

SUSTANIMAL: A REFLECTION ON COLLABORATION, VISUAL COMMUNICATION AND WASTE MANAGEMENT

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Perhaps not since the interwar period of The Great Depression, has the word 'waste' been uttered so frequently in mainstream media. But rather than a focus on austerity and economic crisis, 'waste' as a solid, tangible thing is peppering our conversations and literally piling up around us. It is abundantly clear that humans have been very successful at producing an astounding array of waste. However, as evidenced by a surge of recent waste-related environmental conundrums, we are not so successful at managing it.

As a creative, I am interested in exploring the potential of communication design as a tool for sustainability. I share design writer Rick Poyner's (1999) view that the connection between design and sustainability is twofold. Firstly, design is a powerful tool to engage with people and positively alter their behaviour. Secondly, because design is most usually produced in multiples, the designer has a special responsibility to ensure that mass production is both warranted and measured. Furthermore, I strive to be optimistic about our future. In Tim Flannery's (2016) talk on climate change he stressed the importance of encouraging positive change, despite the seemingly insurmountable problems facing the environment today.



Figure 1. Temporary staffroom signage, 2014.

This article reflects on the experience of working collaboratively on a design solution around waste with sustainability at its core. The project, *Communicating a Vision of Sustainability* was developed and implemented by a research team at Otago Polytechnic (subsequently referred to as OP). Members of the team came from the same campus but from different areas. This formed a crucial knowledge pool; Chris Patchett had intimate knowledge of the waste created, managed and exported from OP. Tony Heptinstall had an informed understanding (supported by a waste audit) of the role of waste in his school (The Food Design Institute - subsequently referred to as FDI) and had developed an interest in changing behaviours. And as a communication designer (with a particular interest in sustainability), I became a third member of the team who could consider the others' research and articulate our joint understandings towards encouraging beneficial behaviour change.

The incentive to explore waste management behaviours originally stemmed from members of the research team being irked by witnessing our immediate (educated) colleagues ignoring or misunderstanding current waste management systems on campus. A further catalyst was the attempts by a newly appointed Sustainability Officer to respond to a call for instructional signage (see figure 1.). While lacking in visual literacy, these signs are early evidence of a hope for improved behaviours around waste.

In addition to recognising current patterns of waste management, an institutional obligation to move towards more sustainable practices on campus is an inherent part of the OP's Strategic Framework. The framework acts as a backbone to current and future thinking at OP, and includes the institution's intention "To engage in research and enterprise activities that develops the capabilities of our staff, students and graduates to work in a socially responsible way and sustainable way." As both students and staff, therefore, the research team is driven by this same commitment to sustainability.

The direction of this study was guided by the Framework for Strategic Sustainable Development (FSSD) practices, introduced to the team by the Otago Polytechnic's course in Sustainable Practice. This encouraged us to use The Natural Step strategic tools such as a 'sustainability funnel' and 'back-casting' to identify problems and search for compelling solutions (<http://www.naturalstep.ca/>). Many of us in positions at tertiary institutions have a desire to be more sustainable, but these specific tools created focus and a mapping out of concrete steps so that new knowledge could be implemented in a meaningful way.

With the FSSD in mind, the team elected to explore the practice of recycling on OP's campus to implement steps towards more effective waste management. In particular, the FDI was used as an area of the polytechnic to focus research on. While FDI users have access to multiple and widespread opportunities to recycle on campus, a recent *Otago Polytechnic Cookery Facility (Manaaki): Solid Waste Audit* prepared for the institution claimed that "approximately 75% of the material in the landfill skip could be composted or recycled" and that "significant opportunities to reduce waste to explore strategies to improve waste management, but it also worked to gain an understanding of waste volume (between 20-30 tonnes of waste, for example, is being produced from Manaaki each year (Waste Watchers 2015, 5)), and to identify specific issues and recommendations related to its management.

Prior to the 2015 waste audit, the FDI had adopted various systems to move towards a sustainably operating, zero-waste department. Auditing and our research team's own observation, however, showed that these systems were not well designed or communicated, resulting in misinterpretation and a paucity of awareness around the institute's desire to operate more sustainably. The research team therefore, aimed to explore user awareness and behaviours to better understand potential barriers to participation. This led to some thinking around more successful approaches to communicate the systems and intentions through design intervention, to encourage more effective action.

