

New Metaphors



A creative toolkit for generating ideas and reframing problems



A metaphor is:

**“a device for seeing something in terms of something else.
It brings out **the thissness of that** or the **thatness of a this.**”**

Kenneth Burke, 1945

Welcome to New Metaphors

A metaphor is just a way of expressing one idea in terms of another. THIS PROJECT IS A NIGHTMARE. THE CITY IS A PLAYGROUND. YOU ARE A GEM. Creating new metaphors could help us design new kinds of product, service, or experience, and even help us think about and understand the world differently.

New Metaphors is a set of 150 cards (two different kinds) and some fairly simple methods for running workshops, brainstorming (individually or in groups), discussions, and other creative activities.

In this booklet we're going to introduce you to the cards and some ways you can use them, but we're also interested in seeing what you do with them beyond what we've imagined.

The Imaginaries Lab is a new design research/teaching studio, emerging from

Carnegie Mellon University's School of Design, in Pittsburgh, Pennsylvania, but working internationally. We do research projects, executive education, workshops, and collaborations with partners. In our work, we use design methods (derived from design practice) to explore and support people's imagining—both new ways to understand (mental models, mental imagery, new kinds of interface design), and new ways to live (participatory futuring, design for behaviour change, etc). You can see some of our other projects at imaginari.es

But although *New Metaphors* was developed partly in a university setting, it aims to be useful outside of the classroom. We know that the ideas will have more impact in the world when they are applied and used in real situations, whether by designers or by anyone looking to reframe ideas or generate new approaches to things,



Could SHEDDING AN OLD SKIN OR PLANT GROWTH be a metaphor for CONFIDENCE? What about SWEETNESS as a metaphor for PEOPLE'S ACCENTS?

whether you see yourself as ‘creative’ or not (you are).

So, as well as working with students, as we developed the kit we ran workshops with designers, futures practitioners, and even a couple of science fiction writers, at industry conferences and events, to try to ensure we were creating something that would be fun and easy to use, and easy to apply to real-world issues.

What are the cards?

There are two types of cards:

100 image cards (as on the cover of this booklet), each of which has a picture of something (natural or human-made, a ‘thing’ or a situation) with a label for it. The label might not be the exact thing you think of when you seen the image, and we encourage you to think of other ways to describe it (there’s space on the back of each card for you to make notes like this). Each image has been chosen (pretty arbitrarily, but with some method—see later in the booklet) to be something that *could* in some way work

as a metaphor for lots of other things. They are not necessarily all commonly used metaphors (we tried to avoid the really obvious) but they are all intended to be able to work at multiple levels, or with multiple facets or elements to them, and trigger other kinds of ideas beyond what’s on the cards themselves.

50 concept cards (shown in the centre pages of this booklet, red). These are text-only, each an often abstract concept which we considered was *hard to visualise*, but nevertheless important for some area of the human experience, technology, society, or our environment. Their inclusion here is mainly as a prompt, a set of sample provocations that can work as a warm-up, or to enable you to gain experience using the method, and we suggest (see next section) that over time you come to replace these cards with concepts that are important to you. We have also included five blank cards to start you off on creating your own concepts.

Ways to use the cards

You’ll see in the box with the cards there are also two worksheets (you can

download them at newmetaphors.com). You don’t have to use them, but they can help with structuring your thinking. We aim to keep updating the worksheets available as we develop new ways to use the cards.

Juxtaposition workshop

This is the best way to get started using the cards. It won’t solve a problem you have (well, it might), but it will give you experience thinking metaphorically, that you can then apply and use. The instructions here assume a group setting, but you could also do this on your own.

- 1) Choose some image cards and some concept cards. If you’re in a group of five people, maybe choose 10 of each type of card. Pick randomly if you like (shuffle the cards) or lay them out and choose whatever catches your eye. Spend a few minutes looking through them, and try juxtaposing (pairing) different combinations of the image and concept cards (as in the picture on the previous page of the booklet). Are there pairings that seem interesting, or promising? If you’re in a group, pick one or two pairings that the group can agree on

exploring further. (Maybe nothing seems to work—if so, force yourself. Shuffle the cards and pick one image and one concept card and stick to them.)

2) Use **worksheet A** to list some of the characteristics or features of the image(s) and concept(s) you've chosen. **There are no wrong answers here** (or in this whole process). You can use multiple images and one concept, if you'd like to compare them. Groups can work well here in pointing out characteristics that individually we might miss. Then try mapping connections or commonalities—essentially, **how could this work as a metaphor?** For example: PATCHES (on the road surface) could be an interesting metaphor for ANXIETY, because both might involve constant rounds of temporary repair, trying to 'fix' underlying issues but only superficially, presenting a 'strong' face to the world even though underneath things are falling apart.



imaginaries **A**

Thing 1 has these characteristics

Collective, aggressive, asynchronous, synchronous, fake personas, lack of physical humanized and feedback (social expressions), diversity, fast, lack of empathy, rich, profitable, via mass hysteria, mob thinking, social phenomena, collective unconscious, experiential learning.

