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Stories in a Beespoon: Exploring Future Folklore through Design

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Abstract: This paper explores the role and potential for design as *process*, *artefact* and *experience* to help frame and address societal problems. We consider this through examining a *future folklore* dialogical object, designed to stimulate conversation and question assumptions. Beekeeping is a particularly rich context with which to adopt this methodological approach, given the significance of global threats to insect pollination aligned with beekeeping's extensive cultural heritage. By drawing on past narratives and contemporary knowledge and practices, the Beespoon, a small copper spoon representing the amount of honey a single bee can make, was codesigned as an experience that actively engaged people with concepts of work, value and pollination. Our design process oscillated across past, present and future stories – the Beespoon as *future folklore* artefact and experience reflects this complexity, operating across time and value systems to provide new ways to think about how we perceive and understand bees.

Keywords: future folklore; codesign; storytelling; objects.

1. Introduction

Design is increasingly recognised as having value outwith traditional product and marketing contexts (Speed & Maxwell, 2015), including economic (Kimbell, 2011), social (Penin et al, 2012) and environmental spheres, in particular the fields of service design and sustainability (e.g. Irwin, 2015). Global societal challenges such as climate change need sustainable societies that "require new design approaches informed by different value sets and knowledge" (Irwin, 2015 p.236).

One key challenge is that of food security and production. Insect pollination, and the honey bee in particular, has attracted global attention in recent years. The honey bee is critical to

pollination and as such has become a powerful symbol rich in cultural history. It has also been shown to operate as an indicator for environmental health (Porrini et al, 2003), this may become a vitally important role when we consider that, according to the British Beekeepers Association (BBKA), “one in three mouthfuls of the food we eat is dependent on pollination at a time when a crisis is threatening the world's honey bees”. Changing agricultural practices, led by a drive for greater efficiency, with a shift to monoculture and, in the UK at least, an overall reduction in hedgerows, has reduced the amount and variety of forage available for pollinators. Additionally, the use of pesticides may have profound implications for the honey bee and other pollinators (Whitehorn et al, 2012), potentially contributing to colony collapse disorder (CCD). Recently proposed UK legislative changes to allow limited use of neonicotinoids (Carrington, 2015) sparked media debate and outrage on social media. This coincides with a surge of popularity for beekeeping in the UK, including the growth of urban beekeeping, where bees can often find a variety of forage more easily than their rural counterparts. Beekeeping itself has changed radically since the advent of the varroa destructor (a parasitic mite), first discovered in the UK in 1990s, with beekeepers now having to adopt more ‘hands on’ management practices to keep varroa in check. These conditions correlate with a rise in new narratives and practices of beekeeping amongst beekeeping communities, for instance, the strict instruction to all aspiring and existing beekeepers to only acquire local bees (to minimise disease spread and ensure hardiness of stock), and to abhor the idea of importing queens from abroad via the internet.

Ways of knowing and learning about beekeeping is likewise changing; no longer is it the norm that farms keep bees, yet urban beekeeping, hive invention (e.g. the Flow Hive (Farquhar, 2015)) and new books about beekeeping proliferate (e.g. Blackiston, 2015; Turnbull, 2011). Beekeepers have to learn and keep up to date with new developments and threats to their colonies. For instance, the Bee Lab Project (Phillips et al. 2014), used an Open Design process with beekeepers to validate, construct and iterate the development of open source hive sensor kits to enable the gathering and sharing of scientific data sensed from hives. We argue that Design, and a Research through Design (RtD) approach can offer a way to think through and reflect on the changing values of beekeeping and knowledge systems.

Through the context of beekeeping, this paper explores an RtD approach that adopted and invited a shifting of lenses across past, present and future stories, looking at the past to understand the present and think about the future. We seek to discover if and how scientific and tacit knowledge of beekeeping might be repackaged into *future folklore*, providing a means to consider future ways of knowing and learning. We begin by outlining our approach and the activities conducted, which included using past and present narratives surrounding the honey bee as the focus for a set of codesign workshops with beekeepers and storytellers. The paper considers one output prototype in detail, the Beespoon – a small copper spoon representing the amount of honey a single bee can make over her lifetime. The Beespoon is presented as an artefact and an experience that actively engaged people with the concepts of work, value and pollination, inviting reflection on the values associated

with the ways in which we perceive and understand bees, as, for instance, symbols of environmental crises, metaphors for human endeavour, or agents for imagining sustainable futures.

