CATHERINE LAMB
ATMOSPHERES TRANSPARENT/OPAQUE
ATMOSPHERES TRANSPARENT/OPAQUE

"To be listening is to be at the same time outside and inside, to be open from without and from within, hence from one to the other and from one in the other."  

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In Magdeburg late this summer, I witnessed, for the first time, a secondary rainbow. I realised this was its name—and was assured of its reality—because of my acquaintance with Catherine Lamb’s Prima Interius series, which features an instrument built by her together with her partner Bryan Eubanks, the ‘secondary rainbow synthesizer.’

Standing next to the organic structure of Hundertwasser’s Grüne Zitadelle, I saw the double rainbow light up the cloudy sky, illuminating the Kunstmuseum Kloster Unser Lieben Frauen from behind. The primary rainbow displayed a wide golden hue across the inner side of its arc, while the space between it and its paler secondary twin were brought perceptually closer through the colors they displayed in inverted order. Their mirrored edges—the outer curve of the one and the inner curve of the other—were highlighted in pink and an infusion of pink spread across the cloudy space between them, semi-transparent on a field of blue. An eleventh-century Romanesque monastery, the Kloster is now a contemporary art museum and concert venue. Fitting that my experience should take place there, on the threshold between the urban life of the city street and the flowing form of the Elbe River.

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“We see no colour in its pure state, but every hue is variously intermingled with others: Even when it is uninfluenced by other colours, the effect of light and shade modifies it in various ways, so that it undergoes alterations and appears unlike itself. Thus, bodies seen in shade or in light, in more pronounced or softer sunshine, with their surfaces inclined this way or that, with every change exhibit a different colour.”

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Imagine looking to the outside world through a long glass panel of changing color and density so that the bodies and objects on the other side appear as blurry colored forms. In a similar way, the secondary rainbow synthesizer filters the live environmental ‘atmosphere’ (microphones are placed outside the performance space) so that sonic information shifts between abstraction and recognition (narrow or wide filter) and the ‘coloring/highlighting’ of this atmosphere (through the filter’s resonance) takes place in the ‘tonal temperament’ of each piece. This grounds environmental atmosphere (which has no center or sense of periphery) into a system of co-ordinates related to a fundamental tone. The outside world is thus incorporated into the musical work, and so too is the musical work incorporated into the outside world, connected and illuminated through extended harmonic space.

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“... listening opens (itself) up to resonance... resonance opens (itself) up to the self: That is to say both that it opens to self (to the resonant body, to its vibration) and that it opens

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3 The term ‘extended harmonic space’ refers to specific tones arrived at through what Ben Johnston has called ‘extended just intonation’, a term he introduced to describe compositions involving ratios that contain prime numbers beyond 5 (7, 11, 13, etc.). In 2003-4, composers Marc Sabat and Wolfgang von Schweinitz developed a notation system that continues Johnston’s step, the “Extended Helmholtz-Ellis II Pitch Notation,” which Lamb utilizes in her compositions.
to the self (to the being just as its being is put into play for itself). 4

When starting a piece by Catherine, I tune my instrument to a particular frequency and relearn the geography of its tube; I alter the spaces of my body to increase the possibility of precision—the shape of my mouth (formants), the cavity of my nasal passage, the position of my body—all the time being led by my ears. My body learns its change in state between intervals and my ears remember. When my sound is combined with others (resonating with others), I listen or feel for combination tones, ear tones, beatings, shared partials. Being bound only by the length of my breath, not by metrical time, I have the freedom to observe sound as a phenomenon shared with others within structured form. I surf unisons that appear like thick lines, I visualise vibrating patterns of complex ratios, I hear my sound transforming others and their sound transforming my own. I observe my own listening state, which, in its purest mode, is light and detached and open.

From the interior space of a room (perceived as a wholeness around our bodies), the ‘space outside’ is imagined as a continuous spatial area. Carrying the atmospheric effects of air and light, natural and man-made things—mountains, trees, rivers, and buildings, vehicles, streets—are also perceived as being situated in the unending flow of this atmospheric space. 5 The role of the secondary rainbow synthesizer is like a perceptual bridge between the two spaces. At its narrowest point, the filter produces the effect of concentrating the musical object inside the walls of the space (while conceptually referring outwards, towards infinite space). As the filter opens, our ears extend outward and begin to identify the sounds (construction works, children’s voices, car engines). When the filter opens completely and the synthesizer stops playing, our ears reach beyond the walls, localize the sound source as being outside and identify place (while conceptually referring inward, to the contained musical work and to enclosed space).

