Fluid Ideations: Defamiliarizing and Speculating with Watercolour

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ABSTRACT
There has been increasing interest in drawing as a form of research, recognising it as an activity that can work both for communicating ideas and for making sense of them. This pictorial paper presents my journey as a designer using drawing with watercolour as a practice for research through design. I describe how watercolour, a material that bleeds and has flexible boundaries, allows for defamiliarization, uncertainty and ambiguity to enter the creative process and invite speculations on the latent possibilities of a research space.

Author Keywords design, drawing, watercolour, research through design, ambiguity, defamiliarization, artefacts

Introduction
Drawing as a research method has increasingly attracted attention in the art and design academic communities, acknowledging this practice as one that is both rational and creative, while also allowing ideas to be communicated to others [13]. Variously described as ‘thinking in action, a form of sense making which only needs to make sense to the person drawing, an epistemological tool that works in tension between the known and the unknown’ [14]; as ‘another way of telling in which hand and head work together’ [12]; or as ‘a dialogue between the individual and the drawing’ [15], drawing is one of the most immediate activities practiced by artists, crafts people, designers and architects.

In this paper I present my experimentations through drawing with brush and watercolour (instead of drawing with pencil and colouring in), enabling me to playfully explore representations of machines and technology. This technique does not allow mistakes to be erased but invites the creation of multiple iterations and an abandonment of control over the creative process, an embracing of uncertainty and discovery. I describe the defamiliarization that results from drawing artefacts in watercolour and present Machine Mutations as a process that merges seemingly incompatible objects, resulting in strange artefacts that invite new interpretations and possibilities.
Background

Freehand drawing offers an experimentation characterised by ambiguity, that cognitive scientists such as Vinod Goel associate with parts of the brain usually tuned to deal with uncertainty and indeterminacy [11]. Goel studied how designers use drawings and refers to the role of freehand sketching as crucial in early exploratory stages for enabling lateral thinking and preventing the premature realisation of ideas. Goel questions the notion that thoughts exist independently from their representations, suggesting that the medium in which concepts are represented affects their contents and potentials [11]. Thus, a freehand drawing conveys a type of content while a technical drawing or textual representation conveys another. Freehand drawing, the manipulation of representations through hand movements traced on a surface, can invoke multiple interpretations in the space between what is drawn and what is left out, inviting ambiguity and uncertainty. These qualities have been variously recognised as useful in design research for allowing designers to suggest diverse perspectives without necessarily imposing solutions [3,7,8,16], traits that I recognise as significant in watercolour drawing. A medium that bleeds as pigment and water move in unpredictable patterns on paper, it prompts forms and ideas to merge and mutate, enabling the creative process to leave a space where unforeseen interpretations and latent potentials can freely emerge. It invites speculations of new possibilities.

Defamiliarization through watercolour

One significant approach that designers use in their work is the representations of artefacts and objects, which become manipulated as part of the design process and, as Goel suggests, *rather than the artefact itself* [10, p.128, my italics]. This works well as a testing ground for ideas before committing to any particular direction for production, an iterative process that variously happens through sketching, model making, CAD drawing, prototyping, etc. As stated earlier, each of these representations will invite a different type of content [11]. A technical drawing, depicting dimensions, radii, proportions and other specific design parameters, will prompt possibilities about their variations. In contrast, representations drawn in watercolour defy precision but invite narrative. Machines and artefacts, traditionally drawn in clean thin straight lines that reflect the rationales of manufacturing processes, become defamiliarized when hand painted in watercolour, a medium usually associated with art and illustration and characterized by diluted, hazy and evocative strokes. Bell, Blythe and Sengers propose defamiliarization [2] in design research as an approach that can make familiar artefacts and domestic technologies seem strange, and that can open new research spaces and encourage critical reflections about the design of domestic
3. Watercolour drawings of a sewing machine, a robotic vacuum cleaner, a standing hairdryer, a single breastfeeding pump, a surveillance camera and a double breastfeeding pump.
technologies. They present it as a literary device, a style of writing [2, p.169, my italics] and I suggest that drawing technological artefacts in watercolour is another way of telling [12] or describing them, with a fluidity that is usually associated with organic bodies and forms, rendering them as uncanny: strange yet familiar.

**Machine Mutations**

Defamiliarization also surfaces when creating free associations between diverse objects or artefacts. Influenced by psychoanalysis, surrealist artists developed a series of games and techniques they believed helped them unleash their creative potentials. Games of free association, exquisite corpse and automatic writing produced unforeseen combinations that enabled the familiar to become strange [18]. Design researchers have long recognised the value of surrealist techniques for inspiring the emergence of new ideas and multiple interpretations [4,7,8] and I present *Machine Mutations* as another method that likewise recognises the value of defamiliarization, speculation and ambiguity [3,7,8,16] in research through design [9].

*Machine Mutations* consists of drawing in watercolour a pair of familiar, seemingly disconnected objects and joining them into hybrid artefacts that suggest new meanings and associations. The fluidity that characterizes watercolour dilutes the boundaries where one object ends and another starts, facilitating their amalgamation.

For this paper, I present some combinations that I think best illustrate possible speculations that this activity can invite.

**Speculating with the Breast Pump**

I started my drawing experimentations with the breastfeeding pump. A machine that extracts breast milk, it turns this bodily fluid into a quantifiable material that is contained, but outside the body. The breast pump is a problematic machine that many new mothers refer to with dread [5] and has attracted attention through hacking events, where its design issues and potentials were addressed with diverse audiences [19]. Part of the complexity about this device lies on the social and cultural expectations around breastfeeding and pumping milk [1, 5, 6, 17, p.61], the environments where it might need to be used (in a toilet at work, for example), myths and pressures about how much milk a mother is supposed to produce; it is a machine that measures a maternal performance in millilitres.

I drew breast pumps with radios, adapting the radio dials and buttons to indicate milk flow and suggesting ideas about community radio and ambience music to stimulate milk flow. I merged the breast pump with a camera, suggesting questions about privacy, surveillance of motherhood, voyeurism and data monitoring of breastfeeding.

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4. *Speculations with the breastfeeding pump.*
Speculating with other machines for the body

I experimented by drawing other machines for the body together with domestic, work and leisure artefacts. The result were hybrid objects that at times became humorous. A weight scale and a projector merged into an artefact that could publicly display a person’s weight, a robotic lawnmower and a shaving machine amalgamated into a robotic shaver, a radio and an epilator became a musical epilator.

Besides their comical characteristics, the drawings open up questions about the body as a site for manipulation and data recording, working differently from other environments.
CONCLUSIONS

The practice of drawing can be a useful testing ground of ideas before committing them into a model or prototype, a form of making sense of a research topic. In particular, drawing with watercolour can offer a unique playfulness and fluidity in concept generation during the ideation process. While this paper only shows a few examples of how drawing with watercolour can be useful for defamiliarizing and speculating within a research space, I hope it can inspire experimentation and an embracing of ambiguity and interpretation. Watercolour is a medium that, unlike pencil, does not allow for marks to be erased. This can encourage an acceptance that creative and investigative processes are uncertain and deal with the unknown: no mark is a mistake; it is just another way of attempting to describe that which we are trying to understand better. The fluidity and watery quality of watercolour drawing can defy precision but invite multiple narratives, allowing speculations of possible scenarios to emerge into the research.

References


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