The question, *how can the story of Food Design Institute's engagement in sustainability be effectively communicated to promote and encourage participation/support?* was developed from a review of the existing scenario and identification of drivers as mapped by the FDI's 'funnel' visualisation tool. The posing of this question was designed to specifically engage staff and students of the OP's FDI. This investigation also responds to one of the core values of the OP (Sustainability Kaitiakitaka); "to improve the environment through our operations" through seeking "new ideas and ways of operating" (2014, 15).

A mixed method approach was employed to investigate the research question. This allowed the research team to build a picture of current practices and attitudes to waste management in the FDI through triangulation, and then direct more effective action using targeted design. The methods employed included observation of current behaviours as well as a feed-backing system that allowed for individuals to share their experience of the system before and after our design intervention.

Although recycling is just one of a large number of environmental issues, it is one that is clearly connected to campus use – and despite confusion around what can be recycled, ignoring the potentials of recycling mean that mixed waste definitely ends up as landfill. In short, while the team did not necessarily believe that recycling is a long-term, sustainable solution, we did feel that it works to increase effective waste management. For this reason, we engaged in team research around users and generators of waste at OP. As a research objective then, the team hoped to identify how the current waste management systems in the FDI were being used and what improvement could be made to guide more effective usage.

During initial stages of research, two principal aspects of the current culture of waste management at FDI became apparent. Firstly, the institution has sought and provided options for waste management, including a system of bins for sorting rubbish. This system, however, is not always well understood by users, and very often misused.

Secondly, there is a throwaway culture in the workplace that is at odds with behaviours in a domestic environment, where users are held more accountable. There is less incentive for individuals to recycle, for example, when the institution foots the bill for waste disposal. Worse still, regardless of opportunities presented by the institution to effectively sort waste for disposal, users generally come with pre-existing habits that override these opportunities. For example, it is more 'convenient' to throw everything into the same receptacle. The inconvenience to waste management staff (and ultimately the community and environment) is, generally speaking, superseded by *passé*, throwaway habits. This egocentric culture is a barrier to changing behaviours towards more cooperative sustainable practices. Preferred behaviour involving waste disposal is not currently included in inductions for staff and students, nor is it valued in the same way, as say, health and safety.

Happily, here are a growing number of reports and case studies that outline various initiatives to encourage sustainability in the workplace and also in tertiary institutions (for example, Thomashow 2014, Wilhelm 2014, Barlett and Chase 2013). Locally, an OP colleague, recently explored design for sustainable behaviour, focusing on disposable coffee cup use for her Masters in Design research (Niimi, 2013). Niimi concluded from her research conducted at the Otago Farmers Market, that user attitudes and behaviours do not always align. In short, user intentions are not enough to ensure sustainable practices. Supportive measures and limitation of barriers (such as design intervention), however, can assist.

A 2016 workshop in the Design School at OP run by Sustainability Company director, Dr Barry Law, was useful in dissecting sustainable issues and re-invigorating personal action. Law made it clear that sustainable practice, while now in our (New Zealander's) collective consciousness, can't happen without behavioural change. A further overarching driver to engender sustainable practices through our research was adopted from Auckland University's Dr Niki Harré, who discusses the importance of being aware of our options, "recognising their dark side, and supporting each other in seeking ecologically and socially positive ways to achieved valued identities" (2011, 109). Both Harré (2015) and Law remind us that how we behave is more important than displaying our values on the wall and this is where institutions like FDI, will potentially have the most impact – through action.

Harré offers a collection of strategies for those on a journey towards sustainability to enable others to follow. One of her key strategies considers the psychological power of positivity. She asserts that positive ideas are more "uplifting, engaging, fun" and thereby are more attractive to potential followers. With this in mind, the research team developed an initial interface concept of a 'sustainamal' (waste monster) – an endearing creature that, rather like a Mogwai, had the potential to become a gremlin if simple rules weren't followed (Caudwell 2014).

