



Reflective essay

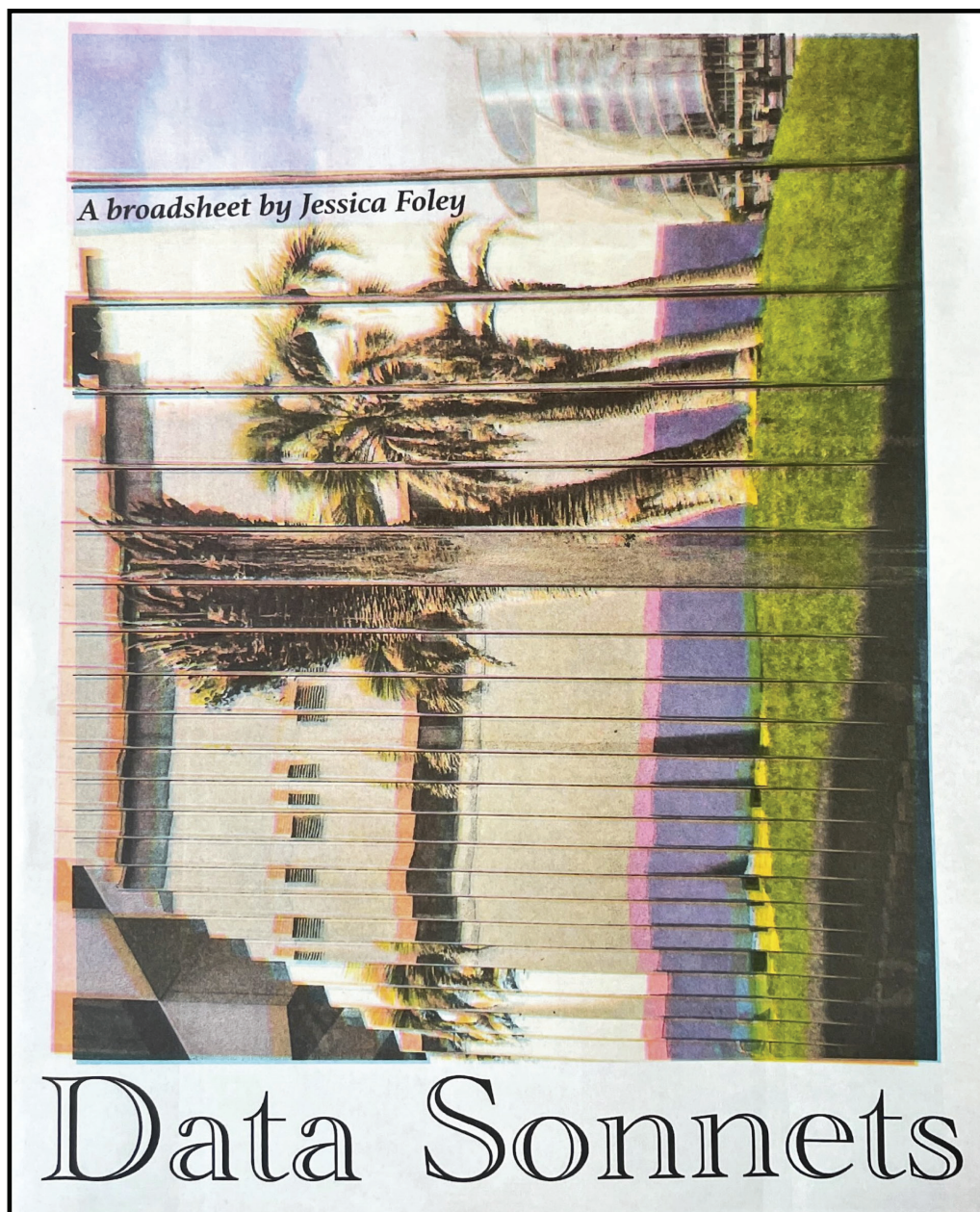
# DATA SONNETS

(of a city dashboard)

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## About

A reflective essay (2019–2025) on research–creation with the Building City Dashboards team at Maynooth University (2018–2021).



**Figure 1:** An image of an unfolded Data Sonnets risograph featuring the inside poster design.

Data Sonnets (2024) is a risographic zine combining poetry and image, created from fragments of writing produced by researchers on the Building City Dashboards<sup>1</sup> project at Maynooth University. The fragments were written in response to prompts devised through an Engineering Fictions<sup>2</sup> workshop in June 2019, which took place in the Russel Library at Maynooth University, Co. Kildare.

The workshop was based on the seed-topic ‘fuzzy persona’.<sup>3</sup> The function of the Fuzzy Persona workshop was to open up questions, with the Building City Dashboard team and other interested participants, regarding the reliability of quantitative geodemographic data and persona design techniques, thereby providing insight on the ‘actually lived experiences’ of inhabitants of Dublin city. The workshop invited participants to consider *how and whether they could imagine and describe a person who would use a city dashboard*, much like a UX designer might construct a persona to help anchor and inform the design of a large-scale, abstract system like a city dashboard.

The prompts for the writing exercise were co-devised with researchers from the Building City Dashboard team, Dr. Gareth Young and Dr. Burcin Yazgi Walsh. The team drew together character design templates from fiction (Margaret Atwood), techniques of persona poetry<sup>4</sup> (Tyehimba Jess), and a UX persona design template (Dr. Gareth Young). The prompts were then informed by the language of quantitative, geodemographic data (Dr. Burcin Yazgi Walsh).