Thing 2 has these characteristics

imitating, copycat, my actions have consequences, ripples of cause-effect, not alone, two, butterfly effect, movement vs quiet, dancing lake, mimicking clown, social proof, be an example, mirror, be the change you want to see in the world, mirror

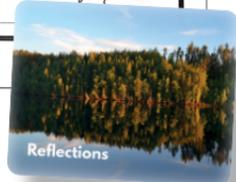
How could some of Thing 1 and Thing 2's characteristics map to each other?

REFLECTION CONCEPT MIGHT PREVENT SOCIAL NEGATIVE FEEDBACK THAT PREVENTS A GOOD ONLINE DISCUSSION

FAKE EMPATHY

Mirror, dancing lake, mimic clown
"REFLECTIONS"

In the worksheet A shown here, characteristics of ONLINE DISCUSSION were mapped to REFLECTIONS. Note that in your decks, you don't have ONLINE DISCUSSION as a concept card—also, the 'Thing 1' and 'Thing 2' labels on the worksheet were confusing, so we ditched them.



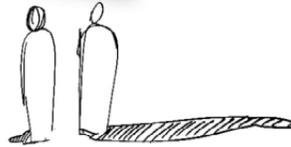
"I think [Aristotle] says that someone who can perceive resemblances can create their own metaphors... resemblances which aren't immediately apparent. And metaphor would consist of expressing the secret connections between things."

Jorge Luis Borges, in conversation with Osvaldo Ferrari, 1986

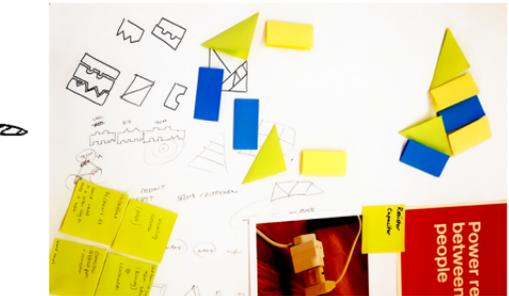
3) So, you now potentially have a metaphor, or more than one, with particular characteristics or connections between them.

Depending on your interest or expertise as a group, or the context you're working in, you can now use that metaphor to start off a brainstorming process—designing (or at least coming up with a concept for) a new kind of product or service or interface, devising new ways to frame or communicate an issue, developing a new policy, even writing a poem. It works well for this stage to be relatively quick—20 minutes or so—at least when you're doing the exercise to gain experience with the metaphor process rather than for a specific issue you really need to solve. Feel free to extend and change the metaphors you're working with—these are meant to be spurs to thinking, not constraints (unless you want them to be).

4) In workshops with multiple groups, we normally now have each group present the ideas they've come up with, and everyone discusses them together. In presenting their ideas, groups usually talk through their process (including the mappings they did in stage 2).



POWER RELATION + SHADOW
BETWEEN PEOPLE
"WHO HAS MORE POWER
OVER THE OTHER?"



Above: scenes from stages 1–4 of the juxtaposition workshop.

Left and below: How two groups (in different workshops) addressed POWER RELATIONS BETWEEN PEOPLE make an interesting comparison. One group focused on SHADOWS as a metaphor, envisaging an augmented reality display enabling people within an organisation to 'see' the influence or power people had over each other.

Another group used ADAPTORS as a metaphor—already 'transforming power' in a different way—but here used as the starting point for exploring a new kind of model for planning a team within an organisation, using adaptable (foldable, reconfigurable) shapes as a kind of construction kit to represent people with different skills, roles, and fit.

In the worksheet B shown below and right, existing metaphors for THE END OF WORK were deconstructed and then characteristics mapped to a new metaphor, FINDING A NICHE.

Below right: A group working on a project around climate futures used worksheet B to explore existing and possible future metaphors for thinking about communities' relationships with nature.

one or more 'new' metaphors (the image cards) list them here

FINDING A NICHE — IDENTIFYING THE NEW NICHE

What are some characteristics of the new metaphors?
 What are some verbs associated with them?
 What structure do they have?

FINDING SECURITY EVOLUTION FROM AN EXISTING NICHE TO A NEW NICHE!!

How could the new metaphor(s) change how we think about the issue in the future?
 Could you design an experiential scenario around it?
 What happens if we start to use the new metaphor right now?

HAVE YOUR CURRENT COMMUNITY NEXT TO FIND A NEW NICHE

→ NO MORE NICHE - NO MORE ASSIGNMENT
 → ONLY PERFORMANCE
 → COMMERCIAL PERSON
 NICHE AS A TALENT.

What are some consciously or subconsciously used metaphors?