(Later, we notice our heightened perception: the wonderful S-bahn glissando, the train tracks singing when a train is approaching or departing, the bedroom lamp emitting a high-pitched hum.)

“In a moment, the shades of a tone coalesce with the 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 space.” 6

In rehearsal, 7 the piece sounded new, like a different piece (perhaps it will always be this way). We had moved rooms and different spectral information was apparent to our ears; we heard each other differently. We were sitting in a new arrangement in space (sound was being produced and reflected in new ways); we ourselves were different from last time (emotionally, physically, psychologically); the more familiar we are with the material, the more our listening is transformed; the filtered environmental atmosphere sounded different (it was a different day after all).

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7 Rehearsal for Prisma Interius VIII, November 6, 2018, Berlin, with musicians Catherine Lamb (viola), Lucy Railton (cello), Jon Heilbron (double bass), Rebecca Lane (tenor recorder), Xavier Lopez (synthesizer) and Joe Houston (synthesizer).
A single print is attached, quite low, to one white wall in the room where Catherine works, Joseph Albers' Study for Homage to the Square: Departing in Yellow (1964). In this work I see four squares of yellow each diminishing in size and gravitating around a descending center point. The largest square is dark mustard, then the second, a lighter hue of this color. The third is a pale lemon yellow and the fourth, the smallest, is a shade darker (almost imperceptibly so). Although I am observing four flat, colored squares which are layered from largest to smallest, I cannot say which appears closer to me. Is it the darkest or the smallest? Are the squares moving towards me or am I looking into them? Are they four distinct shapes, or are they merging into one another? My eyes cannot fix on a singular central point, causing my vision to expand toward simultaneity and the movement between. Perhaps this is what Albers meant when he said of this series in 1965 (which he worked on for 20 years until his death): “Choice of the colors used, as well as their order, is aimed at an interaction— influencing and changing each other forth and back.”

A prism is a transparent form that refracts light and produces a rainbow (like sunlight through a raindrop).

When we look at any object, our eyes continually move around it as we visually comprehend its shapes and surfaces. In the case of a transparent object like a prism, this complex process becomes even more so, since we view some of its exterior edges and surfaces by looking through its interior. Moreover, a prism absorbs the forms and colors of its immediate environment and transforms them through the surfaces of its body.

Among the potted plants on the windowsill in Catherine and Bryan’s kitchen, hang small prisms of various shapes; each one transmutes the outside world, reflects light internally and projects a tiny rainbow, each of varying intensities, widths and lengths across the white wall.

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When I paint
I think and see
first and most—color
but color as motion

Color not only accompanying
form of lateral extension
and after being moved
remaining arrested

But of perpetual inner movement
as aggression—to and from the spectator
besides interaction and interdependence
with shape and hue and light

Color in a direct and frontal focus
and when closely felt
as a breathing and pulsating
—from within

—J. A., 1959

(*the prisma pieces often deal with a shift in harmonicity, a shift in coloration, for each section is unfolding into a new harmonicity and then shifting, unfolding into a new. I’m trying to find this feeling of something*).

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9 The title of Lamb's text The Interaction of Tone directly references Josef Albers' book Interaction of Color (1963). In this book he outlines his experimental approach to the perception of color, much like Lamb's text describes her experimental and subjective approach to the perception of tone.

rotating, something that is not quite linear, something more total, you could be looking around it, or it’s the air. I think a lot about crystal forms, for structures, if I’m drawing out a shape it is often a crystal shape. You might get these very distinct triangles or squares or rectangles, if you look at it from the side you see this distinct form but if you turn it, it becomes a slightly different shape and then you turn it again, but it is all completing the whole structure, which is both very precise and also imprecise. It’s precise in how it is put together and how it is formed but then also one part is stretched or one part is lipsided, each form is slightly different but at the same time the same, also finding this point to this point to this point to this point, what is the role of sound makers, people making sound and how those points collectively determine the perception of the shape, the key is how to make an unfolding of the form so that it unfolds the perceptual space, that’s the thing that I’m most interested with form is how can a space be transformed or how can a space be unfolded into, I feel like when I am in a musical performance what I really want the most is to take away something and move inward and be present, so how to activate that kind of a space, expanding the space, going inward but at the same time expanding.\footnote{Lamb, Catherine, conversation with the author, Berlin, November 5, 2018.}

In Prisma Interius IX (2018),\footnote{Prisma Interius IX was commissioned by Ensemble Dedalus in 2018 and premiered by the ensemble on October 4, 2018, at the Grand Théâtre, Albi (France).} we hear the gradual unfurling, section-by-section, of points in upper harmonic space transposed down into human dimensions. Starting out within a narrow harmonic range (as a quartet) and expanding outward (towards tutti), the musicians trace harmonic space together. Woven lines (melody)—revealing the materiality of the instruments, parts of their bodies stretched, lengthened or made shorter so that they can voice these precise frequencies—are illuminated and dissolved by transparent and opaque clouds (harmony).