2. Context and Methods

The Beespoon that forms the focus for this paper emerged as part of a research project that sought to understand existing and changing knowledge systems of beekeeping in order to begin to imagine and potentially shape future narratives and knowledge systems to aid future generations. The project brought together a multidisciplinary research team (spanning design, HCI, English literature, storytelling and landscape archaeology) to work with Scottish beekeepers and a community project partner (Tay Landscape Partnership). During Summer 2015, data was collated in the form of: literature reviews of archival material on beekeeping management practices and creative texts (e.g. poetry, prose); qualitative interviews with beekeepers across Scotland; and a series of codesign workshops with beekeepers and traditional storytellers in Tayside, Scotland. Project outputs (including the Beespoon) were presented at a local public engagement event (a fruit festival) in October 2015. The following sections present our aims and activities for the project and our approach.

2.1 Stories, Fiction and Folklore

Storytelling is a fundamentally human activity, The stories we fashion about ourselves to make sense of our life experiences are intrinsically linked to our identity, nation, and sense of self (Bruner, 2003; Schank, 1995). They have a profound impact on our lives, encapsulating knowledge, understanding, and teaching (Bettelheim, 1978; Basso, 1996), binding us in our communities and belief systems. Stories can be told for many reasons, to instruct or educate, to uphold existing society or to subvert it, to share and strengthen culture and identity, to aid conflict resolution or simply for entertainment. It is important to be aware however that,

> "Stories are surely not innocent: they always have a message, most often so well concealed that even the teller knows not what ax[e] he may be grinding." (Bruner, 2003, p. 5)

Traditional stories or folktales seek to instruct in one form or another, either through sharing knowledge or skills, or more explicit social expectations, e.g. folktales wrested from their natural context to promote Edwardian morals (Zipes, 1983). Similarly 'beelore' reflects the society in which it is embedded, with writers and philosophers from Virgil onwards trying to make sense of the complex, largely hidden workings of the hive by relating it to mythical industriousness and anthropomorphic power structures.

Storytelling culture in Scotland is alive and well in the active recounting of tales told orally, without notes or scripts, each unique telling subtly responding to the situation and listeners. Stories are shared, ownership is fluid – it is said that the only time a story can truly belong to

or be owned by an individual is in the telling (Yashinsky, 2004). Yet even that statement is contentious, for it actually belongs to the grouping of listeners and teller as a whole, bound to that instant in time.

Contemporary studies on bees are often considered the province of scientific investigation, such as Karl von Frisch's work on bee communication (von Frisch, 1967), however throughout the later twentieth century and more recently, bees and beekeeping have become popular subjects of non-fiction prose (e.g. Goulson, 2013), artistic design practice and poetry, in part due to pressing environmental crises. For example, Sylvia Plath (2010) and Sean Borodale (2012) have suggestively translated their own experience and knowledge of beekeeping and beekeeping communities into poetic form. Yet bees and beekeeping are steeped in folklore and superstition too, such as the well known 'Telling the Bees', where bee colonies would be told of deaths in their beekeeper's family to prevent them from swarming or getting sick. Another example is that of 'tanging a swarm' by making metallic and/or banging noises to attract a swarm of bees to land nearby.

Our engagement with Scottish beekeepers (through interviews and conversations at workshops) found that these tales are still in common currency in updated forms (e.g. swarms being 'tanged' mid flight by an aircraft's sonic boom), as well as new stories being shared by word of mouth. Oral culture is by its nature mutable (Finnegan, 1977), changing over time to reflect new values and histories, open to interpretation.

A feature of modernity has been the steady replacement of the often highly localised 'pourquoi' or etiological tales (which explain natural phenomena) with universalised, written, scientific explanations. However, studies on oral cultures suggest that folktales and oral histories can encapsulate knowledge and cultural traditions (e.g. Olson & Torrance, 1996; Zipes, 1983) in easily accessible and memorable ways, as evidenced by our interview findings with beekeepers. We posit that design that can embrace ambiguity, fluid ownership; design that can emerge as an "organic phenomenon" (Ben-Amos, 1971) from a specific set of social circumstances, can harness the traits of oral culture and storytelling to consciously seek to become its own form of *future folklore*.

We therefore sought to design prototypes that were open to interpretation and mutation, held in "collective memory" by those who experienced it. How might scientific and tacit knowledge and beekeeping management practice be repackaged into *future folkloric* formats (e.g. metered ballads, artefacts, networked digital media, Internet of Things)? What purpose might they serve for current and future communities? How could we design to encourage agency, allow the story to mutate and design for the 'creators' to lose control of the story?