Issue facing us now: ...

Hoped next by ...



“If you look beyond a tree’s rigidity to see it as alive, then you see it as more like a woman than like a telephone pole... It is the same kind of looking that recognises the spirals of growth in shells as the frozen form of cyclones and galaxies.”

Mary Catherine Bateson, 1984

Bateson’s Syllogism in Grass

A syllogism is a form of logical reasoning where a conclusion is drawn from two premises. The anthropologist and cyberneticist Gregory Bateson contrasted the conventional form—where a deduction is made—with a different kind of syllogism taking a more metaphorical angle. The format can be a way to generate new metaphors, by finding properties that work with multiple different things. It’s harder than it looks, though!

Conventional syllogism

People die

Socrates is a person

Socrates will die

‘Syllogism in Grass’

People die

Grass dies

People are grass

Adapting Bateson’s Syllogism to generate metaphors for expressing pain symptoms

Interaction designer Corine Britto was inspired by Gregory Bateson’s approach in her thesis project at Carnegie Mellon, *Qualitative Measures of Wellness through Metaphor*. Corine’s project involved designing a visual diary kit for arthritis patients or others experiencing chronic pain to express their experiences visually, combining metaphorical elements to support patients’ storytelling in talking with medical professionals. This could act as a complement to more conventional medical scales for describing pain.

The structure of Corine’s approach can be useful in thinking up your own metaphors—for example, in thinking about pain, she took a journey from symptoms to metaphors which could be dramatically visualised, through the intermediate stage of considering things which have similar qualities to the symptom:

Symptom	Things with quality	Metaphor example
stabbing pain	knives, needles	being robbed at knife point
swelling	balloons, tyres	my hands are like balloons
immobilised	vice, weights, bricks	I am buried under a blanket of bricks
dizziness	clothes in a dryer	I feel like my head is being spun around in a dryer

More details of Corine’s work at corinebritto.com

A note on metaphors and disease

Parts of this revised edition of the booklet were prepared during the (first?) lockdown period of spring 2020, due to the COVID-19 pandemic. We want the booklet, and *New Metaphors* more widely, to be relatively timeless, to be applicable in the years ahead to a whole variety of situations in which novel ways of thinking might be useful to consider, but we also recognise the world-changing impact of the situation we're in right now.

There will be many articles written during this time about metaphors for disease, and how society deals with it—already we are seeing pushback by medical professionals and epidemiologists on the use of 'war', 'fighting', and 'enemy' metaphors around the virus, commonly used by politicians and media. In some ways these echo criticisms made by Susan Sontag in her two books *Illness As Metaphor* (1978) and *AIDS and its Metaphors* (1989). But it is natural to use metaphors to deal with an invisible and incomprehensible threat—it is part of a process of making sense of what seems impossible, scary, and uncertain.

Perhaps as the world learns to engage with the massive crises we face in health—and of course also climate—new metaphors can help us understand and think differently about the systems we live in.

“Metaphor is the language of relationships—the language of natural systems, in which there’s room to communicate in spectrums of possibility instead of tightly-defined cul-de-sacs.”

Nora Bateson, 2010





Some scenes from New Metaphors workshops at Carnegie Mellon in 2019 and 2020, including classes in the School of Design, School of Architecture, and the Tepper School of Business.

Challenges here included applying metaphors to create new forms of persuasive design, rethinking society's approach to climate futures, coming up with new service business concepts, and considering ecological perspectives in architecture. Participants used the cards in a variety of ways, including worksheets A and B, and applying them to issues in their own ongoing projects.



New Metaphors

Space for your notes—as you develop your ‘metaphor’ mindset

What are some characteristics of what’s in this image that really stand out for you?

THE FRIDGE SE MAGNETS—
IT'S LIKE A NOTICE BOARD
FOR THE HOME

If you ignore the words on the image, how could you describe it in a different way? Are there other interesting characteristics that emerge?

'MEMORIES OF VACATIONS?'
THINGS HIDDEN BEHIND THE
DOOR DON'T EXIST WITHIN ORDERS

What concepts have you found this card to be an interesting metaphor for? Keep a record here.

THE LAND OF BACKGROUND
ANYWHERE IS A PLACE

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New Metaphors

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Notes

Which images have suggested interesting metaphors for the concept on this card? Keep a record here.

