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ACROSS RCA: JUSTICE: GROUP 9BT2: FINAL SUBMISSION
BEN JUDD**

COMMUNAL ECOLOGIES



Frontispiece: Photograph by Violet Xu of the model assembled by Participant 3, an LGBTQIA+ and POC/BAME person. Component pieces constructed by Cas Bradbeer, Allison Gretchko, Marguerite Royer, and Violet Xu. Photographed in the Side Studio of Photography on RCA's Battersea campus. February 15th, 2023.

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Introduction

'Communal Ecologies' is our interactive construction project, using an experimental methodology of model making. We created a roughly 40cm² model, which allowed us and our participants to explore how public natural landscapes could provide more equal access and meaningful interactions for users (especially marginalised groups, such as POC [people of colour] and queer people) and thereby bring to these communities the social, mental, and physical benefits they are often denied. In this way, we responded to the AcrossRCA Justice subthemes of participation, diversity, social justice, human rights, race equality, trans rights, intersectionality, inclusion, and exclusion. This is a research-led project, informed by medical and sociological studies that have demonstrated the benefits of access to nature and the fact that queer and POC people disproportionately lack access to nature in the UK. We utilised sensory information and physical experiences of natural spaces to inform the model's design, such as through foraging for materials in and around London parks.

We presented the model to 12 members of the RCA community (including several queer and POC people), inviting them to co-create on the model itself (such as affixing found natural materials and instilling sounds and smells into the model). This provided participants with an opportunity to explore how public green spaces could be designed according to their preferences (imagining that their model might one day be reproduced on a 1:1 scale), as well as providing them tactile experiences of nature immediately through interacting with our foraged materials. We photographically documented the model (not the participant, so as to maintain anonymity) after each interaction and noted down each participant's interpretations of their process, thereby allowing us to analyse how our ecological model was communally shaped.

Research - Health Benefits and Access to Them

The topic we focused on is urban environmental justice, which is measured by the availability, accessibility, and attractiveness of urban natural landscapes. In our Communal Ecologies project, we studied how different groups (especially, but not exclusively, queer and POC people) construct their preferred natural landscapes. We view this initiative as a crucial issue of justice for two reasons: minority groups are less likely to have fair access or use of public ecological spaces, and this disproportionate accessibility means that these groups receive less of the physical and psychological health benefits that are brought by interactions with the natural environment.

In terms of the visual experience of nature, the arousal theory illustrates that a natural landscape's aesthetic beauty could bring psychological satisfaction and that people are positively stimulated by places with both order and complexity (such as by including natural complexity within the otherwise more ordered design of urban built environments).¹

Moreover, mental health benefits include a sense of security, as indicated by the refuge theory which states that a feeling of safety is generated by how natural environments like forests can create shelter. Natural landscapes also have a restoration effect which could help people reduce stress and thereby restore their levels of concentration and energy. According to the attention restoration theory, mental fatigue is reduced through how environmental experiences stimulate feelings of fascination, desire, immersion, and escape.²

¹ Agnes Elizabeth van den Berg and Henk Staats, 'Environmental Psychology', in *Oxford Textbook of Nature and Public Health: The Role of Nature in Improving the Health of a Population*, ed. by Matilda van den Bosch and William Bird (Oxford, 2018), pp. 51-56.

² Van den Berg and Henk, 'Environmental Psychology', pp. 51-56.

In terms of physical health benefits, access to urban natural landscapes could increase physical activities that reduce the chances of obesity and related cardiovascular diseases.³ Also, exposure to the natural environment creates contact with microbes and maintains the human body's microbiome, which enhances the immune system and prevents serious inflammatory disorders.⁴

These health benefits all make public natural spaces a vital component of urban life. However, environmental injustice is giving certain groups fewer opportunities to enjoy these benefits. Research suggests there are three types of environmental injustice: distributive, participatory and recognition.