The poems, examples of which are given at the end of this essay, were co-written by the participants of the Engineering Fictions workshop, principally members of the Building City Dashboards team. The written materials generated through the Fuzzy Persona workshop have been edited and applied in my compositions. With permission from the workshop participants, I have shaped the fragments into sonnet form, using a process of cut-up technique and removal.

This exploratory research-creation work was made possible by a Government of Ireland Post-doctoral Fellowship funded by the Irish Research Council in partnership with Maynooth University from 2018–2021 (inclusive of maternity leave). My thanks to all those who have participated and supported this process.

What follows is an essay of creative non-fiction, reflecting and parsing the context out of which these poetic fictions, these Data Sonnets, emerged. The purpose of

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1. Maynooth University, “The Project,” *Building City Dashboards*, accessed 27 March 2025, <https://dashboards.maynoothuniversity.ie/the-project>
  2. Jessica Foley, “Introduction to Engineering Fictions,” accessed 27 March, 2025, [https://engineeringfictions.org/about/0\\_home/](https://engineeringfictions.org/about/0_home/)
  3. Jessica Foley, “EF #2.19 Fuzzy Personae,” *Engineering Fictions*, 30 May 2019, <https://engineeringfictions.org/2019/05/30/ef2-19-fuzzy-personae-tues-4th-june-2-4-30pm/>
  4. Michael Frazier, “It’s not a Mask if you Wear it Right,” *The Poetry Foundation*, May 1 2024, <https://www.poetryfoundation.org/poetrymagazine/articles/162474/its-not-a-mask-if-you-wear-it-right>

this reflective essay is not to present an interpretation of the fragments generated through the Fuzzy Persona workshop, or to explain their meaning. It is more so an effort to make a partial record of the declarative poetics generated by the *Engineering Fictions* process, as I co-critiqued and co-created with the *Building City Dashboards* team, and to demonstrate our efforts to foster an environment for shared critical thinking, creative production and collaborative storytelling.

*Jessica Foley, Dún Laoghaire, Ireland. March, 2025.*

*Writing a poem is like holding a shield up as you go into the world.*

Marilyn Nelson

# I

## webs

Dublin, Ireland. July, 2021. The country is experiencing a heat-wave. Met Éireann have issued a Yellow Weather warning for high temperatures. There are gorse fires burning up the coast in Howth. There are floods in parts of Europe, as a Heat-Dome settles over parts of North America and Canada. The head of forecasting here warns that night time temperatures will remain high and humid. She says;

It's the night-time, people are finding it hard to sleep, vulnerable people, sick people and children. Let's say most people are trying to go to bed between 10pm and midnight, the temperature is still 25 degrees.<sup>5</sup>

My daughter will be two years old in September. After a restless and vocal sleep, we negotiate clothes and nappy changes, porridge, shoes and sunscreen. My daughter insists on porridge, even in hot weather. I am strangely proud of this. We stick to the shade on our way past the red-brick houses towards crèche, singing an idiosyncratic medley of 'The Wheels on the Bus,' counting cats as we go. I park the buggy beside the wrought iron railings and pull on my facemask before nudging the door-bell with my knuckle.<sup>6</sup> As I move to unclip my girl from her buggy, she points and jabs her finger towards a spiders web, cast between the railings. Slant-eyed at me, she sing-songs (do-mi-re):

*don't  
trust  
it!*

Don't trust it, Mammy!, she says, brimming with a secret cunning about webs. She is pretending. She does this to find out more. She makes an assertion about something in order to learn more about the situation, but she is very convincing. Sometimes I forget that this is our game, and I forget to offer her further context or information, such as:

*You see, this is the door to the spider's house. They spin it from silk that they make with their bodies. The webs are not dangerous, but its best to leave them alone, especially when there's a spider living there.*

5. Hayley Halpin, "Status Yellow and Status Orange High Temperature Warnings Take Effect Across Ireland," *TheJournal.ie*, July 20 2021, <https://www.thejournal.ie/met-eireann-forecast-sun-heatwave-5500142-Jul2021/>

6. In July 2021, Ireland was experiencing the Delta wave of Covid-19. Vaccinations were only beginning to be rolled out across the country, and travel restrictions were gradually being eased across Europe.

And she will reply with: Don't touch it. Don't touch it, Mammy. Today, I am distracted and time-poor and say:

*...yes, well, no, don't touch it... I suppose, oh, hi Jenny, yes, she's in great form, bit of a broken sleep, but all good. Thanks so much! Bye, bye-bye, have a great day! See you later, little girl!*

I push too hard against the phantom weight in the buggy and lunge clumsily forward, already reaching for my phone to check the crèche app.<sup>7</sup>

*Arrival: 8:32am*

The crèche app's dashboard counts the daily care of my daughter: arrival, food, medicine, other.

## II

### dashboards

Maynooth, Kildare. November, 2018. In a small, glass room at the Social Sciences Institute. The smartest building on campus.<sup>8</sup> I sit along one side of a square configuration of tables that creates a void at the centre. This meeting is a kind of focus group on urban dashboard design. I'm all ears and my digits are flying across the plastic keys of my laptop, taking notes. I want to learn about the *Building City Dashboards* project at Maynooth University.<sup>9</sup> Well, sort of.