A ladder, smell
Patches, fridge hum

Which aspects of this concept were provocative to consider, or hard to visualise? Are there related ideas you could explore?

kind of abstract,
difficult people think
about it differently

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New Metaphors

Using the backs of the cards

The backs of the image and concept cards include templates with some optional questions and space for notes, that might help you as you build your familiarity with the cards and a ‘metaphor’ mindset.

kennings

One way to think about and create new metaphors is the *kenning*, an Old Norse, Icelandic, and Old English type of metaphorical phrase in which two concepts are combined in a poetic way to refer to another. The kenning leads the reader to consider things differently, or to pay attention to a different aspect of the idea. For example, in *Beowulf*, THE SEA is sometimes called *hron-rād*, WHALE-ROAD. Some other interesting examples from the Kenning Index, part of the Skaldic Project (skaldic.abdn.ac.uk), include *hadd jarðar*, EARTH-HAIR FOR GRASS, *hvapteldingum*, JAW-LIGHTNINGS FOR INSULTS, and *sveita foldar*, EARTH-BLOOD FOR WATER.

What could it look like to use this kind of structure to re-describe concepts familiar to us but which we might want to re-frame? Could MOTIVATION be A SELF-ENGINE, OR THE PRESENCE OF ARTIFICIAL INTELLIGENCE be CODE-HAUNTING? How much of Steve Jobs’ MIND-BICYCLE is present in our current conception of COMPUTERS?

The Young Poets’ Network has a great article, by kenning expert Debbie Potts, about creating modern kennings as a creative exercise: ypn.poetrysociety.org.uk/workshop/land-of-the-ocean-noise-create-your-own-kennings/



Power relations between people	Democracy	Unwritten rules	Inter-dependence	Being an immigrant
Anxiety	Blockchain	Self-care	The economy	Your own sense of agency in the world
Adaptability	Being part of an ecosystem	Corruption in government or business	Love	Maintenance and repair
Other people's thoughts or emotions	Social or peer pressure	Protection and safety	Planning for the future	Overwhelm- edness
Making a decision	The presence of AI	Kindness	Social mobility	Trust

Calmness (in technology?)	Your personal digital history	Community	Ageing (gracefully or otherwise)	People's accents
The opportune moment	Confidence	Climate crisis	The plurality of possible futures	Financial markets
Pensions and investments	Ownership	Gentrification	The backstory of a product or service	Relationships
Being a parent	Very large amounts of money	Motivation	Consent or dissent	Equity
Solidarity	Symbiosis	Privacy of your data	Home	Transitions

Susanne Kirchner

University of Washington

Susanne is a PhD researcher in Human Centered Design and Engineering at University of Washington. She has used the *New Metaphors* toolkit to conduct a workshop on parents' perceptions of intuition when making health decisions affecting their child. A challenge here is how to enter a conversation with parents on intuition given that it is such a vague concept with many possible definitions. The *New Metaphors* cards helped the parents express what intuition means to them. Here Susanne recounts her experience:

I used the cards as a way for parents to express what the following concepts mean to them: "Being a parent", "Making a decision" and "Parental Intuition". I was super happy that the first two were already part of your kit, for the third one I used one of the blank ones. I asked them to pick 3 cards out of a set of 40 I randomly picked from the complete set and tell me why they chose them. If parents were doing this activity together, I asked them to each pick 3 cards but they could be the same.

I started with the concept of "Being a parent" at the beginning of the interview as a way to warm them up to the interview and



the space we are going to talk about but also to introduce them to the activity. Then later in the interview, I asked them to repeat the same activity with "Making a decision". Before talking to them about their experience with intuition in the decision-making process, I used the cards as a way for them to share their own understanding of parental intuition and for me to guide the questions moving forward.

We got super interesting insights into all the concepts but particularly the intuition piece. I think it was very valuable to have this approach since intuition can be very

subjective and hard to describe through just words and so the metaphors made it more approachable and also allowed us to see how parents felt about intuition. I received very positive feedback from parents using it—they enjoyed the cards and found the approach very interesting.

We were able to observe some interesting dynamics when parents had to do the activity together. We ended up doing a thematic analysis of the descriptions of the metaphors since some parents used the same metaphor for different aspects of parental intuition.

Marysol Ortega Pallanez

Carnegie Mellon University

Marysol is a PhD researcher in the Transition Design programme at Carnegie Mellon University. As part of her doctoral research she is investigating communities addressing environmental and social issues in Hermosillo, Mexico. Marysol designed an activity included in a series of interviews involving a 'hyperlocal version' of *New Metaphors*, comprising events, places, traditions, experiences, food, objects and slang particular to the city of Hermosillo. Here Marysol talks about her process:

The purpose of using Hyperlocal New Metaphors was to prompt participants to talk about specific actors (civil society, local government, local media) and concepts (activism, social action, and social change) at an idiosyncratic level. This revealed both contextual aspects of their realities as well as the particularities around ways of thinking, knowing, and acting from people living in Hermosillo, Mexico.

The activity involved one participant at a time. Each participant had a set of 48 Hyperlocal New Metaphors cards laid out on a table. They paired a card to the actor or concept presented at a time responding to the prompt "[Actor/Concept] in Hermosillo

is like [Hyperlocal New Metaphor]." After each pairing they were asked to articulate the reasons why they connected certain actor or concept with a specific card.