Firstly, distributive justice refers to whether various population groups enjoy equal availability, accessibility, and attractiveness of green spaces.⁵ Groups suffering from less provision of distributive justice are usually ethnic minorities and queer people, as well as people with disabilities and those with precarious income levels and housing conditions. For example, Right to Roam conducted a study last year that identified that POCs make up 13% of the UK population but only 1% of all visitors to parks.⁶ Moreover, this has

³ Billie Giles-Corti, Fiona Bull, Hayley Christian, Mohammad Javad Koohsari, Takemi Sugiyama, and Paula Hooper, 'Promoting Physical Activity—Reducing Obesity and Non-Communicable Diseases', in *Oxford Textbook of Nature and Public Health: The Role of Nature in Improving the Health of a Population*, ed. by Matilda van den Bosch and William Bird (Oxford, 2018), pp. 97-107.

⁴ Graham Rook, 'Microbes, the Immune System, and the Health Benefits of Exposure to the Natural Environment', in *Oxford Textbook of Nature and Public Health: The Role of Nature in Improving the Health of a Population*, ed. by Matilda van den Bosch and William Bird (Oxford, 2018), pp. 63-70.

⁵ Jakub Kronenberg, Annegret Haase, Edyta Łaszkiwicz, Attila Antal, Aliaksandra Baravikova, Magdalena Biernacka, Diana Dushkova, Richard Filčák, Dagmar Haase, Maria Ignatieva, Yaryna Khmara, Mihai Razvan Niță, Diana Andreea Onose, 'Environmental Justice in the Context of Urban Green Space Availability, Accessibility, and Attractiveness in Postsocialist Cities', *Cities*, 106, no. 1 (Amsterdam, 2020).

⁶ Julian Glover, 'UK Department for Environmental, Food & Rural Affairs: Landscape Review: Final Report' (London, 2019), p. 130, https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/833726/landscapes-review-final-report.pdf (accessed 26/02/2023).

been demonstrated to not just be a general aversion to parks among all UK populations, because a 2019 report by Natural England reported (based on their interviews with thousands of participants, including over 60,000 black and minority ethnic people) that ethnic minorities have on average 11 times less access to green spaces.⁷

This sort of distributive injustice could be a direct result of the uneven distribution of urban natural landscapes.⁸ This is indicated by Natural England's report, which demonstrates that only 19% of England's minority ethnicities strongly agree that there are green spaces within easy walking distance of where they live, whereas white respondents to Natural England's survey were almost twice as likely to say so.⁹ Our project tackles this complex and challenging issue by providing participants (including several POC, as well as queer and disabled people) immediate access to natural materials, as well as developing an understanding of what makes public green spaces attractive to them. Although we were not able to achieve a 1:1 version in the confines of this AcrossRCA unit, we were able to channel our creative skills into a valuable contribution to fulfilling our social responsibilities, specifically by trying out our experimental model-making methodology for gathering insights into the design preferences of ecologically under-represented communities, while simultaneously giving them a health-enhancing natural experience.

⁷ Rose O'Niell, 'Natural England: Monitor of Engagement with the Natural Environment: The National Survey on People and the Natural Environment: Headline Report' (York, 2019), https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/828552/Monitor_Engagement_Natural_Environment_2018_2019_v2.pdf (accessed 26/02/2023).

⁸ Nadja Kabisch and Dagmar Haase, 'Green Justice or Just Green? Provision of Urban Green Spaces in Berlin, Germany', *Landscape and Urban Planning*, 122 (Amsterdam, 2014), 129-139.

⁹ O'Niell, 'Natural England: Monitor of Engagement with the Natural Environment: The National Survey on People and the Natural Environment: Headline Report', p. 12.

