NATURES OF THE DATASPHERE
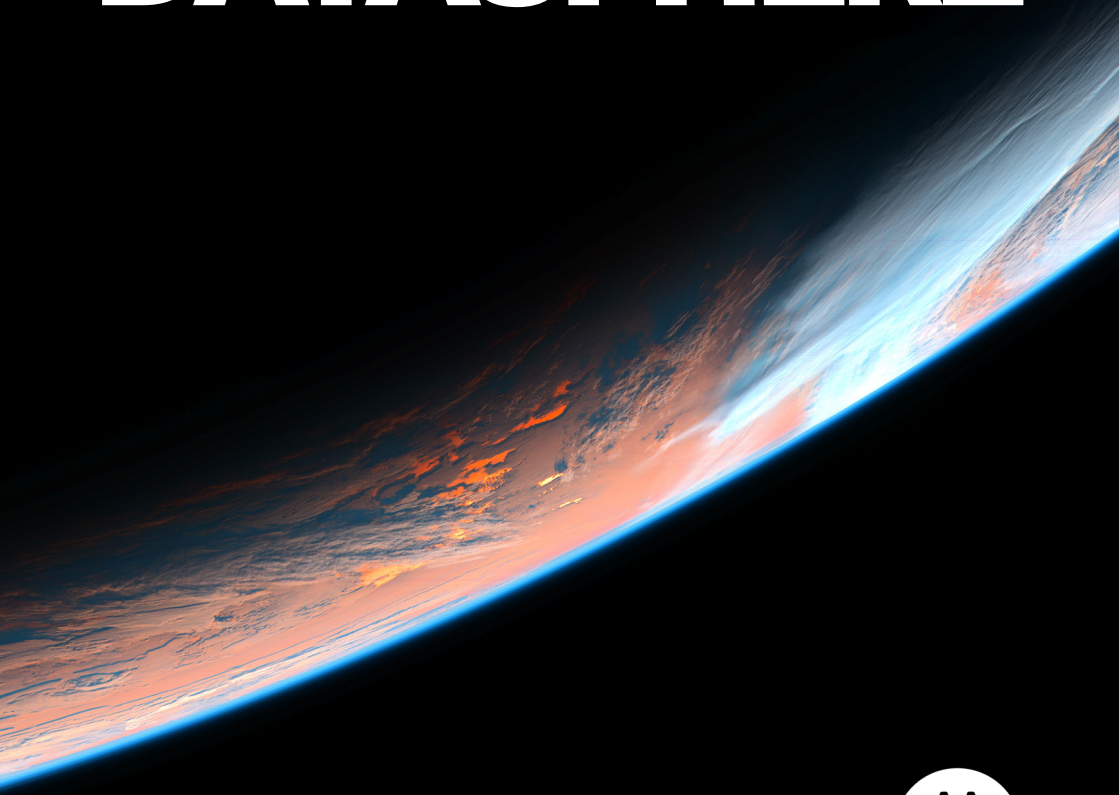
ACKNOWLEDGMENT OF COUNTRY

We acknowledge the Traditional Owners and custodians of Country throughout Australia and their continuing connection to land, waters and community, especially the Wurundjeri and Boon Wurrung peoples on whose land the Melbourne School of Design stands. We pay our respects to the people, the cultures and the Elders past, present and emerging.

And then something occurred to us. The climate changed.

Sadie Plant, 'Zeros & Ones'

Knowledge of the hyperobject Earth, and of the hyperobject biosphere, presents us with viscous surfaces from which nothing can be forcibly peeled. There is no Away on this surface, no here and no there.

Timothy Morton, *Hyperobjects: Philosophy and Ecology After the End of the World*

Unit 2 will be a 10-day digital-only studio that challenges students to examine the specific ways in which catastrophic climate change will impact the settlements in which they live. Students will develop a critical position on their research and present and package their work in a compelling digital and web-native format, making creative use of GIS and photogrammetry software.

A 3° world

According to a recent report by the Australian Academy of Science, the Earth is set to heat by 3°C above the pre-industrial average by the end of 2100 — even if the pledges of the signatories of the Paris climate accords are met on time.

In a 3° degree world, extreme weather events such as floods, heatwaves, bushfires, and storms will increase in frequency and intensity, with pronounced effects for cities.

These extreme events will not occur in isolation but compound one another. For example, elevated sea level in combination with longer cyclones will prolong and deepen the effects of coastal flooding. Increased dryness and higher temperatures in combination with changed wind patterns will make record bushfire events more likely.