2.2 Design Approach

In alignment with the multidisciplinary nature of the project, we wanted to bring together a mix of perspectives and experiences, working with not just beekeepers and bee enthusiasts but creative practitioners such as storytellers and designers. We therefore adopted a

community driven, codesign (Saunders & Stappers, 2008) approach to dovetail with a Research through Design (RtD) approach to create a space where past, present and futures of beekeeping could be prospected by experts and non-experts, recognising that each participant is "an expert on their own experience." (Visser et al., 2005, p129)

RtD focuses on knowledge gained through the practice of design and its practitioners recognise making as "a route to discovery." (Gaver, 2012, p.942) RtD is generative and future focused because of design's orientation towards what "might be." (Gaver , 2012, p. 940) It concerns emergent qualities of the "ultimate particular" (Stolterman, 2008) rather than universals and it is consequently highly situated and responsive to particular users. RtD was used because it was anticipated that the iterative, dialogical, and reflective process and the focus on knowledge gained through practice would be particularly appropriate for the project context and future folklore aims. RtD pays attention to the process of creation as well as the designed artefacts and so has the potential to gather knowledge continually through the process of production. Design activities and objects can act as a catalyst for knowledge production and an output of knowledge.

2.3 Research Activities

The Beespoon and wider project's RtD process can be thought of in three key overlapping stages: 1) *examining the past* through literature review of archival texts and semi-structured interviews with 10 Scottish beekeepers, 2) *bridging the present* through the beekeeper interviews and a set of codesign workshops, and 3) *exploring the future* through the codesign workshops and parallel, iterative research team prototyping. In these ways we were able to develop understandings of both contemporary and past narratives, working with beekeeping communities to consider future narratives.

Examining the past was critical for researcher integration with the community and in informing the second, codesign stage. Future folklore prototypes, including the Beespoon, emerged from these codesign activities, which took place over three 1-day workshops in and around Perth, Scotland, in Summer 2015 (see table 1 for details). Participants were recruited through an open call published online and by personal email invitations. At the start of each workshop, it was noted that the codesigned outputs would be showcased at a local fruit festival for the general public, organised by the project community partner. Participants were encouraged to bring their own experience, skills and concerns to the workshops, increasing the potential for the ideas generated to have maximum impact beyond the project and fruit festival. This facilitated a reciprocity and empowering ethos to the workshops. Creativity and collaboration were openly encouraged throughout the workshops, with participants directed to set aside issues of feasibility.

Table 1. Codesign workshop composition

Workshop 1 Jul-21-2015 Exploring Beelore	Workshop 2 Aug-12-2015 Future Beelore Ideation	Workshop 3 Sep-14-2015 Prototype Refining & Iteration
12 participants	13 participants	12 participants
6 beekeepers	6 beekeepers	10 beekeepers
	7 repeat attendees	6 repeat attendees

The RtD process shifted between open tasks that gave space for wide-ranging conversation and concentrated, directed ideation. Some tasks were designed to elicit information, while others called for imagination and translation through storytelling. The workshops followed a trajectory from past to present and future, focusing initially on the relevance of folklore to today, looking at literature through themes such as swarming, drawing on data gathered from interview and archive research. For example:

> "The best time for drivinge of bees is from the 20th of June to the first of July, because that by this time bees have gathered together some quantity of honey, wheareof some money and profitte may arise to the owner; and likewise from this time till Michaelmass [29th Sept.] they will againe recover and gather together livinge enough and store to keepe them over winter." (Best, H., & Norcliffe, C. B. (1857). Rural Economy in Yorkshire in 1641: Being the Farming and Account Books of Henry Best (Vol. 33). Andrews.)

> "A swarm that lands in a neighbour's property technically becomes their swarm. It would be frowned upon for neighbouring beekeepers to deliberately set bait traps to entice swarms into their own property. (Bait traps in general however are beneficial.)" (Interview observations (paraphrased))

Groups of participants were asked to discuss themes and consider possible stories; tales emerged of:

- bee communication;
- a bee's first foraging flight, recognising humans and animals, and using bee-vision to find the best nectar sources;
- and the theft of hives full of healing bees.

The second workshop took these stories further, using an active 'show and tell' approach through beekeeping paraphernalia (fig. 1) technologies and materials. Through demonstration, the group was introduced to a selection of unfamiliar materials (e.g. conductive ink) to extend awareness of design possibilities and a rapid idea generation technique was used to riff off prompts such as 'books about bees' and 'beekeeper wearing bee suit'. Participants were encouraged to work up some of these ideas using lo-fi prototyping materials (fig. 2).

Figure 1. Workshop 'Show and Tell' explaining the use of a smoker, and a collection of beekeeping equipment. Image credit: authors.