To make use of the sustainamal as part of a behavior-changing strategy, a design brief was formed. The proposed design intervention was based around an effort to produce directive, yet compelling infographics to call users to action and hopefully improve engagement in the waste management process. This intention responds to OP's pledge towards sustainable practice, in which we as staff are "charged with ensuring our students understand and support our vision ..." (2009, 17). The research team entrusted the negotiated design brief for trial infographics to a third-year visual communication design student, Timothy Boylson-Doyle. Student engagement again allowed for a richer collaboration between different areas of OP. Boylson-Doyle was asked to essentially design with his own demographic in mind, as a representative of the student population at OP.

Boylson-Doyle's outcomes were based around three, visually connected elements (see figure 2). First, a family of characters was designed to carry a playful but serious message. It was hoped these would provide a certain emotional connection with the users. The 'sustainamals' were given names, such as *Paper Paige*, and a set of individual characteristics. *Metal Morgan*, for example, has metal piercings and wears a black heavy metal-type jacket. While 'friendly' features were included, such as big eyes, floppy ears and human clothing, the designer was encouraged to work with the concept they were also need to have a certain 'bite' - hence the sharp teeth. The message here, is that the sustainamals encourage appropriate behaviours, but also communicate that failure to manage waste effectively hurts us all. *Laurence Landfill*, has been designed to be the most undesirable creature – to reflect a poor choice. He is seated, downcast and rough-looking in character.



As well as appearing individually, characters are paired up in accompanying graphics. These pairs illustrate to the user that certain types of waste need to be separated more specifically, for effective recycling. *Metal Morgan*, for example, takes the metal bottle top, as *Glass Gretta* takes the glass bottle. It was hoped that as well as instructional, these characters would help reference the journey towards zero waste, back to the users.

The second aspect of the infographics was to create a more comprehensive series of bin labels to aid separation. The bin's original single icon, to direct decision-making, is increased to three and is reinforced with text. One development of this series of icons, was to consider the type of waste coming out of The FDI and to focus images on relevant containers and food waste used by staff and students in their specific environment. For example, canned food tins were

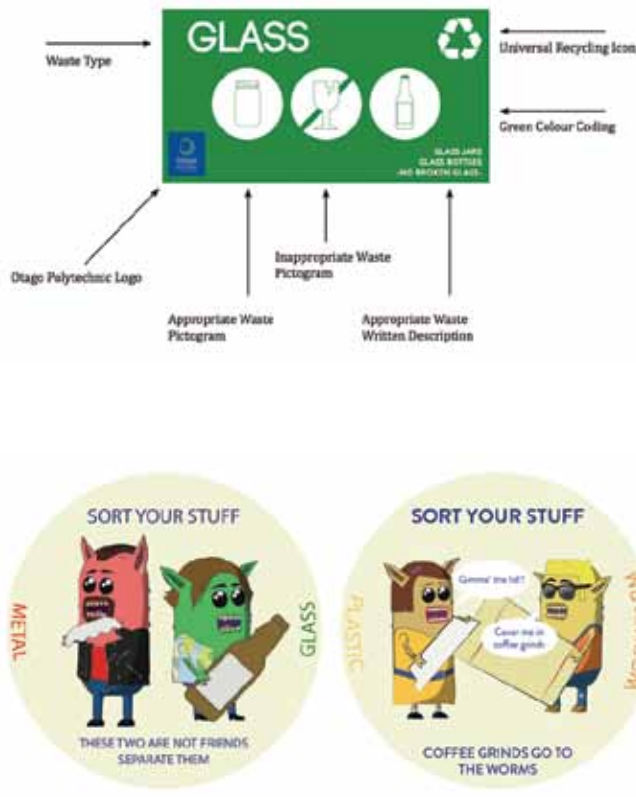


Figure 2. Waste management graphics designed by Timothy Boylson-Doyle, 2015 courtesy of T. Boylson-Doyle.

used instead of beer cans, often seen on street recycling receptacles. A further development of this concept, was to include what *not* to put in, for example, broken glass. As identified by the Waste Watchers Audit, certain food waste cannot be placed into worm farm receptacle, so new categories were also made for these types of waste.