Secondly, participatory justice relates to whether all user groups are included in the decision-making processes of environmental design. The prevalent centring of this planning power in the hands of few individuals in local governments has resulted in the common underrepresentation of marginalised groups.¹⁰ Our Communal Ecologies project addressed this issue by providing participants from marginalised groups with an opportunity to make their own design decisions (albeit within the parameters of what materials we had available), which we could introduce to town planners in order to construct this model on a 1:1 scale. Additionally, our project provides an example of our experimental model-making methodology, which could be replicated on a wider scale, such that more participants could gain agency in a wider range of urban natural landscape constructions.

Lastly, recognition justice regards the meaningful consideration of the needs and preferences of all groups of users to create an inclusive environment. Reports mention that queer people, ethnic minorities and Muslims are more likely to suffer from discrimination and could feel uncomfortable and insecure in some public spaces.¹¹ For example, a recent survey by the University of Chicago found that a third of queer and over half of transgender people actively try to avoid public spaces.¹² By including participants from a range of marginalised groups (albeit in a small sample size of 12), we

¹⁰ Jakub Kronenberg, Annegret Haase, Edyta Łaszkiwicz, Attila Antal, Aliaksandra Baravikova, Magdalena Biernacka, Diana Dushkova, Richard Filčak, Dagmar Haase, Maria Ignatieva, Yaryna Khmara, Mihai Razvan Niță, Diana Andreea Onose, 'Environmental Justice in the Context of Urban Green Space Availability, Accessibility, and Attractiveness in Postsocialist Cities'.

¹¹ Jakub Kronenberg, Annegret Haase, Edyta Łaszkiwicz, Attila Antal, Aliaksandra Baravikova, Magdalena Biernacka, Diana Dushkova, Richard Filčak, Dagmar Haase, Maria Ignatieva, Yaryna Khmara, Mihai Razvan Niță, Diana Andreea Onose, 'Environmental Justice in the Context of Urban Green Space Availability, Accessibility, and Attractiveness in Postsocialist Cities'.

¹² Lindsay Mahowald, Sharita Gruberg, and John Halpin, 'Center for American Progress: The State of the LGBTQ Community in 2020: A National Public Opinion Study' (Chicago, 2020), p. 12, <https://cdn.americanprogress.org/content/uploads/2020/10/02103624/LGBTQpoll-report.pdf> (accessed 26/02/2023).

explored how an environment can be fostered that encourages inclusion and safety in general, as well as considering how differing needs between groups can be negotiated in ways that do not exclude certain people in favour of the preferences of others.

Therefore, we designed an activity that incorporates distributive, participatory and recognition justice. In these ways, Communal Ecologies invited people, especially from marginalised groups, to be the decision-makers as they interacted with our model. In addition to the benefit of agency that this afforded them, our project also provided participants with immediate health benefits through interaction with natural materials, such as the leaves, twigs, bark, and moss we foraged.

Development of Ideas in Response to Feedback

We were glad to have received some valuable feedback from our tutor and peers throughout the course of our project's development, which catalysed our critical thinking about our creative practice. We particularly appreciated the responses garnered following the presentation of our ideas in seminars. While mainly positive, some responses were very constructive and encouraged us to think deeper about our outcome.

For example, we were questioned on the size of our model and the reasoning behind the 1:8 scale model form. Our peers were unsure if it would be the most efficient way to communally address unequal access to green spaces, since such a small model appears more exclusive. We consequently re-evaluated the dimensions of our outcome and (although we determined that a 1:1 scale version would not be achievable within the confines of our AcrossRCA unit) we agreed on the idea of our smaller model being a prototype for a larger version.

Due to time constraints and space availability, we opted for a one-day event hosted within the RCA, but we believe that this project has greater potential. Being a portably sized model, it could be taken to different collective and shared spaces, such as public parks and community centres. We were asked by our peers how we would move the model, and after reflecting on whether creating a bespoke wooden box would be necessary, we realised that (since all the components such as twigs would be removed from the model between each participation and kept in Tupperware boxes) our very stable base for the model could be simply carried in a large bag, nestled among boxes of foraged components. Through this portable interactive activity, we could continue to include more communities that are often excluded from green spaces. For example, in the future, we would be interested in making more of an emphasis on participants with disabilities (as well as our current POC and queer focuses) and reaching beyond the students and staff of the RCA.