Unit 2 will explore with students the contentions that spatial practitioners are well placed to both visualise and communicate these effects and to work in concert with experts in other fields to mitigate and adapt to them. The studio will embrace the digital as an environment with unique possibilities for sharing and collaborating with peers.

Students will be taught how to use GIS software, with which they will be able to visualise, analyse and export different forms of geodata. Students will also be taught photogrammetry software, with which they will be able to document and share findings from their own neighbourhood in a digital environment. They will then be encouraged to resist the biases of those technologies in pursuit of their own critical position.

Through research, lectures, and dialogue with one another, students will engage with a number of key concepts, such as the hyperobject of climate breakdown, the anthropocene and the challenges it poses for long-standing ecological thinking, and the complexity and interrelation of the constituent parts of the Earth system.

A nonlocal studio

Separated by the shape of the Earth itself, Unit 2 will operate in two time zones. This spatial-temporal split will not be without its challenges. But long after the pandemic ends, we will continue to live in a deeply interdependent, digitally interfaced world. The tools we develop in Unit 2 will serve us to better connect, commune, and exchange with peers and colleagues around the world — indeed, the hyperobject of catastrophic climate change demands nothing less.

The world is always new [...] however old its roots.

Ursula K. Le Guin, 'The Word for World is Forest'

BEFORE WE GET STARTED

A studio across time

Please note that the tutors will be on British Summer Time (BST), which is **9 hours** behind Australian Eastern Standard Time (AEST). On occasion, we will check in with you in the AEST early morning. You will be expected to work self-directed throughout the AEST day, making use of the Unit's digital resources, before connecting with us in the AEST evening / BST morning for live tutorials, crits, lectures, and general software troubleshooting.

Required hardware and software

Unit 2 requires the following programs, which work on both Windows and macOS:

- **QGIS 3 (latest stable release).** This is a program for making use of geographic data (also known as geodata). It is a free, open-source program.

- **Adobe Creative Cloud** (including Photoshop, InDesign, Illustrator, After Effects & Premiere Pro). You should have access to all CC programs through the university.

- **Blender.** This is a program for 3D modelling, animation, and visualisation. It is a free, open-source program.

- **Agisoft PhotoScan or MetaShape*.** This is a program for translating photographic images into digital 3D models (a process known as photogrammetry).

Please download and install — **and then try to open** — each of these programs. If you have any issues installing or opening the software, get in touch with us straight away so we can help you ahead of time. Finally, it is **very important** you have lots of space on your hard disk drive — so grab an external HDD if space is low on your machine.

* We will provide this software separately.

WEEK ONE SCHEDULE

Timezone		Monday 05.07.2021	Tuesday 06.07.2021	Wednesday 07.07.2021	Thursday 08.07.2021	Friday 09.07.2021
London (BST)	Melbourne (AEST)					
00:00	08:00	• Kick-off and introductions • Brief for T1	• Research Day • Work on T2	• Research Day • Work on T2	• Work on T2 • Prepare for tutorials	• Short check in
01:00	09:00					
02:00	10:00	• Watch lecture • Work on T1 • Get all required software				• Work on T2 • Prepare for tutorials
03:00	11:00					
04:00	12:00					
05:00	13:00					
06:00	14:00	↓		↓		↓
07:00	15:00					• Short Tutorials
08:00	16:00	• T1 Presentation • Software check & brief for T2	↓	• Unit 2 Lecture	↓	
09:00	17:00					
10:00	18:00	• Welcoming from MQ & PL	• Lecture (AAVSM)	• Lecture (AAVSM)	• Lecture (AAVSM)	• **MIDTERM REVIEW**
11:00	19:00					
12:00	20:00			• Tutorials	• Tutorials	
13:00	21:00					• Review debrief • Brief for T3 & weekend readings assigned
14:00	22:00					
15:00	23:00					
16:00	00:00					
17:00	01:00					
18:00	02:00					
19:00	03:00					
20:00	04:00					
21:00	05:00					
22:00	06:00					
23:00	07:00					

WEEK 1 TASKS

TASK 1 (T1) – By way of introduction (1 day)

Using the Miro template assigned, you will collect images related to your reading of the Unit 2 brief, your own preoccupations, and your location in the world. At the end of Monday, you will present this collection for 7 minutes (2 mins for an introduction of yourself, 5 mins on the collection).