Thirdly, as well as ensuring that "there is signage on all bins", one of the recommendations from the Waste Audit was to "make sure all bins have standard signage and colours" as "good signage is effective in communicating information to the user" (2015, 34). Colour, therefore, was a key consideration for the design of the A0-sized super graphic as an indicator of different types of waste and their appropriate receptacles. One icon is used for each type of waste on the super graphic, to visually link to those used on individual bins. This is also visually-arresting through its large-scale format (see fig3).

The infographics went through several phases of design development before being produced as prototypes for installation. Signage was placed in the corridor of the Manaaki kitchens in the FDI, as a prominent viewing platform. Feedback received was positive and offered suggestions for improvement, at which point the study was concluded. Although the original design strategy developed by the research team could not be described as a complete solution to the waste management system at FDI, it was considered by the research team to be a step towards improved connections between problem and user. Crucially, the prototypes and associated testing from the research contributed to an ongoing discussion and planning around effective waste management within the FDI. This was a positive step forward; from hand-drawn, ad hoc signage to developed prototypes informed by sustainability tools, research and professional knowledge. It allowed for an opportunity to improve and engage in, sustainable practices in the FDI. It also worked to increase visibility of waste management systems on campus as a whole and kick-start further development under OP's sustainability officer, Jen Rogers.

Rogers engaged with students and Innovation workSpace to further develop a signage system for waste-management. Innovation workSpace is an OP initiative that tackles a variety of design problems in collaboration with staff, students, professionals and recent communication design graduates. The current development in the student HUB on campus makes use of colour-coding and graphics to illustrate different types of waste, in a similar



Figure 3. Waste management graphics designed by Timothy Boylson-Doyle, 2015 courtesy of T. Boylson-Doyle.



Figure 4. Current trial waste management graphics designed by workSpace Design Studio October, 2016 in the OP HUB.

way to that produced in 2015 by Boylson-Doyle. While it does not make use of characters to tell and support a waste story (or include humour as our original project did), it has had the benefit of designer input to prepare prototypes (see fig. 4) and creates far clearer instruction than previous makeshift attempts. In particular, the graphics showing the range of waste should be helpful in assisting correct sorting by users. Ideally, considered visual communication design works to facilitate improved behaviour. And better waste management translates to a benefit for our shared environment and resource use.

I am encouraged by working for an institution that promotes sustainable practice as part of its strategic plan. This means that 'sustainability' as a concept, is increasingly part of everyday discussion around the workplace and learning environment. A number of initiatives (including qualifications in Sustainable Practice as undertaken by the research team) are offered through the institution each year; to engage users with sustainability and meet their own strategic goal "to continue to minimise our environmental impact and to encourage others to embrace sustainable practices" (<https://www.op.ac.nz/about-us/sustainability-at-op/>). Certainly, at this point in the journey towards sustainability, OP is on a clear path to reduce environmental impacts and there are indications that it will move towards more restorative practices in the near future. This is highlighted by a desire to replace the word 'sustainable' with 'regenerative', in discussions

around policy development. As past audits have suggested, however, different schools within the department are at different stages of the sustainability journey and more restorative practices will be a major challenge for some. Usefully, it is not just OP leaders, but also teaching and management staff that are exhibiting interest in change. Increasing too, are the number of students who question the status quo and bring with them their own ideas and solutions. A progressive, "leading" (<https://www.op.ac.nz/about-us/>) tertiary institution, presumably, is an ideal place to engage with change.

In essence, our collaborative research, *Communicating a Vision of Sustainability*, allowed for an opportunity to improve and engage in, sustainable practices in the Food Design Institute, as a testing ground to develop a model for other departments at the Otago Polytechnic. The process of carrying out research using new tools was challenging at times, but also rewarding. It involved applying sustainable thinking to real life scenarios, with a collaborative approach. Knowledge was developed, shared and then considered as a possible visual communication solution for the benefit of others. It has also worked to increase visibility of existing waste management systems. The challenge now will be to continue the work that has been started and to share any successes with a wider audience. This step will help keep up the momentum of more effective waste management but also maintain conversations around zero waste and a journey towards regenerative practices. Waste is a dirty word - literally and figuratively. What our collective problem with waste boils down to, is *humans* and *change*. Changing human behaviour is not always easy but increasingly urgent (and indeed inevitable) if we are to take responsibility for the problems associated with waste.

