtz's theory (or its more recent extensions) are quite valuable as tools in the process of orchestration—as the example given earlier from Varèse's *Octandre* should suggest—or, more generally (as in the field of electronic music), in the manipulation and control of timbre, texture, and "sonority."

from Living with Music
Ralph Ellison (1955)

~~whom we'll presently come), but his drinking bouts were truly awe-inspiring and he was not without his sensitivity. In the throes of his passion he would shout to the whole wide world one concise command, "Shut up!" Which was disconcerting enough to all who heard (except, perhaps, the singer), but such were the labyrinthine acoustics of courtyards and areaways that he seemed to direct his command at me. The writer's block which this produced is indescribable. On one heroic occasion he yelled his obsessive command without one interruption longer than necessary to take another drink (and with no appreciable loss of volume, penetration or authority) for three long summer days and nights, and shortly afterwards he died. Just how many lines of agitated prose he cost me I'll never know, but in all that chaos of sound I sympathized with his obsession, for I, too, hungered and thirsted for quiet. Nor did he inspire me to a painful identification, and for that I was thankful. Identification, after all, involves feelings of guilt and responsibility, and since I could hardly hear my own typewriter keys I felt in no way accountable for his condition. We were simply fellow victims of the madding crowd. May he rest in peace.~~

No, these more involved feelings were aroused by a more intimate source of noise, one that got beneath the skin and worked into the very structure of one's consciousness—like the "fate" motif in Beethoven's Fifth or the knocking-at-the-gates scene in *Macbeth*. For at the top of our pyramid of noise there was a singer who lived directly above us; you might say we had a singer on our ceiling.

Now, I had learned from the jazz musicians I had known as a boy in Oklahoma City something of the discipline and devotion to his art required of the artist. Hence I knew something of what the singer faced. These jazzmen, many of them now world-famous, lived for and with music intensely. Their driving motivation was neither money nor fame, but the will to achieve the most eloquent expression of idea-

Ralph Ellison, Living with Music: Ralph Ellison's Jazz Writings
(New York: The Modern Library, 2001)

emotions through the technical mastery of their instruments (which, incidentally, some of them wore as a priest wears the cross) and the give and take, the subtle rhythmical shaping and blending of idea, tone and imagination demanded of group improvisation. The delicate balance struck between strong individual personality and the group during those early jam sessions was a marvel of social organization. I had learned too that the end of all this discipline and technical mastery was the desire to express an affirmative way of life through its musical tradition, and that this tradition insisted that each artist achieve his creativity within its frame. He must learn the best of the past, and add to it his personal vision. Life could be harsh, loud and wrong if it wished, but they lived it fully, and when they expressed their attitude toward the world it was with a fluid style that reduced the chaos of living to form.

The objectives of these jazzmen were not at all those of the singer on our ceiling, but though a purist committed to the mastery of the *bel canto* style, German *lieder,* modern French art songs and a few American slave songs sung as if *bel canto,* she was intensely devoted to her art. From morning to night she vocalized, regardless of the condition of her voice, the weather or my screaming nerves. There were times when her notes, sifting through her floor and my ceiling, bouncing down the walls and ricocheting off the building in the rear, whistled like tenpenny nails, buzzed like a saw, wheezed like the asthma of a Hercules, trumpeted like an enraged African elephant, and the squeaky pedal of her piano rested plumb center above my typing chair. After a year of non-cooperation from the neighbor on my left I became desperate enough to cool down the hot blast of his phonograph by calling the cops, but the singer presented a serious ethical problem: could I, an aspiring artist, complain against the hard work and devotion to craft of another aspiring artist?

Then there was my sense of guilt. Each time I prepared to shatter the ceiling in protest I was restrained by the knowledge that I, too, during my boyhood, had tried to master a musical instrument and to the great distress of my neighbors—perhaps even greater than that which I now suffered. For while our singer was concerned basically with a single tradition and style, I had been caught actively between two: that of Negro folk music, both sacred and profane, slave song and jazz, and that of Western classical music. It was most confusing; the folk tradition demanded that I play what I heard and felt around me, while those who were seeking to teach the classical tradition in the schools insisted that I play strictly according to the book and express that which I was *supposed* to feel. This sometimes led to heated clashes of wills. Once during a third-grade music appreciation class a friend of mine insisted that it was a large green snake he saw swimming down a quiet brook instead of the snowy bird the teacher felt that Saint-Saëns's *Carnival of the Animals* should evoke. The rest of us sat there and lied like little black, brown and yellow Trojans about that swan, but our stalwart classmate held firm to his snake. In the end he got himself spanked and reduced the teacher to tears, but truth, reality and our environment were redeemed. For we were all familiar with snakes, while a swan was simply something the Ugly Duckling of the story grew up to be. Fortunately some of us grew up with a genuine appreciation of classical music *despite* such teaching methods. But as an aspiring trumpeter I was to wallow in sin for years before being awakened to guilt by our singer.