I think what I actually want to learn about is the role or function or *uses* of poetry and fiction in a world shaped by numerical data. I remain curious about the relationship between language and numbers. I wonder how poetry and fiction, or 'poetic fictions', as Seamas Heaney would say, might help people to perceive the ways ambient technologies mediate their lives.<sup>10</sup> "All technologies mediate," Jacqueline Wernimont (Associate Professor, Dartmouth) says, "insofar as they intervene between us and

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7. Apps are used to create an interface between parents/guardians and care-givers. One such example is the ChildPaths App: <https://childpaths.ie/parents/>
  8. So I'm told. The blinds adjust automatically according to the way a web of embedded sensors perceive sunlight hitting the building. The lights turn on and off automatically in a similar way: Maynooth University, "Social Sciences Institute," accessed 3 June 2026 <https://www.maynoothuniversity.ie/social-sciences-institute>
  9. Building City Dashboards was a research project led by Prof. Rob Kitchen to address how to build more extensive and effective city dashboards. My engagement with the project was often to raise the question of 'whether'. Maynooth University, *Building City Dashboards*, accessed 27 March 2025, <https://dashboards.maynoothuniversity.ie/>
  10. I use the term 'ambient technology' here as an umbrella term that includes internet enabled and data-driven devices, systems and infrastructures, which are often discrete and taken-for-granted in the day-to-day of contemporary life. These are "profound technologies" as computer scientist Mark Weiser states, designed to disappear, weaving themselves "into the fabric of everyday life until they are indistinguishable from it." Rob van Kranenburg, *The Internet of Things: A Critique of Ambient Technology and the All-Seeing Network of RFID* (Amsterdam: Institute of Network Cultures, 2008)

our experiences of the world.”<sup>11</sup> Dashboards do this, they mediate. Through numbers and graphics and words. As part of the web of ambient technologies, a dashboard is a technology that intervenes between ourselves and our environment, and it can also help to constitute, shape and make those environments and those selves. An urban dashboard is supposed to act as an interface between all of the different stakeholders and datasets of a city.



**Figure 2:** A screen-capture of the Dublin Dashboard prototype taken from <https://dashboards.maynoothuniversity.ie>

The aim of the *Building City Dashboards* project is “to determine how to build more extensive and effective city dashboards.”<sup>12</sup> I’m learning that since the mid-1990’s, many cities around the world have adopted the use of ‘urban informatics systems’ to measure and monitor activities unfolding in the city. Particular activities that can be measured and counted, like the ‘real-time’ movement of vehicles on roads and in car parks. Or the levels of rainfall falling and accumulating, on rooves, on roads, along gutters.

The Dublin Dashboard, for example, was built in partnership with Dublin City Council and was designed to “enable city officials, the public and companies to explore and analyze the wealth of data generated about the city,” including “indicator data, real-time data, official statistics, public administrative data, and operational data.”<sup>13</sup>

11. Jacqueline Wernimont, *Numbered Lives: Life and Death in Quantum Media* (London, : The MIT Press, 2019), 7.

12. Maynooth University, “The Project.”

13. Ibid.

This dashboard is expected to improve a person's relationship with the city. (In the same way, I suppose, that my daughter's crèche's dashboard is meant to improve my relationship with them). Then someone at the meeting says:

We need a sanity check.

As far as I can tell, from the shift in mood in the room, some people feel that the citizen, as a user of the city dashboard, the lay person, is missing from the design process of urban informatics systems. However, those up to their necks in this particular design process disagree, pointing to the significant work already done in developing 'user personas' for the dashboard. Based on interviews with many different individuals and groups who may use the Dublin Dashboard, they have distilled three 'types' of persona: Novice User, Primary End-User and Advanced User. But the focus group of multi-disciplinary academics seem unconvinced. And the dashboard design researchers seem too tired to argue: "These little things take so much time and no-one sees it or understands".<sup>14</sup> Everyone is just trying to get to their Christmas holidays.

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14. A dashboard developer lamenting the shifting and becoming processes of designing dashboards, quoted in the paper by Rob Kitchin, Sophia Maalsen and Gavin McCardle, "The Praxis and Politics of building Urban Dashboards," *Geoforum* 77 (2016): 99, [https://mural.maynoothuniversity.ie/id/eprint/12169/1/Kitchin\\_Praxis\\_2016.pdf](https://mural.maynoothuniversity.ie/id/eprint/12169/1/Kitchin_Praxis_2016.pdf)

**FOCUS GROUP<sup>15</sup>**

What's the use of a dashboard?

This is one of those — *you don't know*  
*what you don't know*

scenarios.

Why would a person come to a dashboard?

What are their goals?

Are they an educator, a teacher?

Are they a person looking for a home to buy  
 checking to see what the neighbourhood is like?

This is a sanity check.

You need to talk  
 to the public — But you're afraid.  
 You're wondering — *how do I do that?*

Well first of all  
 don't let them see  
 the dashboard. Ask instead —  
*what would you like to know*  
*about dashboards?*

Of course you feel too close to it all  
 This is — *wood-for-the-trees* stuff.