Two main situations arose during the activity. The first one is that participants' language changed compared to the rest of the interview. Their descriptions became more colourful and detailed compared to previous interviews in which I did not introduce the activity.

The second situation was regarding the use of very localised elements of a shared experience through the cards. This allowed to tap into the collective imaginary of the people living in the city, while at the same time getting at personal interpretations of the same phenomena. There was an element of surprise and amusement brought by the introduction of familiar elements unique to Hermosillo that helped participants open up and share to a deeper level.





Linas Gabrielaitis
 TU Eindhoven

Linas is a Master's student in Industrial Design at Eindhoven University of Technology, interested in conversation tools. He used the *New Metaphors* cards in combination with cards from *Dixit*, a storytelling game with illustrations of "fantastical, dreamlike situations". Some highlights from a large mindmap he produced include people using *Dixit* images to respond to *New Metaphors* concept prompts such as DEMOCRACY or FINANCIAL MARKETS, and combining objects to create 'new metaphorical objects' such as a *duckbag*, *doghat*, or *skatechair*. These "explore how the perception of things changes when they are positioned in the context of a different thing".



Michal Luria

Carnegie Mellon University

Michal is a PhD researcher in Carnegie Mellon's Human-Computer Interaction Institute, whose work covers interaction with agents and social robots. She shared the following experience of using the toolkit to help people who use augmentative and alternative communication to express an idea quickly.

As a warm-up, we asked participants to write their answers to the question: "What does communicating mean to me?"

To generate deeper reflections on participants' communication values, we used New Metaphors as a prompt to discuss communication. Metaphors have been suggested as an ideation tool that encourages people to think about abstract ideas from new perspectives through concrete illustrations. We used cards that represented potential metaphors for communication (e.g., bridges, a balancing act, roots) on a white board. By using metaphors, both augmentative and alternative communication users and their communication partners could easily create new discussions around the idea of communication.



Background to New Metaphors

Much—perhaps all—user experience and interaction design makes use of metaphors. Initially they're often used by designers to introduce users to new approaches to interaction or data visualisation, giving us a link to something we already understand. But over time they can become so familiar that we no longer think of them as 'metaphors' any more. Do we even notice the metaphorical aspect of desktops and windows and folders and files? What about the cloud, feeds, threads, forums, the net, browsers, the web, websites, or the notion of a 'site' itself?

Sometimes designers look for new metaphors intentionally, for example where a new technology offers new possibilities that need some 'anchoring' (itself a metaphor) to a familiar concept to be understood. But if we go beyond thinking solely about interaction with technology, new metaphors potentially have a much bigger role.

Many challenges facing humanity today and in the future are complex, involving relationships, complexities, and time-scales which are difficult to understand and represent in simple

terms. By mapping features of an existing or familiar situation onto a new or unknown one, it can make it easier for us to grasp it more quickly. Sometimes it can be valuable as a form of user research to investigate the metaphors people are currently using (consciously or not) to explain an issue, and what implications that can have,

Nevertheless, metaphors are not the thing itself—they are always an abstraction, a model of the situation. They can be a map to a territory, but should not be mistaken for the territory itself. **All metaphors are wrong, but some are useful**; they can become a kind of disruptive improvisation technique for helping us think differently and reframe issues.

Expanding our conceptual vocabulary

Artists and poets are experienced in playing with metaphors, but intentionally creating new metaphors to enable new ways of thinking—giving us a kind of expanded vocabulary—has been proposed by people in many fields, from anthropology (e.g. Margaret Mead and

Mary Catherine Bateson) to politics (e.g. George Lakoff).

Economists and social scientists have examined how the metaphor of 'the national economy as a household budget', or even 'a container/bucket/pot', commonly employed by media and politicians, can lead to specific policy decisions being made that arguably cause harm. How would political discussion on the economy be different if a different metaphor were used? We can imagine ideas such as **THE ECONOMY IS A GARDEN OR THE ECONOMY IS A LOAF OF BREAD BEING BAKED**. The New Economics Foundation and partners tested new metaphors such as **THE ECONOMY IS A COMPUTER THAT CAN BE REPROGRAMMED** through surveys with the British public. Indeed, we (the Imaginaries Lab) hosted a webinar for the Disruptive Innovation Festival 2018, run by circular economy charity the Ellen MacArthur Foundation, in which new metaphors were generated and discussed relating to circular economy issues, including **ORGAN DONATION** as a metaphor for **CIRCULAR BUSINESS MODELS**, and **LEAVES CHANGING COLOUR** as a metaphor for **PRODUCT END-OF-LIFE**.

