

Biographies:

Collins & Goto Studio: Tim Collins and Reiko Goto have developed long-term, socially engaged environmental research (SEER) that examines the cultural meaning of semi-natural ancient forest: Future Forest (2013-present); Sylva Caledonia (2015); Caledonian Decoy (2017); PLEIN AIR: The Ethical Aesthetic Impulse (2010); CO2 Edinburgh (2013); Sound of a Tree: Cologne (2016); PLEIN AIR Live at Glasgow Botanic (2017); Nine Mile Run (1997-2000); and 3 Rivers 2nd Nature (2000-2005). Outputs include artworks, exhibitions, seminars, workshops, and publications that embrace an arts-led dialogue method of research-and theory-informed public practice. They have worked with other artists, musicians, planners, communities, scientists, and technologists as well as historians and philosophers to realize work for over twenty years.

Sound Programmer: Chris Malcolm is a Scottish computer programmer and software developer with over twenty years of experience writing computer code with vector graphics, sound and interactive systems for industry clients. He also has an extensive background in experimental music developing innovative tools and instruments for studio and live performance. Malcolm is recognized within the electronic music scene for his use of retro-computers and consoles to generate unexpected interactive audio and visual experiences. The work with Collins & Goto Studio is driven by a curiosity about human relationships to technology as a tool and as an interface to bio-events. The PLEIN AIR system and software opens up new programming challenges and levels of expression not available with traditional electronic instruments and methods.

Producer: Georg Dietzler is a Cologne-based artist, author, curator, and consultant. He is recognized as an active producer of cross-disciplinary cultural projects, exhibitions, seminars and conferences, audio-visual concerts, media, dance, improv-theatre, and more.



R. Goto, T. Collins, Sound of a tree, ON-Neue Musik Köln, Germany, 2015, curated by G. Dietzler

As a socio-political and conceptual artist with an international reputation, he works on ecological future visions linked to social and political change. His latest art work is a concept for an inner-city citizens' heirloom orchard, introduced at 'Ecovention Europe' at De Domijnen, in Sittard Netherlands in 2017.

Mastering/Postproduction: Dirk Specht is a sound artist, electronic and electroacoustic musician, sound recordist, and curator. From 2011 to 2016 he has been assistant professor for sound at the Academy of Media Arts Cologne, Germany. His works include electro-acoustic compositions, field recording and soundscape-compositions, ars acustica/radio drama, sound art pieces and spatial installations, music for dance and choreography, and soundtracks for films and video. He also works on projects focusing on sound archives, audio restoration, sound post-production, and mastering. Having studied architecture (Berlin) and media art (Cologne), he shares a great interest in the relations between sound and space(s), intermediality and experimental approaches to sound, music, and spatial arts. He is a founding member of Therapeutische Hörgruppe Köln and Frequenzwechsel, two media/sound-artist collectives. Specht lives and works in Cologne, Germany.

Artist: Reiko Goto Collins was born in Japan and has lived in both the US and UK. She is a principal in the Collins & Goto Studio. She has been a research fellow at the Institute for Advanced Studies in the Humanities at the University of Edinburgh. She participates in an international climate change network, Council on the Uncertain Human Future, and is currently involved in the working group 'Living Organisms and Their Choices' at the University of Edinburgh. She is a distinguished research fellow at the STUDIO for Creative Inquiry at Carnegie Mellon University in Pittsburgh, Pennsylvania.

Artist: Tim Collins is from the US, an artist, author, and planner; a principal in the Collins & Goto Studio; and an honorary research fellow in the School of Social Science at the University of Aberdeen. He works across science, technology, and philosophy to develop projects related to nature, culture, and to changing ideas about ethical duty and public space. In 2017, he was on the development committee for the 'Art and Artists in Landscape Environment Research Today' seminar at the National Gallery in London. He currently serves on the board of directors for the Landscape Research Group and Glasgow Sculpture Studios.

The team prepares the instrument and the recording devices at the Kibble Palace in Glasgow as an oak, and aspen and an elderberry await their performance.

Stein, E. (2002) On the Problem of Empathy. (W. Stein, trans.). Washington D.C.: ICS Publications. (Original work published 1917)

To download digital sound files for personal use.
<https://collinsandgoto.com/PleinAirLP/>
Password: Pl31n@1r2019



Silva Datum Musica - Plant bioacoustics, data-sonification, computer



Artists' Statement: Tim Collins and Reiko Goto, Glasgow, Scotland

We developed the PLEIN AIR project through a series of iterations with collaborators. We have now refined the form, systems, and audio to the point that it has become a simple sound instrument that sits between ourselves and one leaf on one tree. Empathy is the concept that drove the design of this experience, supporting our intention to initiate an ethical consideration of trees, using sound to focus attention and the imagination.

Collins and Goto worked with a team of scientists, technologists, and musicians to reveal the breath of a tree. Their intention was to explore the empathic interrelationship we may have with trees. PLEIN AIR integrates aesthetics, ethics, and awareness in the pursuit of a better understanding of the limitations of people-plant and culture-nature relationships. The artwork provides an experiential interface to an important but generally invisible aspect of carbon sequestration. The experience produced by PLEIN AIR is metaphorical; through the mediation of sensors and software, we hear a sound of one leaf – one tree breathing. Does our sense of moral duty change as we listen? A tree is commonly understood as property, as a utilitarian resource, and as a non-sentient thing. Yet the presence of trees in our daily lives and their bio-chemical agency, their carbon dioxide / oxygen exchange, can be construed as an essential condition of the public realm.