(Sharp cuts at the end of tones and sections help us to perceive the edges of these layers and prevent them from resolving into habitually expressive “musical” endings.)

(We hear echoes of musical traditions in the scalar traversing of the chant, folk music, symphonic music, opera, electronic music—clothed in opaque light.)

(We discover the interchangeability or fine shadings between traditionally distinct categories: verticality and horizontality, consonance and dissonance, musical pitch and noise, the space between two notes. Where does one become the other?)

When the acoustic instruments gradually reduce their presence in section 5, this designates time, in section 6, for the secondary rainbow filter to more distinctly reveal itself/its space (harmonic field)/the place (in this recording, Centre Pompidou-Metz). It is not until section 8 that the ensemble is gathered in tutti and this is the first and only time it takes place. The synthesizer does not reappear for the next and last section, however we can perceive its aural stain coloring the remaining material like an afterimage.\footnote{Lamb, Catherine, conversation with the author, Berlin, November 5, 2018.}
In her notation, Catherine rarely indicates an exact dynamic or timbral technique; rather she uses language borrowed from color theorists (Albers/Goethe/Wittgenstein) to describe the quality or intensity of sound. Key words such as shadow, spectral, interaction, dispersed, vibrancy, coloration, saturation appear in the explanatory notes, almost like the setting forth of a text score. For Catherine it is a precise but intuitive way to describe how interaction between the instrumental parts takes place so that the “overall harmonic space is allowed to unfold and shift as a totality.” Utilizing this language frees the musician from implementing a learned, automatic gesture such as ‘pp’ or ‘ponticello’, but rather allows them to make individual choices based on listening (through relating to others). 

On the wall, to the right of me, hangs a square photograph of the ocean by Uta Neumann. When observing from the bottom of the frame, this silvery-blue rippling body of water appears solid and close. As it recedes into the distance, the water’s corporeality diminishes as a silvery-grey descending fog dissolves its horizon line. This vapory substance, an opaque transformation of water and salt crystals in the air, blurs spatial distinctions. Like with Turner’s clouds, or an Agnes Martin painting, dimensionality appears simultaneously close and deep and luminous. Here, seeing can generate an inner sense of expansiveness.

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14 Lamb, Catherine, Prisma Interior IX, score, Sacred Realism, 2018.
15 Lamb, Catherine, conversation with the author, Berlin, November 5, 2018.
16 Overlays Transparent/Opaque was commissioned by Ensemble Dedalus in 2013 and premiered by the ensemble on September 9, 2013 at Roulette, Brooklyn (USA).
17 Lamb, Catherine, Overlays Transparent/Opaque, score, Sacred Realism, 2013, pp. 4–5.
as well as to each other. In each overlay arrangement, we hear the layers arising and receding, pushing and pulling but also embracing and cutting across one another. In this recording of Overlay arrangement no. 6 (it appears last on this CD), the stringed instruments shade—in diverging intensities—a constant present, while the wind instruments insert two pedal notes (the trombone) and a glistening shape (alto saxophone and flute lines), forming a shifting conglomerate whole.

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(overlays are literally like little miniatures, like a shape each, what is transparent, what is opaque, something you can see through to another tone, what is solid, like color, the line between, do they remain distinctly two things or do they combine, combining into harmonics and harmonic space.)

* * *

Traditional notions of virtuosity have no place in Catherine’s music, instead a different, subtle kind of virtuosity is called for; one founded in perception. It is an invitation to listen, to open up a sensitive listening space where boundaries between musicians, audience, and the environment are fluid. The material asks me to listen and when I listen, others are invited to do so too.

Catherine does not expect precision from musicians (“...the imperfections of instruments and tools, the changes in air density, and environmental chaos...pure ratios are exactly between the unnatural and the natural world”) but is concerned, rather, with a clear attempt towards intonation, and “failing beautifully.”