As prompted by our tutor's feedback, we thought about how our project could be propelled into wider possibilities by constructing it at a bigger scale. One day, we could realise a 1:1 version of the project. If we were able to secure an outdoor location, we could propose a real environment and invite members of marginalised communities to configure an inclusive space and create a fully immersive experience. Based on the same concept of the interactive miniature mock-up, it could additionally become a foraging activity. Collecting materials from different parks around the city was an integral component of our group's work on the prototype we put together, and by inviting participants to join us in this foraging stage they would be further exposed to the health benefits of interacting with nature. Moreover, our methodology could be implemented by

others, thus opening the potential of the initiative to a global remit. We hope that as we share our project on the AcrossRCA digital platform, it may inspire creative practitioners across the world who are working on increasing the diversity of access to public natural spaces.

In other reviews, peers raised some concerns regarding the involvement of participants in strenuous physical participation such as heavy lifting. It has always been important for us that all contributors feel safe and enjoy their experience. As a result, we chose to make neither the foraging nor nurturing of natural materials mandatory for participants.

Moreover, we cleared a space within the room we booked for the participation day, such that there was room for wheelchair users to move around the model, and we ensured it was placed on a plinth that was accessible from wheelchair height.

Lastly, one group of our peers suggested that we think more practically about the sensory potentials of our model, especially concerning how it is too small to easily accommodate things like speakers while still being flexible enough for participants to reconfigure their arrangement. After reflecting on this point, we decided to focus on the senses of touch and sight, since our research found these to be central to nature's healing capacities of arousal and attention restoration. To do so, we provided a range of lighting effects for participants to choose from, as well as intentionally foraging and constructing elements with a variety of textures and colours—such as moss-covered bark, ragged grey stones, saturated oil-paint-coated wooden symbols, and when we sanded the pyrofoam base it unevenly melted which afforded the base an organic topography of rough ground.

Moreover, we still included other senses through participants ingesting (through breathing

around our foraged materials) microbes, as well as providing a bag of cedar leaves to smell, and a range of natural soundscapes for participants to choose from.

Construction Process of the Model's Base and Elements

After deciding that a model would be the most appropriate artefact to see our proposal realised within the time and space constraints, we worked collaboratively to incorporate everyone's different creative skills into our interdisciplinary final outcome. Margo provided her brilliant insights (which she had developed through her Interior Design MA at the RCA) into constructing the base, Cas advised from their previous experiences of foraging and co-creative collage projects, meanwhile Allison and Violet applied their skills in photography to document the process of our construction and explore how we could use flexible lighting in the photo studio to allow participants to adjust the warmth of the light to their preference. It was imperative to our group that we were all involved in the process equally and we made sure to meet weekly either in person or via Zoom to discuss our progress and to work collectively to construct the model's base as well as the elements (such as making miniature trees by affixing small leaves to twigs with brown oil-painted masking tape) that participants could arrange on it.

Our construction process began with heading to the RCA shop to purchase materials for the model's base—a sheet of wood and a thick cuboid of pyrofoam. We chose wood to create a solid, thick base that would withstand multiple participants handling it. Pyrofoam was chosen because this was a relatively easy material to penetrate with the toothpicks we superglued to the base of each element, yet it was sufficiently stronger than styrofoam such that it would not disintegrate as participants pierced and re-pierced it. We collectively drew an irregular pyriform outline on the wood and pyrofoam, which Margo

then took to the Wood workshop at RCA's Kensington campus to be cut down to size, using a vertical bandsaw.