You've lost sight of your users

It's been niggling at you for a while  
 What you have here is an artifact that needs iteration  
 And you need to talk to people  
 all those possible users

You've been very data focused

You want your data to migrate  
 from dashboard 1.0 to dashboard 2.0

with integrity  
 You want it to be trustworthy — reliable —

You're focusing on the problem  
 data collection and storage  
 cleaning it all up  
 making sure it comes in correctly

That's all understandable  
 all necessary —

But you can lose  
 the foundation

Here's where we need a sanity check —  
 To pull you back from the tech back to the baseline

15. A poem composed from verbatim notes transcribed during a Building City Dashboards meeting to discuss the dashboard design.

You're worried if you design for too specific a user  
you might miss the mark —

Asking questions like:

*Have you ever been to a county council website or dashboard  
before?*

and *Why did you go?*

and *What did you expect?*

and *What would you like to know?*

and *What do you want to know about traffic in the city?*

will help you

to draw out the purpose

of this tool —

You can ask

how they'd like to see the information —

how they want to link

with services — *Arts & Culture* didn't feature

on other dashboards

so you didn't include it —

now it's an *echo-chamber* design

modelled purely on existing dashboards

Fundamentally this project is about learning

*what a dashboard is*

and *how to make one*

and *you're doing that in the real-world —*

*you're actually building it*

*and studying the process*

*at the same time*

That's very difficult *It's very honest —*

*and people love that*

Focus on citizens

as your largest audience

satisfy their needs

Then the people in the councils will be happy

because the citizens are engaging positively

you aren't locked in

It's not too late

to tweak —

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III**declarations**

Dublin, Ireland. July, 2021. Walking home, I come to think that I approach learning about ambient technology in the same way my daughter approaches spider webs. To those who seem to be in-the-know about telecommunications and base-stations disguised as trees, I point – and then I make some kind of declaration. In doing so, I'm fishing for feedback, looking for someone to correct me, or agree with me, or inform me further, or otherwise. I make a declaration, often an extremely ignorant one, and welcome any information or insight that can help me build up context, history and meaning around the technology.<sup>16</sup> I make naive declarations to those 'in-the-know' to provoke a critical response, a conversation. In a way, I am practicing the 'virtue of politeness', in the same vein as philosopher of science, Vinciane Despret. This declarative call-and-response of mine can also be understood as a form of study that explores "how beings render each other capable in actual encounters."<sup>17</sup> It is a practice that seeks to enlarge ways of thinking and knowing, it is a method of ingenious invention, and as such, it is perhaps a new form of engineering – a way of *engineering fictions* with others in order to achieve understanding, though not necessarily consensus.

The people I have sought to learn from, and with, about dashboards and data-technologies might be totally immersed, practically and/ or theoretically, in the worlds of ambient technology: mad about things like smart cities, with their multi-tasking bins and street furniture; or cryptocurrencies, blockchains and NFTs; or the algorithms and A.I. that search and sort and organise data to make specific things happen. And they may also express scepticism, even pessimism, about so-called ambient technology, as well as towards the absence of political and corporate willingness to address the ethical and environmental trade-offs between neoliberal politics and climate change, or, state security, civil liberty and personal privacy. I can't begin to fathom the trade-offs between social-media use, data-centres, deforestation and energy waste. It's overwhelming to think about. Mostly, the people-in-the-know that I encounter oscillate in-between many positions. They live in the complex grey-space of inquiry, where the cost-benefit analysis of ambient technology remains contested and unresolved. Troubling and troubled... or ignored.

In the context of this uncertainty, I've created a framework that helps people, regardless of their knowledge about such things, to make declarations and provoke creative feedback on the role of ambient technology in their lives. The framework takes the form of a writing workshop called *Engineering Fictions*. These workshops

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16. Though I have yet to develop this connection, the work of cultural communication scholar Edward T. Hall seems pertinent here, in particular his discussion of high-context cultures and low-context cultures. Edward T. Hall, *Beyond Culture* (New York: Anchor Books, Doubleday, 1976).

17. Donna Haraway, "A Curious Practice," *Angelaki: Journal of Theoretical Humanities* 20, no. 2, (2015): 5, <http://dx.doi.org/10.1080/0969725X.2015.1039817>

create a meeting-place where people from different backgrounds, cultures and areas of expertise can come to terms with experiences of technology, albeit by indirection. For me, a writing workshop is a session, as in the sense of a traditional Irish music session, where people come together and play. Only with Engineering Fictions, the music comes out of the prosody of conversation and silence, and the bodily noises of writing along with others. I believe these sessions support individuals to make declarations that speak to the feeling of technology and the limits of humanity to deal with these feelings, whether you're in-the-know or not. These sessions encourage an appreciation of difference, transforming conflict, contradiction and complexity through dialogue, reflection, and the practice of constraint-based writing and reading. They offer people an opportunity to explore the lived conditions and contours of ambient technologies through a creative practice of appreciation, apperception, and attunement.

Within the Engineering Fictions framework, technology becomes subject to an improvisational process of ekphrasis – inviting both contributors and participants in each session to involve the “irrational part of the brain (that is, the unconscious mind)” through constraint based writing techniques.<sup>18</sup> The framework and process of each Engineering Fictions session, while too lengthy to articulate here,<sup>19</sup> is such that supports participants to “exist outside themselves” and “to detach from their individual narratives.”<sup>20</sup>

Ironically, though, the shape of these sessions is undoubtedly conditioned by my own grainy life experience and saturated with an eagerness to make sense and communicate, to share non-sense and understanding, to make stories with others, and perhaps become transformed by learning. However, they are also perforated with a personal struggle and confusion that is bound up in processes of ‘becoming’ female (girl, woman, other) of having the privileges of ‘whiteness’ and relative socio-economic stability, in a conservative, patriarchal (often misogynistic, often hypocritical), largely colonial, Western society.