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REFERENCES

- Birnie, C., Elwood, K., Henry, S., Mann, S., & Pawlowski, I. 2009. *A Simple Pledge: Towards Sustainable Practice*. Dunedin, New Zealand: Otago Polytechnic.
Retrieved from <http://www.op.ac.nz/assets/Uploads/Sustainability/A-Simple-Pledge-Document.pdf>
- Brasell-Jones, M. June 2016. Facilitating Good Intentions Towards Action. *International Food Design Conference 2016*, Dunedin, New Zealand.
- Caudwell, C. 2014. Cute and Monstrous Furbys in Online Fan Production. *M/C Journal*, 17(2). Retrieved from <http://journal.media-culture.org.au/index.php/mcjournal/article/view/787>
- CleanRiver Recycling Solutions. 2014. *Sustainability Report*. Retrieved from Aurora: CleanRiver Recycling Solutions. Retrieved from https://cleanriver.com/wp-content/uploads/2015/04/2014_Sustainability_Report_Final.pdf
- Elder, V. Good Intention Recycling Often Misplaced. *Otago Daily Times*. 8 May, 2016.
- Harré, N. 2011. *Psychology for a Better World: Strategies to Inspire Sustainability*. Auckland, New Zealand: Department of Psychology, University of Auckland.
- Holmberg, J. and Robert, K-H. 2000. Backcasting from non-overlapping sustainability principles – a framework for strategic planning. *Journal of Industrial Ecology* 10, no. 1-2: 61-77.
- Flannery, T. 2016. *Atmosphere of Hope: The Search for Solutions to the Climate Crisis*. 21 April, 2016. Regent Theatre, Dunedin, NZ.
- Niimi, M. 2013. *Design for Sustainability: Addressing Food Waste Behaviour* (Thesis, Master of Design). University of Otago. Retrieved from <http://hdl.handle.net/10523/4115>
- Otago Polytechnic. 2014. *Otago Polytechnic Strategic Directions 2015-2017*. Dunedin, New Zealand: Otago Polytechnic. Retrieved from <https://www.op.ac.nz/assets/our-publications/Otago-Polytechnic-Strategic-Directions-2015-2017.pdf>
- Otago Polytechnic. n.d. *Sustainability at OP*. Retrieved from <https://www.op.ac.nz/about-us/sustainability-at-op/>
- Otago Polytechnic. n.d. *About us*. Retrieved from <https://www.op.ac.nz/about-us/>
- Otago Polytechnic. n.d. *Graduate Diploma in Sustainable Practice*. Retrieved from <https://www.op.ac.nz/study/sustainable-practice/graduate-diploma-in-sustainable-practice/>
- Otago Polytechnic. 2013. *Research and Enterprise Strategic Framework*. Retrieved from <https://www.op.ac.nz/assets/PDFs/2013-Strategic-Goals/2013-OP-Research-and-Enterprise-Strategic-Framework-FINAL.pdf>
- Poynor, R. 1999. First Things First Revisited. *Émigré* (51): 2-3.
- The Natural Step Canada. n.d. *The Natural Step*. Retrieved from <http://www.naturalstep.ca/>
- The Natural Step New Zealand. n.d. *The Framework for Strategic Sustainable Development*. Retrieved from <http://www.naturalstep.org.nz/wp-content/uploads/2015/11/Framework.pdf>
- Thomashow, Mitchell. 2014. *The Nine Elements of a Sustainable Campus*. Cambridge: MIT Press. Retrieved from <https://mitpress.mit.edu/nine-elements>
- Waste Watchers. 2015. *Otago Polytechnic Cookery Facility (Maanaki): Solid Waste Audit*. Tauranga, New Zealand: Waste Watchers.
- Wilhelm, K. 2014. *Making Sustainability Stick: The Blueprint for Successful Implementation*. New Jersey: Pearson Education. Retrieved from <http://ptgmedia.pearsoncmg.com/images/9780133445572/samplepages/0133445577.pdf>