Margo used UHU Por Expanded Polystyrene Glue to fix the wood and pyrofoam together, leaving this to set in the wood workshop by placing it between one large metal cast iron press and four Quick-Grip Medium-Duty One-Handed Bar Clamps. Once the glue was dry, we all made our way to the Wood workshop at RCA's Kensington to carve and shape the base down into a more natural landscape. Cas used a Belt and Disk Sander to shave down the sides, eliminating visible glue and aligning the wood and pyrofoam more smoothly. They also used a Bobbin Sander on the concave curves, since this small spherical sander could access all angles of the curve whereas the Belt and Disk Sander was too flat to do so.

It was vital to have different height grades across the entire model to resemble the various landscapes found in nature and to not limit participants in constructing their ideal environments. Our final base form resembles an island with its irregular spherical shape and sloping topographic sides which participants could understand as reminiscent of cliffs or hillsides, but equally, they could be the base of waterfalls and the dips around the centre of the base could be understood as ponds. We all took turns cutting and sanding the base until we felt that it had enough peaks and plateaus all over. Margo served as the supervisor for this process as she was the only one of us with previous model-making experience, but she encouraged all of us to participate and learn from each other. We all used an orbital sander alongside knives and sandpaper to achieve our desired shape. Our next step was to paint a base layer of green and brown to evoke the soil and ground of the natural world.

The most time-consuming aspect of the physical building was working collaboratively to forage and construct natural materials across different public spaces in London. We sought to only collect material sustainably and ethically, being very cognisant of not killing anything alive or from an animal's habitat. We collected fallen branches, twigs, leaves, moss, pebbles, stones, dried berries, cedar, fir, and ivy. As well as providing unaltered materials for participants to construct into symbols themselves, we constructed from our foraged materials as many natural symbols to represent the elements as possible, such that participants had a lot to play with and build their desired natural environment. For example, in addition to the miniature trees made from tape, paint, leaves and twigs, we used brown string to tie twigs together in ways that could be flexibly interpreted by participants (such as thinking of them as fences, or perhaps ladders, bridges, goalposts and climbing frames).

In order to have as many easily manoeuvrable symbols of nature available to participants as possible, we also bought a small box of miniature flat wooden cut-outs representing a wide range of features (some even going beyond nature, for example, aeroplanes and boats) such as flowers, mushrooms, birds and insects. Cas painted most of these with various hues of oil paint. We also repurposed craft supplies we had at home, such as coloured ribbons and thread, which participants could interpret as phenomena like water and fire.

To make the placement of these elements on the model more accessible and less damaging to the model, all wooden elements were glued onto toothpicks for stability. This way everything was ready to be laid out for the participants to play with. We also

welcomed our participants to place any material they foraged themselves and we had green and brown acrylic paint available for anyone to customise anything to their liking. In these ways, we strove to make the model a very flexible artefact.

Participation Day

For our day of interaction, we booked one of the Photography studios at Battersea for the whole day so that we could have a quiet and secure space large enough for movement and encourage escape from the stress of day-to-day life in the college. In addition to tactile play, participants could experience other senses found in the natural world, particularly sight, but also sound and smell. For example, we let participants choose how they wanted to light the model and surrounding space. Allison and Violet managed the lights and gels in the photo studio such that participants could choose between warm and soft light, as well as darkness or natural light.

In terms of sound, each participant was encouraged to select different natural soundtracks that felt the most calming and welcoming to them. This varied from waves crashing against rocks to symphonies of animal and insect noises found in the rainforest. We made sure that the music was in surround sound and limited any other noises in the room so it could feel immersive. For smell, bags of objects like cedar or pine were placed around the studio and often smelled at the beginning or end of their interaction with the model. Thus, with the various elements, everyone was able to customise the model to their liking and display that in physical form and environment with our model.

Although, as previously mentioned, the sample size was small (12), in the interests of completing our trial of our methodology such that future practitioners could replicate it,

we have chosen to outline our analyses of the participants' responses here, at least cursorily. Before we do this though, we should state that our methodology, in sociological terms, is a qualitative study using a phenomenological approach (investigating the phenomenon of ecological marginalisation through design by interpreting design preferences from participants' perspectives) in a semi-structured discussion and co-creation with individual participants, following which we've conducted a inductive thematic analysis of their responses, interpreting patterns of difference between how individuals with marginalised and non-marginalised identities design public natural spaces.

