

## **the interaction of tone**

Catherine Lamb

*“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. See 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 distinguish one portion from another and call it a name. Through elemental, relational, layering, we begin to listen to the reality of the world, more closely, more intimately. Through that intimate space there is transformation.