From global issues (e.g. engagement with government), right down to the personal level (e.g. mental health), there is an opportunity to create and explore new metaphors, and adopt and adapt them from other cultures, traditions, and contexts. It could inspire creative approaches to designing new interfaces, products, services, communication campaigns, ways of explaining ideas, and more widely, help reframe societal issues around technology and other issues of global importance, providing an expanded ‘conceptual vocabulary’. A method for doing so could be a useful part of the designer’s toolbox—hence the cards you have with you right now.

The hunt for “defensible metaphors”, to use cyberneticist Gordon Pask’s term, is not necessarily easy, and while the role of ‘metaphor designer’ is emerging, there’s little in terms of specific methods for designers to use. There are computational and machine learning approaches, particularly in the growing area of generative creativity, often through bots. But among ‘human’ creativity methods there are only a few projects of which we’re aware (see **Other resources** below).

The cards and process

What we’re offering here with *New Metaphors* is (as you’ll have seen from the first section of the booklet) very simple, perhaps even trivial. The method is basically browsing sets of images and text cards and then combining them in creative ways to suggest possible metaphors and think through what they might mean.

There are no right or wrong answers. The characteristic-mapping or other processes using the worksheets are helpful, but optional. The combination is a process of *bisociation*—as described by Arthur Koestler, “the perceiving of a situation or idea... in two self-consistent but habitually incompatible frames of reference” and shares a lot with certain approaches to humour.

Or we could think of it as just a simple juxtaposition of ideas as a provocation, in the style of Edward de Bono or games such as *Mad Libs* or *Cards Against Humanity*. This kind of juxtaposition is a common feature of creativity facilitation, and can be fast-paced, intended to be a creative trigger method to generate

multiple ideas quickly and then enable subsequent evaluation and development.

Or, as explained earlier, you might choose only to use the image cards, and/or create your own cards, using them together with a specific problem or topic you already have for which you seek a new metaphor. This is closer to the way that Brian Eno and Peter Schmidt’s *Oblique Strategies* cards work: almost oracle-like, for overcoming creative or personal blocks, more similar to the *I Ching* or the ‘event scores’ produced by some artists in the Fluxus movement of the 1960s and 70s. With the *Design with Intent* cards, previously produced by one of the authors, we found that there were many different ways people used the cards, from treating them almost like a book, to picking one or two cards each week to act as inspiration, to using them to categorise or classify existing things in the world.

In Gregory Bateson’s words, metaphor is a “pattern that connects” two concepts. In some ways, a ‘forced connection’ method such as *New Metaphors* could be a creative exercise in finding patterns where maybe none exists, but treating it

as if one does—a kind of ‘apophenia as method’.

We are confident that you’ll find interesting ways to make use of *New Metaphors*, particularly as you add your own cards over time, and would love to see and hear what you do—please share, at newmetaphors.com

How the images and concepts were chosen

There is nothing inherently special or ‘right’ about any of the cards included here. They’re just drawn from our own noticings, and from concepts which have been suggested by students, previous workshop participants, some very helpful Twitter followers, and topics in previous projects ranging from energy use to career paths. In a way, our choice of images and concepts is kind of what makes us the ‘authors’—they’re our selection of ideas we think you’ll find inspirational and generative.

The 100 image cards are an arbitrarily chosen mixture of natural and artificial phenomena (and sometimes combinations of the two). As will have been apparent throughout, the

natural world is a deep inspiration for much of our work, but as well as the environment, the examples were also drawn from sensory or synaesthesia-inspired ideas, such as SWEETNESS—and partly from everyday phenomena that seemed interesting as potential ‘design’ material. Here we particularly drew on work around qualitative interface design, indexical visualisation and data physicalisation—from THE HUM OF A FRIDGE TO HANGING CLOTHES OUT TO DRY.

For the 50 concept cards, these ranged from invisible system relationships (e.g. POWER RELATIONS BETWEEN PEOPLE OR EVEN FINANCIAL MARKETS) to intangible emotions, feelings or personality properties (e.g. CONFIDENCE OR ANXIETY). We thought that each phenomenon was something we would be interested in seeing (or otherwise experiencing) an interface or display for, or a rethink of how it was explained or presented.

The early prototype versions of the cards featured more concept cards and fewer images, but through lots of workshops, we realised that the images are often the more ‘generative’ part of the method, and that the concept cards are essentially mainly needed for getting into the

method, before substituting your own concepts in their place.

Some of the photos and examples in this booklet are drawn from *New Metaphors* workshops run with design and futures practitioners, and students, in France (workshops at IxDA Interaction 18, Lyon, and the Plurality University Network’s *Portes Ouvertes*, in Paris, both with practitioners), Portugal (the UX Lisbon 2018 conference, with practitioners), Chile (workshops at the Universidad del Desarrollo in Santiago and Concepción, with students), and the USA (workshops at the Google SPAN 2017 conference, with practitioners, and the School of Design and Swartz Center for Entrepreneurship at Carnegie Mellon University, with students).