When each participant entered the studio, we provided them with a Participation Information Sheet and Consent Form, and we asked them to indicate whether they identified as POC and/or BAME (Black, Asian, and Minority Ethnic) as well as whether they identified as LGBTQIA+ (Lesbian, Gay, Bisexual, Transgender, Queer, Intersex, Asexual, plus). For both categories, half our participants (6) ticked the box to indicate they identified with this label. A quarter (3) identified as both labels, and a quarter identified with neither. This even balance between participants of marginalised and non-marginalised identities serendipitously provided us with the opportunity to easily compare them and thereby flag up, for example, what aspects of public green space design are preferential to non-marginalised people but are undesirable to marginalised communities.

One of our analyses of participant responses was that, among those who identified with neither marginalised group, most only included one animal—rabbits—and they always included more white than brown rabbits. We also noted that this category of participants often removed from the model a lot of previous participants' materials and talked in terms

of 'minimalism' (Participant 6) and 'cleaning-up' (Participant 2). Moreover, they were not averse to potentially dangerous and disorienting atmospheres, such as a 'park rave' (Participant 6) and a 'magical rainforest' (Participant 1).

In contrast, participants who identified with both marginalised groups most included a wide variety of animals and colours such as blue butterflies, pink swans and brown rabbits, alongside floral bows of orange, yellow, blue, and pink ribbons, and thread. And rather than creating atmospheres of minimalism and perilous excitement, these participants talked in terms of diverse habitats that were 'welcoming' (Participant 3) and 'peaceful' (Participant 4), inspiring 'connection' (Participant 3) and 'joy' (Participant 4) through colourful natural features placed alongside accessible bridges, paths and 'gathering places' (Participant 3).

Of the participants who identified as POC/BAME but not LGBTQIA+, all used a mixture of moss (representing grass) and blue ribbon (representing water), alongside multicoloured threads. One interesting particularity of this category of participants was that they each included an accessible pathway, most of which had a house at the end. For Participant 7, who is a wheelchair user, this house represented the lodging of a park support worker, who could assist park visitors, especially in terms of navigating from the central accessible pathway (of orange ribbon) to the remainder of the park.

Lastly, our non-POC/BAME LGBTQIA+ participants all included a community space for congregation, whether that be seating around a fire or on a beach. Moreover, each included an interactive water feature—such as a pond with a deck for people to jump from (Participant 12) or a sea to swim in (Participant 10)—alongside the shelter of trees—

such as setting them around the whole edge of the model for 'safety' (Participant 8) or an array of 'shady' trees located by a beach (Participant 10).

Thus, implementations of our study can obtain valuable insights into people's preferences for designing natural landscapes, particularly in terms of what would better suit those conventionally marginalised from urban green spaces. For example, our analyses of our small study suggest that non-POC/BAME and non-LGBTQIA+ people have a tendency towards minimalism, uniformity and perilous excitement which is not shared by POC/BAME and LGBTQIA+ individuals. Moreover, all our LGBTQIA+ and POC/BAME participants' models were permeated with notions of accessible transport, community connection and diversity of colour and species. Perhaps further iterations of this study will similarly find that the design preferences of non-marginalised individuals towards cleanliness and potential danger (somewhat akin to a well-functioning rollercoaster park), if followed exclusively by town planners, would exclude marginalised individuals who seem to find peace in diversity and safety rather than seeking excitement in uniform thrills. Perhaps instead future studies might find their participants' responses lead researchers to draw entirely different conclusions. We invite practitioners across the globe to take up this mantle, attempting this study themselves, sharing their findings and thus furthering our initiative to use co-creative design to challenge the marginalisation of certain identities from public natural spaces.

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