It is through this attempt that a heightened listening space is activated. Familiarity with the material—the deeper you get to it—is proportionate with the more subtle and activated the sonic material appears, but the “beautiful” listening state still remains.

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(the intention is to narrow the filters and to approach a kind of thread that could have a feeling of an infinite space, from your inner points of listening that is very individual and personal, from your point you could listen with the others into the outer atmosphere and see the connectivity of everything, that’s ideal, that’s what I am trying to find, that space, what is the limit of connectivity from your point to the absolute, outside.)

18 Lamb, Catherine, conversation with the author, November 5, 2018, Berlin.


20 See Lamb, Catherine, https://www.foundationforcontemporaryarts.org/recipients/catherine-lamb. In The Interaction of Beings, Lamb writes about her former teacher: “Marti 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.”

21 Lamb, Catherine, conversation with the author, November 5, 2018, Berlin.

22 Ibid.
Atmospheres are surfaceless spaces. As opposed to looking at a painting or an object where one sets up a relationship of distance, to be in an atmosphere is to be amidst something. Being of the air, sound also has no surfaces and so in this sense can be called an atmosphere, like the weather. It moves in us and around us. But sound or more specifically, tones, can also be the carrier of an atmosphere of feeling. In this sense, musical works, as collective experiences, can generate a home for the emergence of such atmospheres.

In the concentrated listening to the shifting interaction of these tones and their interior dimensions, an atmosphere of expansive relations can be felt, linking inner and outer worlds and opening us to the interrelatedness of all things.

"Through elemental, relational, layering, we begin to listen to the reality of the world, more closely, more intimately. Through that intimate space is transformation."

—Rebecca Lane

Rebecca Lane is a musician who explores intonation using various flutes (microtonal flutes, recorder) and voice. She is a colleague of Catherine Lamb and has performed many of her works.

Composer’s Note
I have been attempting to describe, in more elemental terms, the perceptual roles between musicians who are activating interactions in harmonic space. Overlays Transparent/Opaque (2013) was an initial attempt (as was Material/Highlight) towards showing forms aside phenomenological clarities in which to enter from relational and therefore paraxial points, in this case through shifting overlays. As though to place individual crystals, one by one, amongst the musicians, and to have them find their place of vibrancy or shadow due to the angle in which they are seeing the form. Rather than terms like loud/soft or foreground/background, opaque might suggest a tone that is filled, dense, and vibrant, whereas transparent might indicate a tone that is losing its fundamentality, becoming fused into the intensity of opacity; or that one might see through its sound, becoming atmospheric. The seven overlays are in constant flux, but the forms are synoptic, placed on their own and in their own space, as objects.

Prisma Interus IX (2018), in contrast, would be one large crystal placed amongst the musicians, rotating with filtered light. So that each unfolding of the tonalities illuminates the form that is always present, allowing for a feeling of constant expansion. Here the roles have become tertiary distinctions: “clear,” “shadow,” and “spectral.” An individual with their instrument adds further complexity to the reduced terminologies once they produce sound in the air, and that sound is combining with another’s. So if the attention focuses on producing a vibrant tone that can interact clearly with another, that in itself is enough. “Shadow” and “spectral” indicates that an individual’s tone situates within the atmosphere of the total sound, activating what is already there by highlighting it or becoming transparent to it.

Prisma Interus IX is the culmination of a series of pieces written between late 2016 to summer 2018, examining particular (perhaps archaic) musical roles, and how they situate within the phenomenological/perceptual space my work has been growing into for

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25 Schmitz, Hermann, “Intensität, Atmosphären und Musik.”
27 Lamb, Catherine, The Interaction of Tone, p. 5.
the past fourteen years. Elemental questions have been important in the series, like how is one tone a pivot between activating a total harmonic space as well as expanding a contour in time? There were many threads in the series, such as how to create structural changes through various conceptual shifts of a prism, the role of the voice, but the most obvious was the development of the secondary rainbow synthesizer, in collaboration with Bryan Eubanks since 2014, named after the faint shadow to the more brilliant primary visual. The instrument filters the adjacent environment to the listening space by literally fusing harmonically with chaotic atmospheric elements being picked up by the microphones outside. The role becomes a kind of highlighting continuo or tarpura to the more clearly articulating musical activity played by the ensemble, while also attempting a bridge for the listener towards an infinite, expanding space (in ideal terms). It is felicitous that the last piece in the series is a large-scale aggregate for Ensemble Dedalus, who are friends.