Caught mid-range between my two traditions, where one attitude often clashed with the other and one technique of playing was by the other opposed, I caused whole blocks of people to suffer.

Indeed, I terrorized a good part of an entire city section.

During summer vacation I blew sustained tones out of the window for hours, usually starting—especially on Sunday mornings—before breakfast. I sputtered whole days through M. Arban's (he's the great authority on the instrument) double- and triple-tonguing exercises, with an effect like that of a jackass hiccupping off a big meal of briars. During school-term mornings I practiced a truly exhibitionist "Reveille" before leaving for school, and in the evening I generously gave the ever-listening world a long, slow version of "Taps," ineptly played but throbbing with what I in my adolescent vagueness felt was a romantic sadness. For it was farewell to day and a love song to life and a peace-be-with-you to all the dead and dying.

On hot summer afternoons I tormented the ears of all not blessedly deaf with imitations of the latest hot solos of Hot Lips Page (then a local hero), the leaping right hand of Earl "Fatha" Hines, or the rowdy poetic flights of Louis Armstrong. Naturally I rehearsed also such school-band standbys as the *Light Cavalry* Overture, Sousa's "Stars and Stripes Forever," the *William Tell* Overture, and "Tiger Rag." (Not even an after-school job as office boy to a dentist could stop my efforts. Frequently, by way of encouraging my development in the proper cultural direction, the dentist asked me proudly to render Schubert's *Serenade* for some poor devil with his jaw propped open in the dental chair. When the drill got going, or the forceps bit deep, I blew real strong.)

Sometimes, inspired by the even then considerable virtuosity of the late Charlie Christian (who during our school days played marvelous riffs on a cigar-box banjo), I'd give whole summer afternoons and the evening hours after heavy suppers of black-eyed peas and turnip greens, cracklin' bread and buttermilk, lemonade and sweet potato cobbler, to practicing hard-driving blues. Such food oversupplied me with bursting energy, and from listening to Ma Rainey, Ida Cox and Clara Smith, who made regular appearances in our

town, I knew exactly how I wanted my horn to sound. But in the effort to make it do so (I was no embryo Joe Smith or Tricky Sam Nanton), I sustained the curses of both Christian and infidel—along with the encouragement of those more sympathetic citizens who understood the profound satisfaction to be found in expressing oneself in the blues.

Despite those who complained and cried to heaven for Gabriel to blow a chorus so heavenly sweet and so hellishly hot that I'd forever put down my horn, there were more tolerant ones who were willing to pay in present pain for future pride.

For who knew what skinny kid with his chops wrapped around a trumpet mouthpiece and a faraway look in his eyes might become the next Armstrong? Yes, and send you, at some big dance a few years hence, into an ecstasy of rhythm and memory and brassy affirmation of the goodness of being alive and part of the community? Someone had to, for it was part of the group tradition, though that was not how they said it.

"Let that boy blow," they'd say to the protesting ones. "He's got to talk baby talk on that thing before he can preach on it. Next thing you know he's liable to be up there with Duke Ellington. Sure, plenty Oklahoma boys are up there with the big bands. Son, let's hear you try those 'Trouble in Mind Blues.' Now try and make it sound like ole Ida Cox sings it."

And I'd draw in my breath and do Miss Cox great violence.

~~Thus the crimes and aspirations of my youth. It had been years since I had played the trumpet or irritated a single ear with other than the spoken or written word, but as far as my singing neighbor was concerned I had to hold my peace. I was forced to listen, and in listening I soon became involved to the point of identification. If she sang badly I'd hear my own futility in the windy sound; if well, I'd stare at my type-~~

Colophon

This reader has been assembled to accompany the festival Oscillation ::: Tuned Circuits, which takes place over four days as a live broadcast from MILL, Brussels and additional locations on 29.04 / 30.04 / 1.05 / 2.05, 2021. It exists as a free to download .pdf which may be freely printed at home.

https://oscillation-festival.be/

More info: info@q-o2.be

Text seletion and editorial: Julia Eckhardt, Henry Andersen & Caroline Profanter. Layout: Henry Andersen.

Many thanks to all the authors, Ugne Vyliaudaite, Olivia Jack, Lucrecia Dalt, Jonáš Gruska & Edyta Jarzab for their proposals for texts.

Oscillation is a project by Q-O2 werkplaats conceived and coordinated by Julia Eckhardt, Caroline Profanter, Henry Andersen, Ludo Engels, Niels Latomme, Ugne Vyliaudaite and Christel Simons. Q-O2 is a laboratory for experimental music and sound art located in Brussels.
www.q-o2.be

Q-O2

Flanders
State of the Art

brussel