TASK 2 (T2) – Datasphere immersion (3 days)

Having followed the first GIS tutorial (and troubleshot any early challenges with the tutors), you will make your first GIS map. Depending on location, you will be grouped with other students, and together you will find datasets such as digital elevation, infrastructure data, administrative and statistical boundaries, and weather and climate data. You will present your collated data back to the unit with your first intuitions and observations.

TASK 3 (T3) – The scanner way (1-2 days)

This task has two parts:

- Part A: Local COVID-19 rules permitting, you will find in your neighbourhood an object or building that distils an element of your research so far. Having followed the first photogrammetry tutorial, you will make a 'scan' of this object or building using your phone's camera.

- Part B: You will find a video or film documenting an object or building that distils an element of their research and process it using photogrammetry software, producing a point cloud and mesh.

WEEK TWO SCHEDULE

| Timezone		Monday 12.07.2021	Tuesday 13.07.2021	Wednesday 14.07.2021	Thursday 15.07.2021	Friday 16.07.2021
London (BST)	Melbourne (AEST)					
00:00	08:00		• Check-in on T4			• Final check-in
01:00	09:00	• Work on T3	• Work on T4	• Work on T4		• Work on T4
02:00	10:00					
03:00	11:00				• Work on Task 4	
04:00	12:00				• Prepare for Tutorials	
05:00	13:00					
06:00	14:00					
07:00	15:00					
08:00	16:00	• Tutorials • Brief for T4			• Final tutorials	
09:00	17:00					
10:00	18:00	• Lecture (AAVSM)	• Lecture (AAVSM)	• Lecture (AAVSM)	• Lecture (AAVSM)	• **FINAL JURY**
11:00	19:00					
12:00	20:00				• Final tutorials	
13:00	21:00					
14:00	22:00					• Debrief and farewells
15:00	23:00					
16:00	00:00					
17:00	01:00					
18:00	02:00					
19:00	03:00					
20:00	04:00					
21:00	05:00					
22:00	06:00					
23:00	07:00					

WEEK TWO TASKS

TASK 4 (T4) – Thesis

Throughout the course of the studio, you will be expected to work on a condensed thesis that captures your own position on the agency of architecture in the context of catastrophic climate breakdown. This will not be a dissertation, or 1000s of words of writing — rather, it will be a coherent argument expressed through visual media and presentation.

Throughout Week One, as you work through GIS and photogrammetry work, we will discuss with you your first thesis intuitions. From Week Two, we will work directly on developing the thesis, grounding it in the software and rhetoric you have developed in Week One.