These sessions have become my means of engaging in a process of intersectional feminist resistance, through language and poetry, working to challenge norms, assumptions and taken-for-granted ideas, both personally and collectively. And so, each Engineering Fictions session signals solidarity with those committed to ‘staying

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18. Janée J. Baugher, *The Ekphrastic Writer* (North Carolina: McFarland, 2020).

19. For further information and insight on how Engineering Fictions works, the *Chapbook Fastidious Inquiry, Weird Compliance*, co-created with the Scottish Universities Insight Institute offers an account of the co-creative process exploring tensions around online surveillance and policing. It also elaborates on working with the Sonnet as a critical form.

Jessica Foley, ed. and designer, *Fastidious Inquiry, Weird Compliance: A Corona of Sonnets by Anonymous* (Dublin: Engineering Fictions and Scottish Universities Insight Institute, 2021), [https://www.scottishinsight.ac.uk/Portals/80/SUIIProgrammes/Digital%20Policing/2021\\_EF\\_FIWC\\_ChapbookFINAL.pdf](https://www.scottishinsight.ac.uk/Portals/80/SUIIProgrammes/Digital%20Policing/2021_EF_FIWC_ChapbookFINAL.pdf)

20. Ibid.

with the trouble', valuing nuance and contradiction, at a time when the world tends to operate in violent binaries.<sup>21</sup>

In the process of preparing an *Engineering Fictions* session, I often think of Audre Lorde's saying that "The Master's tools will never dismantle the Master's house."<sup>22</sup> Lorde's declaration provokes. She argues that by cultivating an "interdependence of mutual (nondominant) differences" it is possible to "descend into the chaos of knowledge and return with true visions of our future, along with the concomitant power to effect those changes which can bring that future into being."<sup>23</sup>

Each Engineering Fictions session makes a declaration that prompts the temporary community of the workshop to spin out ideas, feelings, and fictions, thus conjuring an ephemeral and appreciative context for thinking-through-writing, differently and experimentally, in a time of ambient technology.<sup>24</sup> Engineering Fictions develops an open, yet critical, poetics in relationship with ambient technology. The workshops are engines of indirection and difference-ing; they are about finding, making and challenging meaning, while also seeking to understand the techniques and ecologies that make meaning possible.<sup>25</sup>

## IV

### lyric

Dublin, Ireland. July, 2021. At home, I begin to wonder if dashboards could ever or actually be a form of lyric poetry.<sup>26</sup> A typical urban dashboard can "facilitate the illusion that it is possible to 'picture the totality of the urban domain', to translate the messiness and complexities of cities, underpinned by an instrumental rationality in which 'hard facts' trump other kinds of knowledge and provide the basis for formulating solutions to urban issues".<sup>27</sup> Nonetheless, designers and builders of such systems know that "dashboards...are not simply neutral, technical, commonsensical tools, but rather are framed socially, politically, ethically, philosophically in terms of their form, selection of data, modes of display and analysis, and deployment."<sup>28</sup> Urban

21. 'Staying with the Trouble' is a phrase by Donna Haraway, and the title of her 2016 book of the same title. Donna Haraway, *Staying with the Trouble: Making Kin in the Chthulucene* (North Carolina: Duke University Press, 2016), <https://doi.org/10.2307/j.ctv1lcw25q>

22. Audre Lorde, "The Masters Tools will Never Dismantle The Masters House," in *Sister Outsider: Essays and Speeches*. (Berkeley, CA: Crossing Press, 2007), 110-114.

23. Ibid.

24. Visit <https://www.engineeringfictions.org> for information on the various sessions that have been devised since 2013.

25. Jonathan Culler, *Theory of the Lyric* (Cambridge: Harvard University Press, 2015), 6.

26. I've been reading poet Alice Lyon's essay on filmmaker/poet Hollis Frampton. She says, "Frampton yokes the bardic past to its fibre-optic future," Alice Lyons, "A Keyboard Mind: Hollis Frampton's Gloria! as Lyric Poem," *Poetry Magazine* (2016), <https://www.poetryfoundation.org/blog/from-poetry-magazine/74628/a-keyboard-mind-hollis-framptons-gloria-as-lyric-poem>

27. Kitchin, Maalsen McCardle. "The Praxis and Politics of building Urban Dashboards."

28. Ibid.

dashboards are the product of the people who make them, of “the ideas, instruments, practices, contexts, knowledges and systems used to generate, process and analyze them.”<sup>29</sup> They are partial mediators of particular kinds of information, they act as “translators and engines rather than mirrors.”<sup>30</sup>

They screen what the reader/user “can see and engage with, and what questions can be asked and how the answers are displayed”.<sup>31</sup> “For now we see through a glass, darkly”<sup>32</sup> — dashboards facilitate illusions: “Dashboards do not simply represent urban phenomena, but generate new visions and understandings of the city; they actively produce meaning and do work in the world.”<sup>33</sup> Dashboards are a form of social action — “they deploy a global scopic system of generalised visual forms that occludes certain forms of knowledge and keep black-boxed algorithms, databases, software and design decisions that shape the interface’s look-and-feel and operation.”<sup>34</sup>