We have mainly used industry conferences and events as venues for running the workshops—although we developed the cards in a university, these are not meant to be a purely academic tool. We have also explored using variants of the workshop method and cards for teaching within conventional classroom and design studio settings, and in workshops at academic conferences, and in digital versions.

Further reading

This booklet includes extracts from a conference paper published about the development of the *New Metaphors* method, which gives more of the academic background. The paper is based around an earlier prototype of the cards:

Dan Lockton, Devika Singh, Saloni Sabnis, Michelle Chou, Sarah Foley, Alejandro Pantoja (2019). 'New Metaphors: A Workshop Method for Generating Ideas and Reframing Problems in Design and Beyond'. *C&C 2019: ACM Conference on Creativity & Cognition*. June 2019, San Diego. [doi:10.1145/3325480.3326570](https://doi.org/10.1145/3325480.3326570)

A free open-access version of the paper is available at newmetaphors.com

Christian Svanes Kolding interviewed Dan to create a lovely short film, *New Metaphors* (2019) — christiansvaneskolding.com/New-Metaphors

Deborah Lupton's Vitalities Lab at the University of New South Wales, Sydney, has developed a different set of worksheets to use with the *New Metaphors* cards, or other images—the Vital Images Method, focused on meanings and emotions. There is a write-up, and downloads of the worksheets, at simplysociology.wordpress.com

Other resources to look up

Quotes in this booklet and on the box are from:

- Mary Catherine Bateson, *With A Daughter's Eye: A memoir of Margaret Mead and Gregory Bateson* (W. Morrow, 1984)
- Nora Bateson's film *An Ecology of Mind* about her father, Gregory Bateson (2010)
- Kenneth Burke, *A Grammar of Motives* (Prentice-Hall, 1945)
- Jorge Luis Borges and Osvaldo Ferrari, *Conversations* (vol. 2, trans. Tom Boli; Seagull Books, 2015, original ed. 1986)
- George Eliot (Mary Anne Evans), *The Mill on the Floss* (original edition, William Blackwood & Sons, 1860)

We're compiling an ongoing list of other useful resources at newmetaphors.com, but some that could be your first call for exploring this subject further, include:

- The *Metaphor Cards* (2018) by Nick Logler, Daisy Yoo and Batya Friedman at the University of Washington.
- Sohail Inayatullah's *Causal Layered Analysis* (1998), a futures research method, includes a layer of "deconstructing conventional metaphors and then articulating alternative metaphors".
- Michael Erard's article 'See through words' at *Aeon* (2015).
- Heather Altfeld and Rebecca Diggs's article 'Sweetness and Strangeness' at *Aeon* (2019).
- Helena Strömberg, Ingrid Pettersson, and Wendy Ju's article 'Enacting metaphors to explore relations and interactions with automated driving systems' in *Design Studies* (2020).
- The section 'Design by Metaphor' in Martin Tomitsch and colleagues' book, *Design. Think. Make. Break. Repeat.* (BIS Publishers, 2018).
- Brian Eno and Peter Schmidt's *Oblique Strategies* card deck (and various online versions), 1975 to date.
- The New Economy Organisers' Network, New Economics Foundation, FrameWorks Institute, and Public Interest Research Centre's report, *Framing The Economy: How to win the case for a better system* (2018).
- Katy Gero and Lydia Chilton's *Metaphoria* project (2019) — metaphor.ga
- Darius Kazemi's *Metaphor-a-Minute* (2012) — twitter.com/metaphorminute
- Work on applying disruptive improvisation techniques in interaction design, by Kristina Andersen, Laura Devendorf, James Pierce, Ron Wakkary, and Daniela Rosner (2018) — disruptiveimprovisation.wordpress.com
- The *Design with Intent* cards by Dan Lockton, David Harrison, and Neville Stanton (2010) — designwithintent.co.uk
- Arthur Koestler's *The Act of Creation* (1964).
- George Lakoff and Mark Johnson's *Metaphors We Live By* (1980) and Lakoff's *Don't Think of an Elephant* (2014).