Catherine Lamb (b. 1982, Olympia, WA) is a composer exploring the interaction of elemental tonality and their shades. She began her musical life early, later abandoning the conservatory in 2003 to study Hindustani music in Pune, India. She received her BFA in 2006 under James Tenney and Michael Pisaro at CalArts in Los Angeles, where she continued to compose, teach, and collaborate with musicians such as Laura Steinberge and Julia Holter on Singing by Numbers. In 2008 she received a W.A. Gerbode Foundation and W. & F. Hewlett Foundation Emerging Composers Initiative for Dilations, premiered at the Other Minds festival in San Francisco. She mentored under the experimental filmmaker/ Dhurupad musician Mani Kaul until his death in 2011. In 2012 she received her MFA in music/sound from the Milton Avery School of Fine Arts at Bard College in New York. She toured Shade/Gradient extensively and was awarded the Henry Cowell Research Fellowship to work with Eliane Radigue in Paris. In 2013 Lamb relocated to Berlin, Germany, where she currently lives, and has written for ensembles such as Konzert Minimal, Dedalus, NeoN, Ensemble Proton, and the London Contemporary Orchestra, while collaborating regularly with Marc Sabat, Johnny Chang, Bryan Eubanks, and Rebecca Lane. Her first orchestral work, Portions Transparent/Opaque, was premiered by the BBC Scottish Symphony Orchestra at the 2014 Teactonics Festival in Glasgow and was conducted by Ilan Volkov. She is a 2018 recipient of the Grants to Artists award from the Foundation for Contemporary Arts, a Staubach Fellow for the 2016 Darmstadt Summer course, as well as a 2016–2017 Schloss Solitude Fellow. Her writings/recordings are published in KunstMusik, Open Space Magazine, QQ2, NEOS, Another Timbre, Other Minds, Winds Measure, Black Petteg Press, and Sacred Realism. www.sacredrealism.org/catlamb

Since 1996, Ensemble Dedalus has been forming one by one, by those interested in the experimental nature of the work, the egalitarian atmosphere, or simply the depth of musicality. First initiated by guitarist Didier Aschour and flutist Amelie Berson, it is now a highly regarded, modular ensemble known for its long-term relationships with such composers as Tom Johnson, Christian Wolff, Pascale Criton, and Michael Pisaro. Collectively, the ensemble finds camaraderie in the work that invites the interpreter into expanded creative roles, such as open/improvisatory elements, geometric/non-linear forms, or the total listening space that is asked of the musicians, sometimes even playing different instruments. One could say the group functions together more like a rock band, which becomes more apparent in their committed realizations of Moondog, but also in the striking way they interpret Music With Changing Parts (Philip Glass). Though its members have arrived together from vastly varied and skilled musical lives, be it baroque, free-improvisation, spectralist, jazz, or minimalist, each of the very unique and high-caliber individuals bring something exceptional to the group. Based in France, members have expanded to other regions (Italy, Spain, Switzerland, Germany...). The ensemble is not defined by a particular aesthetic, but rather by the process it takes to realizing a piece of music together. They also choose to work with composers who are blurring the edges between artistic forms and hierarchical roles, and as a result become part of the collective ensemble.

Ensemble Dedalus:
Didier Aschour, electric guitar, music director
Amelie Berson, wood and metal flutes
Cyprien Busolini, viola
Yannick Guédon, voice, treble viola da gamba
Thierry Madiot, trombone
Pierre-Stéphane Meugé, saxophone, synthesizer
Christian Pruvost, trumpet
Silvia Tarozzi, violin
Deborah Walker, cello, voice

SELECTED DISCOGRAPHY
in/gradient. Sacred Realism sr004.
Mirror. Neos 11501.
shake/gradient. Black Pollen Press BLKPLN03.
two bodies (moving). Another Timbre at5fr.
untitled 12 (after ages). Sacred Realism sr001.

SELECTED BIBLIOGRAPHY
Lamb, Catherine. “The Interaction of Beings.” Schloss—Post/Schlößergast #2
(https://schloss-post.com/the-interaction-of-beings/)

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1. **PRISMA INTERIUS IX** (2018)  52:52

**OVERLAYS TRANSPARENT/OPAQUE** (2013)

2. #5  1:28
3. #3  2:28
4. #7  1:29
5. #1  1:38
6. #2  1:35
7. #4  1:01
8. #6  1:23

TT: 63:54

Please note that there is a 63-second silence between the first two pieces and lengthy silences between the subsequent tracks.