Jonathan Culler writes that lyric, too, can be a form of social action, one which “contributes to the construction of a world and works to resist other forms of world-making carried out by instrumental rationality and reified common sense”.<sup>35</sup> Dashboards and screens share a common purpose: “to protect, to shelter, to defend.”<sup>36</sup> Could a dashboard function as a lyrical screen, characterised by indirection, full of dynamic action that sets the darkness echoing?<sup>37</sup> Could writing a dashboard ever be like writing a poem? Could it be, as poet Marilyn Nelson says, like holding a shield up as you go into the world? —

Something you create, but it’s also something that becomes your protection from the pain and ugliness that you have to see. You have to see it, but you also have to, I think, protect your essential innocence. And then after its written and in the world, it can be a shield for other people. It can be what people hold onto when they’re needing something.<sup>38</sup>

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29. Kitchin, Maalsen McCardle. “The Praxis and Politics of building Urban Dashboards.”.

30. Ibid.

31. Ibid.

32. 1 Corinthians 13:12 (King James Version): “For now we see through a glass, darkly; but then face to face: Now I know in part; but then shall I know even as also I am known.”

33. Kitchin, Maalsen McCardle. “The Praxis and Politics of building Urban Dashboards.”.

34. Ibid, citing Johanna Drucker, “Performative Materiality and Theoretical Approaches to Interface,” *Digital Humanities Quarterly* 7, No. 1 (2013): <https://dhq.digitalhumanities.org/vol/7/1/000143/000143.html>

35. Jonathan Culler, *Theory of the Lyric* (Cambridge: Harvard University Press, 2015), 8.

36. Giorgio Agamben, *The Fire and the Tale* (California: Stanford University Press, 2017), 105.

37. Séamus Heaney, “Personal Helicon,” in *Opened Ground Poems 1966–1996*, (London: Faber and Faber Limited, 1998).

38. Kevin Young, Tracy K. Smith, Marilyn Nelson and Terrance Hayes, hosts, “Radical Imagination,” *The New Yorker Poetry Podcast*, Poetry Foundation, 24 July 2020, podcast audio, 46:00, <https://www.newyorker.com/podcast/poetry/radical-imagination-tracy-k-smith-marilyn-nelson-and-terrance-hayes-on-poetry-in-our-times>

A dashboard could be like a poem, but for the fact of the master's tools. And, as the poet Cynthia Dewi Oka says, the lyric is a form that resists totality, "it does not pretend to be objective. It's private. It's idiosyncratic, it's partial and fallible, by definition."<sup>39</sup> Even if it could, I'm not sure a dashboard would ever admit to that.<sup>40</sup>

## V

### protection

Dún Laoghaire, Ireland. March 2025. Dashboards were initially designed as shields. They were protective devices. Professor of Media Studies at the University of Pennsylvania, Shannon Mattern uncovers their material and etymological history. "The term dashboard," she writes, "first used in 1846, originally referred to the board or leather apron on the front of a vehicle that kept horse hooves and wheels from splashing mud into the interior."<sup>41</sup> To think that urban dashboards might still harbour some protective purpose reminds me of the predicament outlined by Audre Lorde of working with the Master's tools. The point is that building technology should always bring to mind this predicament – the predicaments of patriarchy, of imperialism, of racism, of classism, of sexism. The point is that in order to deal with these predicaments, some kind of poetics of difference is required, lyrical or otherwise. These predicaments must be pronounced, one way or another. For the Master's house is a labyrinth, its design legacy is one of disorientation. In order to navigate beyond its thresholds, a special kind of threading and weaving is needed. "If our given experience is a labyrinth," writes Heaney:

...its impassibility can still be countered by the poet's imagining some equivalent of the labyrinth and presenting himself and us with a vivid experience of it. Such an operation does not intervene in the actual but by offering consciousness a chance to recognise its predicaments, foreknow its capacities, and rehearse its comebacks in all kinds of venturesome ways, it does constitute a beneficent event.<sup>42</sup>

If an urban dashboard is supposed to help protectively mediate the dynamic relationship between a citizen and the city, I wonder what kind of protection such a dashboard could offer to a person surviving on the streets of Dublin? What kind of protection could an urban dashboard offer to a mincéir or a migrant? What kind of protection could an urban dashboard offer to a two year old, a six week old, a single

39. Franny Choi and Danez Smith, hosts, "Cynthia Dewi Oka vs. Spectacle," featuring Cynthia Dewi Oka, *VS The Podcast*, Poetry Foundation, 6 July 2021, podcast audio, 1:10:00, <https://www.poetryfoundation.org/audio/156195/cynthia-dewi-oka-vs-spectacle>

40. These questions around the forms of lyric infused the preparatory process of the Engineering Fictions sessions, and perhaps this section is legible in the sonnet "Sue's motto..." presented at the end of this essay.