How you develop the thesis will be up to you, but we will require two broad components: a small amount of text and your own, authored imagery (still or moving).
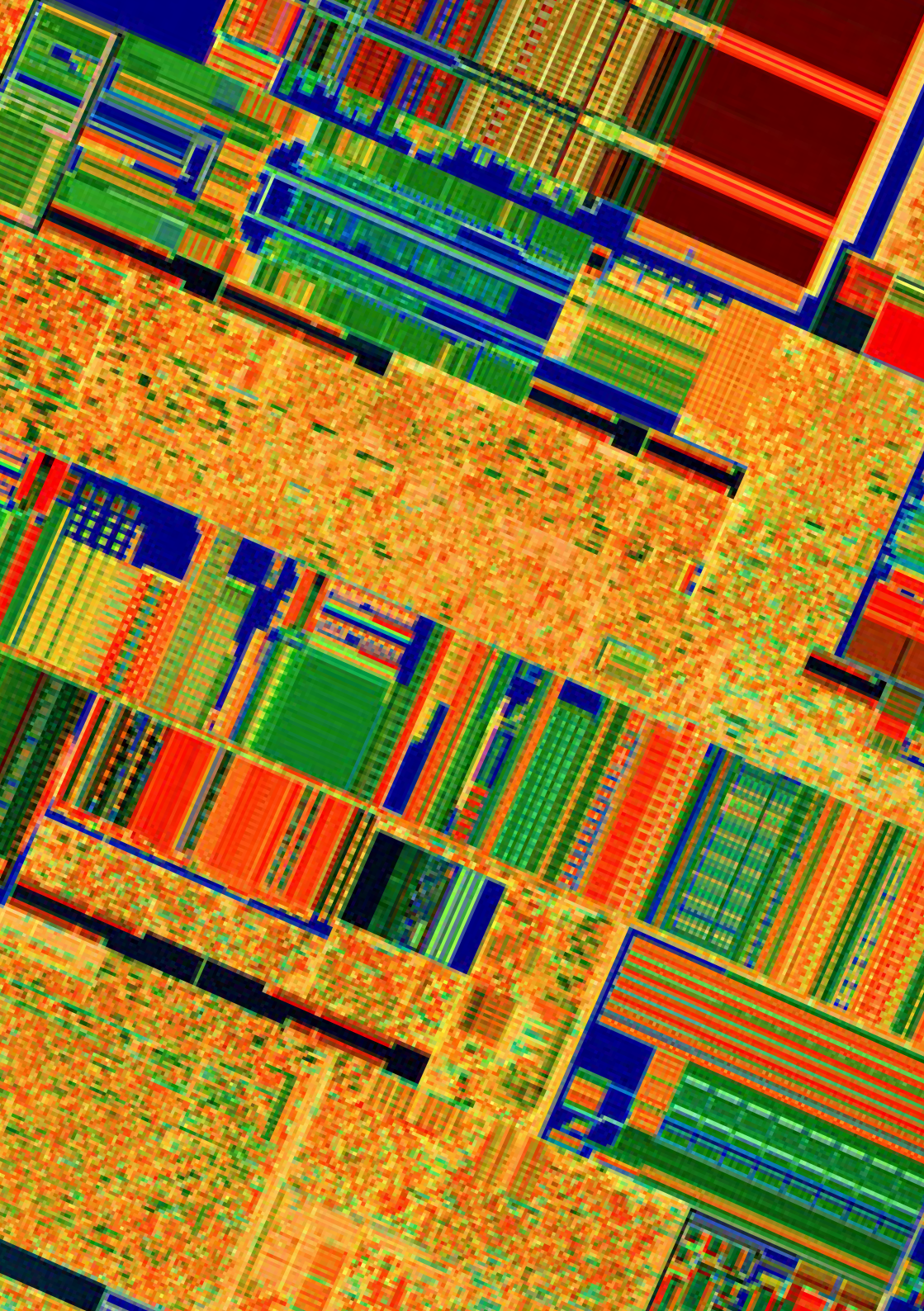
It is necessary to reconceptualise […] the violence invoked whenever we speak of environmental damage. [To consider nature as an objective thing out there beyond us] is to ignore the very ecological relations that already characterise the specifically human or socio-political realm.

Tim Matts and Aidan Tynan, 'Geotrauma and the Eco-clinic: Nature, Violence, and Ideology,'

About us

Oskar Johanson (AA Dipl'19) is an Australian-British designer, writer, and educator. He is a Research Fellow at the Gerrit Rietveld Academie. With Adolfo Del Valle, he co-directs the Architectural Association Visiting School Sydney. His essay 'Degenerate Ark' won first prize of *The Avery Review* Essay Prize in 2019 and is currently being adapted for an exhibition at Het Nieuwe Instituut, Rotterdam. From Sydney, he lives in London.

Adolfo Del Valle Neira (ARB/RIBA Part I, UdK MA'20) is a Peruvian-American architect and writer. He is a collaborator at Raumlaborberlin and currently works for ZUsammenKUNFT eG on the About Urban Praxis project at the Haus der Statistik. With Oskar Johanson, he co-directs the Architectural Association Visiting School Sydney. He was a core team member for the Making Futures Summer School at the Haus der Statistik, Berlin. His work on Making Futures will feature in an upcoming publication published by Spector Books in autumn 2021.

Image credits:

Cover: Earth on 3 January, 2020, imaged by the geostationary satellite Himawari-8. (Image: JMA)

Page 3: A man paints over the sign of Musgrave Park, Brisbane, in the 1980s, to replace it with the words 'Aboriginal Land'. (Photo: State Library of Queensland/Bob Weatherall)

Page 4–5: Still from **Akira** (1988), dir. Katsuhiro Otomo.

Page 8–9: A procedurally generated forest. (Image: Franz Siebler, with Adolfo Del Valle)

Page 10: Composite image showing ship positions and other geographic data on the east coast of Florida, 2019. (Image: Oskar Johanson)

Page 17: A microprocessor die under a microscope. (Image: NHMFL)

Page 19: Aerosols released by Australian bushfires in 2020 (red). (Image: William Putman/NASA's Goddard Space Flight Center, adapted by Oskar Johanson)