Figure 2. A participant prototype from Workshop 2: a mock up of the Ultimate Bee Experience. Image credit: authors.

Emergent collaborative design ideas included the Ultimate Bee Experience (a multi-million pound visitor centre), a video virtual hive (with each video frame in the hive box revealing a different type of management practice or colony) and a sound space with digital remastering of bee sounds (where you could produce music with bee noises, as well as soundscapes of bees: the gentle humming of happy bees, evening fanning of wings, raised or angry buzzing, and queens piping). The conductive ink demonstration sparked interest in creating tactile experiences to communicate knowledge about bee behaviour and bee sounds through bee-keeping equipment.

In between each workshop the research team reflected on outputs and ideas, working them up as feasible and appropriate for the next workshop in the series. Consequently, the third and final workshop demonstrated early stage working, mocked up prototypes for feedback from participants. The Beespoon was one example. The final output for the codesign stage was a demonstration of project ideas at a public engagement event run by the project's community partner. This one-day fruit festival took place in Perth, Scotland in October 2015 and was a free public event to increase awareness about heritage apples in the area and the importance of pollinators. Local and national beekeeping associations had a significant presence alongside cooking with fruit demonstrations, storytelling, face painting, and apple pressing.

The approach adopted created a design space to share knowledge between groups in the workshops, functioning as a pop-up, temporary community of interest. This enabled cross-pollination of ideas between people from different backgrounds in order to re-present the past and present, but also to establish a space for imagination where futures may be considered.

3. The Beespoon

One prototype created through the codesign process was the Beespoon, a small copper spoon that holds one twelfth of a teaspoon of honey, representing the life's work of a honey bee. It became the focus of an installation at the Tay Landscape Partnership fruit festival but also stands as an artefact in its own right.

3.1 Beespoon as Artefact

This section presents the ideation and design iteration of the Beespoon, and a discussion of the functional properties of the Beespoon in relation to other design practices. This is followed by critical reflection drawn from researcher experience and observation of participants.

Key recurrent themes in the design process were the value, work and productivity of bees. Fast idea generation techniques were used to generate quick-fire responses to the statement "bees make honey". This involved using prompts such as 'inversion', 'translation' and 'subtraction' to interrogate the idea. The provocation 'subtraction' directed attention

onto a single bee rather than the hive or colony and yielded the concept of a Beespoon as a unit of measuring a life's work.

Figure 3. Prototype Beespoon. Image credit: authors

Two Beespoon prototypes were created; one was a non-traditional 3D printed spoon loosely based on a culinary measuring spoon while the other mimicked the shape of a teaspoon with the bowl part scaled to a twelfth of its normal size (fig. 3). It was made from copper, initially so that it could be used to make a wax mould for casting or so that it could be plated in silver. However, the copper spoon was kept because it was found appealing and desirable to participants. The design complemented the aesthetic qualities of the honey and gave the illusion of fitting within 'the world' of beekeeping equipment, though in reality it would be a poor utensil for tasting because copper taints the taste of honey.

The Beespoon performed a multiplicity of functions and its functionality changed at different stages in the design process. The Beespoon was conceived through conversation between people with different knowledge and expertise drawing on current bee management practices, set against selected narratives from the past including factual and fictional texts. In its early iterative stages it was primarily a *dialogical object*, similar to dialogical props (Coombes, 2015), building empathy and understanding. As the spoon evolved, it continued to provoke dialogue and reflection that revealed coordinated practices, values, shared meanings and motivations, which Charles Spinosa refers to as "*styles*." (Spinosa et al., 1997)

Subsequently the developed Beespoon artefact provided a means for *translating and transmitting* bee-knowledge and accompanying values to a wider audience. The Beespoon was designed as an active articulation of a story about bees and their value. In this it had a *rhetorical* aspect (Buchanan, 1985) asserting the synthesised values of the project,

researchers and workshop participants. It echoes Buchanan's "demonstrative rhetoric" (Ibid., p20) because it lives in the present but has grown from the past and suggests future possibilities. However, we argue, the Beespoon will accrue its own rhetoric as users "begin their own deliberations" (Ibid.) about the object.