41. Shannon Mattern, "Mission Control: A History of the Urban Dashboard," *Places Journal* (March 2015), <https://placesjournal.org/article/mission-control-a-history-of-the-urban-dashboard/?cn-reloaded=1>

42. Séamas Heaney, *The Redress of Poetry*, (London: Faber & Faber, 1995), 2.

parent? What kind of protection could an urban dashboard offer to anyone living within the city yet living marginally, beyond its normative governmental “interior”? A dashboard may be an instrument of protection, but it is also a protector of privilege. No longer the apron screening out mud, the dashboard has become a screen that offers, as Mattern puts it, “a graphical summary of various types of information, typically used to give an overview of (part of) a business organisation.”<sup>43</sup>

The official use of urban dashboards in cities contributes to the idea that cities can (or should) actually be run like businesses, that they can be ‘smart’. By using urban dashboards, and all the ambient technologies that ‘plug’ into them, the city is supposed to coordinate its services better, more efficiently and effectively, helped by insights and values drawn from data. As well as this, internal administrative silos are expected to start breaking down. Other things are supposed to improve too, like “security, safety and quality of life.”<sup>44</sup> Urban dashboards are part of a suite of ambient technologies that present the promise of “improved resilience and environmental stability.”<sup>45</sup> Yet this is all within the framework of a neoliberal political-economy. The Master’s House, the Master’s tools. As Graham et al argue:

...the neoliberalisation of city governance and the creation of smart cities raises a whole series of social, political and ethical questions. These include concerns about profit being placed before people and the environment, widening of inequalities between citizens, a loss of rights, and the erosion of democracy, fairness, justice and accountability, the privatisation of public assets and corporatisation of surveillance, the application of predictive profiling and social sorting to deliver differentiated services, and a transfer of risk and liability from the private to public sector.<sup>46</sup>

So, the question of what and whose privilege an urban dashboard protects remains an important, if not urgent one. So too are the questions, “what kind of city do people want to live in?” and “do we really want to live inside a city that behaves like a business?” and if the city becomes more and more like a business, then “what kinds of people live and work there?” What are the people like? How do they see their city? How do they experience their lives as the subjects/objects of smart cities? When Shannon Mattern speaks about what gets screened out of the image of the city through the use of systems like dashboards, I can’t help but feel that the answer is humanity. As Mattern puts it, what gets screened out of cities are:

All the dirty (un-‘cleaned’) data, the variables that have nothing to do with

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43. Shannon Mattern, “Mission Control: A History of the Urban Dashboard,” *Places Journal* (2015): 18. <https://placesjournal.org/article/mission-control-a-history-of-the-urban-dashboard/>

44. Mark Graham, Rob Kitchin, Shannon Mattern and Joe Shaw, *How to run a city like Amazon, and other Fables* (London: Meatspace Press, 2019): 6.

45. Ibid.

46. Ibid.

key performance (however it's defined), the parts that don't lend themselves to quantification and visualisation. All the insight that doesn't accommodate tidy operationalization and airtight widgetization: that's what the dashboard screens out.<sup>47</sup>

Which is why the Building City Dashboards team were reaching towards story work and poetics. They wanted to find ways to help themselves contextualise and re-imagine the partial (oligoptic) vision of the city that the urban dashboard presents.<sup>48</sup> Donna Haraway and many others believe that “we need to take seriously the acquisitions of that kind of skill, emotional, intellectual, material skill, to destabilise our own stories, to retell them with other stories, and vice versa... If ever there was a time, it is surely now, and I think all of us lack many of the skills.”<sup>49</sup> The Building City Dashboards team had sought to build new instruments into the dashboard, new ‘tools’ to enable more people with less experience of dashboards to learn and benefit from the data by filtering through them. Among these tools was the concept of ‘data stories,’ conceived as narratives that illuminate the political and affective dimensions of data, while also inviting people to employ open data as a resource for engaging with and and shaping urban life.<sup>50</sup> Through the Engineering Fictions session, we produced Data Sonnets, songs of a City Dashboard imagined through UX persona design and Margaret Atwood’s guide for creating believable fictional characters.<sup>51</sup> These songs claim only the intention to tell better, more inclusive, more nuanced stories, to reframe the world .

## VI conditions

Dublin, Ireland. July, 2021. I think of my daughter’s voice and her sing-song provocation for more context, more information, for story — Tell me more, tell me more about this web, she said. If the Building City Dashboards project had had a motto, it might have been: Don’t trust it, build it! Meaning — take nothing for granted, take the risk of actually understanding what’s going on by spinning your own web, even if it is with someone else’s tools, designed for someone else’s interests. In his book, *Data Lives*,

47. Mattern, “Mission Control: A History of the Urban Dashboard.”

48. David Murakami Wood and Debra McKinnon, “Partial Platforms and Oligoptic Surveillance in the Smart City,” *Surveillance and Society* 17 (2019): 180. The authors refer to ‘oligoptic’ in the following way: “In the oligoptic city, there is no one total view or even necessarily views that add up; rather, some elements of the urban collective or assemblage (people, places, things, times, feelings, etc.) are subject to intense surveillance, but other elements much less so or even not at all.”