- Yoko Ono's books *Grapefruit* (1970) and *Acorn* (2013).
- *The Thing from the Future* card deck by Stuart Candy and Jeff Watson, Situation Lab (2017).
- *Manifesto!* card deck by Julian Hanna, Simone Ashby, Sônia Matos, Alexis Faria, and Callum Nash (2019).
- Kate Compton's *Generominos* card deck (2017) and her work on 'casual creators'.
- *Dixit* card deck (2008) by Jean-Louis Roubira, illustrated by Marie Cardouat
- Superflux's *Instant Archetypes: A New Tarot for the New Normal* card deck, by Jon Ardern, Anab Jain, Paul Graham Raven and Amélie Barnathan (2018)
- Josina Vink's work on 'Rethinking the root metaphor of design', *Service Design for Innovation Network* (2017).
- Gerald & Lindsay Zaltman's *Marketing Metaphoria* (2008).
- J Paul Neeley's Yossarian 'creative search engine' (2012) — yossarian.co
- Dixon Lo's work on experiential augmentation (2018) — dixonlo.com
- Luke Stark and Anna Lauren Hoffmann's article 'Data Is the New What? Popular Metaphors & Professional Ethics in Emerging Data Culture' in the *Journal of Cultural Analytics* (2019).
- Cornelius Puschmann and Jean Burgess's article 'Big Data, Big Questions—Metaphors of Big Data' in the *International Journal of Communication* (2014).
- Cait McKinney and Dylan Mulvin's article 'Bugs: Rethinking the History of Computing' in *Communication, Culture and Critique* (2019).
- Susan Sontag's books *Illness as Metaphor* (1978) and *AIDS and its Metaphors* (1989).
- Nancy Duarte's article 'Finding the Right Presentation Metaphors for Your Audience'.
- Ellen Waterston's *TEDxBend* talk, 'Metaphormosis' (2014).
- Howard Silverman and Crystal Rome's 'Regime Shift Canvas' presented at the *Relating Systems Thinking and Design Symposium RSD7* (2018).
- Peter Stoyko's *SystemViz Visual Vocabulary* (2019) — systemviz.com
- Sai Kalvapalle's article 'Apps like Tinder commodify the intangible' at the *LSE Business Review* blog (2017).

- Jeremy Keith's presentation 'Building' from the 2019 *New Adventures* conference.
- The resources available from the FrameWorks Institute – frameworksinstitute.org
- Graham Dove's work, including the articles 'The life cycle of a generative metaphor' (with Caroline Emilie Lundqvist and Kim Halskov; 2018) and 'Monsters, Metaphors, and Machine Learning' (with Anne-Laure Fayard; 2020).
- Stephen Flusberg, Teenie Matlock, and Paul Thibodeau's article 'Metaphors for the War (or Race) against Climate Change' in *Environmental Communication* (2017).

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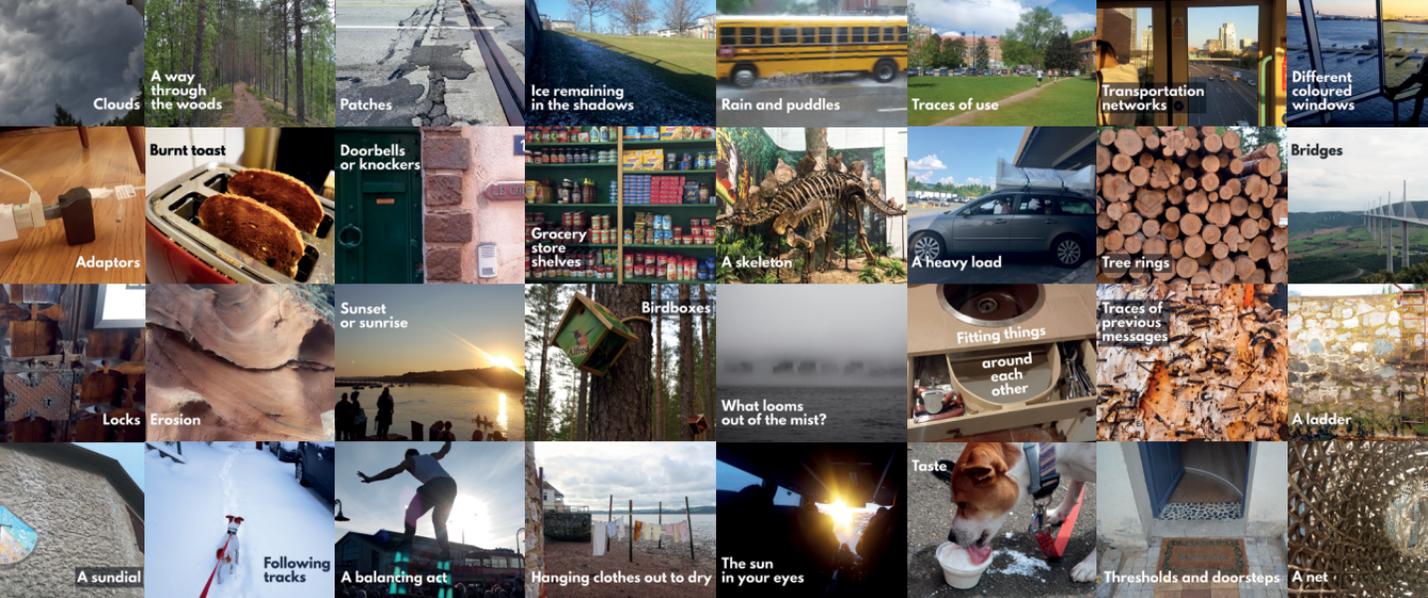
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