The idea of PLEIN AIR began in Duke Forest, while visiting the Duke University Teaching and Research Laboratory, in North Carolina. The scientists had wired the forest to test the reaction of the trees to future levels of carbon dioxide. Collins and Goto were invited to climb a forty-foot structure built among pine trees to measure photosynthesis, transpiration, and sap rise. As the scientists set up their sensors, the sun rose but was covered in cloud. When the sun emerged, the sap began to rise and the photosynthesis rate went up immediately. One scientist asked Goto to put her hand on the leaves to block the sunlight. The meter went down immediately. The response of the tree astonished the artists.

Reflecting on the experience, Goto recognized this as an 'epiphany', a moment

when the essential nature of a thing was being revealed to us. Later she began to understand this as an indication of 'the phenomena of life', Edith Stein's concept describing a sense of lived connectedness and awareness of the relationship between body, mind, and environment. Stein writes, "[The phenomena of life] includes growth, development and aging, health and sickness, vigour and sluggishness" (Stein 2002 p.69). Stein confirms the phenomena of life can be observed amongst all living things including plants.

This experience and this concept have been central to the development and testing of the PLEIN AIR instrument over a series of iterations. Collins and Goto's collaboration with a plant physiologist established the authenticity of their method of gathering data and its quality, as well as giving support to their pursuit of programming that would let them hear the tree through its physiological responses. To 'hear the tree', the artists had to focus on sound as the key idea and push the technology into the background. The sound developed through years of collaboration with Chris Malcolm, with input from Georg Dietzler and many, many others.

There is an implied truth and some confirmation of ethical intent in this intention and outcome. *We hope this work brings some meaning and joy to you as you listen.*



T. Collins, R. Goto, C. Malcolm and G. Dietzler Plein Air-live at the Kibble Palace, Glasgow Botanic Gardens, Scotland, 2017

Producer's Statement: Georg Dietzler, Cologne, Germany

Visiting Glasgow in 2014, I had a chance to see and hear PLEIN AIR in the Collins & Goto Studio. I was impressed by its audio-visual richness. I then decided to present this trans-disciplinary project within a 2015 sound-art series called VISUAL SOUNDS – BIOACOUSTIC MUSIC. A short residency was provided for the artists, funded by ON – Neue Musik, Cologne. Reiko, Tim and I visited local tree nurseries that offered native regional trees and bushes. We decided to buy a mix of large potted plants for the exhibition: a butterfly bush, elderberry and hazel, and a German heritage pear tree. After the project presentation, all have been replanted in private gardens.

PLEIN AIR was presented in a square-shaped music room. Collins and Goto titled the room the 'Tree Study Sound Chamber' (Baumklang-Studien-Zimmer), a sort of intimate music room, making reference to historical chamber music. I worked with them often during the exhibition and found myself thinking about the changing timbre and pitch of the music in relation to changes within and outside the room. Light intensity and carbon dioxide from visitors' breathing would change each tree's responses and the sound quality. At the end of the day, too, changes to the light quality would affect the trees and the sound was very different to when the trees were under full light at mid-day.

We would listen to PLEIN AIR for hours while we made the long Cologne recordings. I found an impressive richness of sounds, comparable with minimal music: steady pulses slowly changing, gradual transformations, phase shifting, consonant harmony – music that was easy to listen to. One could hear plants getting tired, stressed, hear the difference of tones in the morning, noon, afternoon, evening. Reiko, Tim and I met and talked each day, often eating together, discussing the range of sounds and the public reaction to the work. After a few days, I asked them if they ever had considered an artist edition vinyl. They were very interested. We discussed a new plan – an exhibition and more recordings at the Kibble Palace, a historic glasshouse in the Glasgow Botanic Gardens in Scotland, in 2017.

The different venues have an impact on what we heard onsite and in the experience of the recordings. Architectural scale, shape, and building materials create specific spatial acoustics. Qualities of intensity and frequency, temporal effects, and tonal attributes – all are contributing to the differing sound experiences across the two sides of the PLEIN AIR live recording. Cologne was more of a sheltered, quiet room, a reverberating hard cube with one window. Outside we had bright blue skies, warm days, and, at night, no clouds. The recording device used was a ZOOM H2n. In Glasgow, PLEIN AIR was presented in a curved, Victorian-era glasshouse. The plants chosen were all native deciduous trees of Scotland. We could only record when the public left the building at the end of the day. The weather conditions were dramatic: a mix of sunny and rainy days, very intense sunlight interrupted by fast moving clouds. The glass made for fast-changing temperatures. The recording device was a Zoom H4n using two external microphones facing towards the half-dome shape end of the glasshouse.

You will notice the differences in the trees, the venues and the sound between the two sides of the vinyl recording. The plants and context in Cologne produced minimal music, slowly changing, a steady pulse, soothing sounds. Glasgow was much more dramatic, an extreme and dynamic range of sounds not at all like minimal music. The cities of Cologne and Glasgow are as different as the sound we hear on the vinyl. PLEIN AIR is a touching and impressive artwork, a sound piece embedded into a carefully crafted wooden painting easel. What Reiko and Tim have accomplished with PLEIN AIR opens up rigorous sensor data to an immediate and intuitive experience through sound. Over time the changes of light, humidity and carbon dioxide are all revealed in relationship to the tree and to the venue it is presented in, to the spatial positioning and to the work's relationship to the audience. This is very promising area for more generative artworks that bring us face-to-face with the sound of the breathing of a tree.