49. Donna Haraway, “Anthropocene, Capitalocene, Chthulucene: Staying with the Trouble,” paper presented at *Anthropocene: Arts of Living on a Damaged Planet*, May 9 2014, <https://opentranscripts.org/transcript/anthropocene-capitalocene-chthulucene/>

50. This ‘tool’ has since become a European Research Council (ERC) project: “Data Stories: Telling Stories About and With Planning and Property Data,” *Data Stories*, accessed March 25 2025, <https://datastories.maynoothuniversity.ie>

51. Margaret Atwood, “Margaret Atwood teaches creative writing,” *Masterclass*, 17 September 2018, <https://www.masterclass.com/classes/margaret-atwood-teaches-creative-writing>

Professor Rob Kitchin writes:

We need to get better at telling and sharing these data stories. I would encourage you to produce your own data stories — through writing, art, new media, music or any other creative form — to act as fables, shining a critical light on our unfolding present, to act as salutary forecasts, imagining our coming future, and to act as manifestos for producing the data-infused world we want to live in.<sup>52</sup>



**Figure 3:** An image of the Data Sonnet risograph in-the-making at Blackchurch Print Studios, 2024.

52. Rob Kitchin, *Data Lives: How Data are Made and Shape Our World*, (Bristol: Bristol University Press, 2021).

The fragments gathered together in this reflective essay, and through the Data Sonnets risographic zine, offer glimpses of a dashboard design process and the subconscious lyricism at play beneath the explicit intentions of academic research. If we, as human beings, want to get better at making and telling stories about our experiences of ambient technologies, then we need to create the right conditions. Those of us with resources and privilege on our side need to create meeting-places where difference can be appreciated, as Audre Lorde said, as “a fund of necessary polarities between which our creativity can spark.”<sup>53</sup> We need to create conditions that will support people to practice the emotional, intellectual, material and imaginative skills necessary for critical and transformational story work.

This is what Engineering Fictions attempts to do, or at least to contribute to creating conditions whereby a person can “metabolise the things [they] are working on,” conditions that “allow emotion to come,” conditions that allow people “to process thinking and feeling” and to consider and tease out the contradictions of living and making with webs of ambient technologies.<sup>54</sup> As a process that seeks to support the emergence of higher-context cultures of communication, Engineering Fictions, and other research-creation practices like it,<sup>55</sup> recognises and inhabits the need to amplify consciousness and care, as poet Muriel Rukeyser advocates, by harnessing the “work that a poem does,” which is by the “transfer of human energy... to make change in existing conditions.”<sup>56</sup>

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53. Audre Lorde, “The Masters Tools will Never Dismantle The Masters House,” in *Sister Outsider: Essays and Speeches*, (Berkeley, CA: Crossing Press, 2007), 110–114.

54. Jessica Foley, ed., *Fastidious Inquiry, Weird Compliance: A Corona of Sonnets* (2021), accessed March 25 2021, <https://doi.org/10.17613/qbg4-6b33>

55. For an introduction to research-creation processes in relation to urban data studies see Rob Kitchin, “Arts-Based Methods for Researching Digital Life,” *Data Stories Working Paper*, 18 January 2023, <https://mural.maynoothuniversity.ie/id/eprint/16870/1/DS%20WPI%20Arts%20based%20methods.pdf>

For a broader introduction to research-creation see Natalie Loveless, *How to Make Art at the End of the World*, (Durham, London: Duke University Press, 2019).

56. Muriel Rukeyser, *The Life of Poetry* (New York: A.A. Wyn, 1949), 5.

## **Data Sonnets of a City Dashboard<sup>57</sup>**

### **Miriam has just turned 101 —**

Miriam likes to think of herself as a Queen —

Miriam has a classical education —

Miriam is frustrated by technology —

Miriam is interested

In other people's problems —

Miriam absorbs the problems and predicaments

of strangers —

Miriam has already negotiated

several surprising problems today —

Miriam's conversations with strangers

give her a sense that she matters —

Miriam unloads her self-assumed abundance of wisdom

on strangers —

Miriam talks to her neighbours

in exchange for food and shelter —

Miriam plays the role of thankful listener —

Miriam has let go of her own problems —

Miriam faces no real challenges —

Miriam lives on the streets —

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57. *Data Sonnets: Of a City Dashboard*, limited edition risograph, 2024. This broadsheet pamphlet presents six sonnets drawn from the Engineering Fictions workshop Fuzzy Personae, which took place in the Russel Library at Maynooth University in June 2019. For more information on Engineering Fictions, please visit <https://www.engineeringfictions.org>.

**Anthony speaks softly —**

Anthony's friends are similar to himself —

Anthony and his friends like to drink —

Anthony can sort of sing —

Anthony's family are creative,

but bad with money —

Anthony's family are not good communicators,

but are nice people —

Anthony has a tendency to be argumentative —

Anthony is a virgin —

Anthony keeps a strict routine —

Anthony skips meals —

Anthony is interested in the city of the future —

Anthony visits the dashboard occasionally —

Anthony enjoys slick visualisations that illustrate

the degree to which cities

are now data (driven) organisms —

Anthony is interested in the city

of the future as the site of

new psychologies,

new social organisations,

new ways of embodiment with data —

**Sue's motto is 'This needs to be straightforward' –**

Sue knows nothing about data

or dashboards –

Sue would like to show her competence

by generating an easy-to-understand

visualisation –

Sue would like to show her competence

by sourcing data –

Sue wants to achieve a specific task –

Sue wants to generate visualisations –

Sue desires control –

Sue fears being ignored –

Sue's interest is aroused

by other people's weaknesses –

Sue does not fall in love easily –

Sue always wears make-up (but not heavily) –

Sue is very groomed, but slightly uncool –

Sue's general disposition is 'fake-smiley' –

Sue is a female –



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