The Beespoon has the potential to agitate between past, present and future and oscillate between real and fictional, operating as a *counterfactual artifact*. (Wakkary et al., 2015). According to Wakkary these artefacts span "the divide between the actual and possible worlds…"(Ibid; 101) because they act as "*if…then* statements" (Ibid; 101), meaning *if* this were true (or false) *then* what worlds would exist. They are "balanced between "falsely" existing in the actual world while being "true" in a possible world." (Ibid; 105) This position on the boundary between reality and fiction stimulates speculation. The Beespoon has similarities because it is both a true and false object with real and fictional lives. It is a real spoon that holds real honey in the *actual* world, representing a unit of work and the value of bees. However it looks like an artefact from the past, a thing that might have existed as part of a beekeeper's paraphernalia. It conjures images of a collective rural past and domestic life. In this it is fiction as there are no Beespoons from the past to sit alongside salt spoons and sugar spoons, but as a fiction it has the power to carry images and folklore from the past. Knowing it is a fiction prompts questions about why people from the present felt the need to create it and hence allows reflection on the state of bees in the environment today and speculation about possible futures.

The Beespoon shares some similarities with design fictions; prototyping was used to create "objects with stories " (Bleeker, 2009, p8) that provoke conversation and discussion. Like design fictions, it has the potential to illuminate priorities and concerns of the present (Bleeker, 2009, p8), in this case ecological threat to bee populations. However there are also significant differences in the function. The Beespoon is not a "diegetic prototype" (Kirby, 2010), which only functions in its fictional world. It is not presented as an object in everyday use, so it does not draw attention to a web of surrounding objects and services (Sterling in Bosche, 2012) that "tell" a world. Nor is it an object seemingly brought back from a near future world. It subtly hints at the future from its position in the present, but it is also designed as a carrier to take stories into the future, rather than retrieving them from the near future.

Often there is an unintentional gathering of meanings around objects as they move through time gaining associations but in this case it is a deliberate intention for the object. The Beespoon is sent into the future with the aim of gathering story patina at every new encounter as a future folklore artefact.

The Beespoon fascinated beekeepers in the codesign workshops and beyond. One beekeeper compared the diameter of a syringe used in an early prototype to the capacity of a bee's stomach to compare the amount of nectar gathered.

Several beekeepers and non-beekeepers expressed a desire for their own Beespoons and two even asked for details of the jeweller who made the original in order to commission their own. One workshop participant talked about the Beespoon as a potential commercial product: a Christening present or gift to mark special occasions. This resonates with the idea of bees being central to family life, as exemplified by the folklore of "telling the bees." One beekeeper who runs educational activities in schools has subsequently begun to weave the story of the Beespoon into their practice.

Our work demonstrates the potential of RtD for knowledge generation. The research process used in the project stimulated dialogue that revealed styles of beekeeping. It also generated reflection on the present and speculation about the future.

3.2 Beespoon Installation

This section presents the ideation and design iteration of the Beespoon installation, and a discussion of the functional properties of the Beespoon installation in relation to other design practices. This is followed by critical reflection drawn from researcher experience and observation of participants.

Figure 4. Beespoon installation showing stand and flower origami wall hanging. Image credit: authors.

The Beespoon was the focal point of an interactive installation at a fruit festival organised by Tay Landscape Partnership. The installation took place inside a small yurt, set beside local beekeeper associations stands. The floor of the yurt was covered with rugs and cushions, so visitors had to remove their shoes before entering and this helped to distinguish it from the other festival spaces. The bright yellow stand, which held the Beespoon, was positioned towards the back of the yurt, facing the doorway so that people peering in could see it immediately (fig. 4). The front of the yurt was set up as a space for making, with cushioned floor, cube tables, paper, glue and scissors.

The stand was in front of a large hessian fabric wall hanging, dotted with hundreds of white fabric flowers. The flowers represented a proportion of the number a bee would visit in her lifetime in the process of making her Beespoon's worth of honey (only female working bees make honey). We estimated that a bee would visit 1837 flowers over four weeks but scaled it to 306 flowers, a sixth of the total, to account for predicted visitors numbers to the fruit festival. Our team seeded the display with some pre-made origami flowers at the start of the day to initiate the activity.

The Beespoon was placed on a central plinth of yellow and black Perspex hexagons. To the left another plinth held a decorative glass jar of honey and the right-hand plinth incorporated a button and small digital screen. Pressing the button sent a pulse through a peristaltic pump, gradually pumping honey in tiny increments from the jar. The honey was pumped into a central column and through a yellow and black droplet shape to an opening where beads of honey grew and hung until they dropped into the Beespoon below (fig. 5). Several factors affected the visual and material design of the prototype stand, including practical and pragmatic decisions regarding the installation of the Beespoon at an outdoor festival site (e.g. limited budget, very short timescale, lack of electricity on site, uneven floor surface). In addition, the installation had to be portable and modular for transportation. Design choices considered the intended audience of general public, in particular families and young children, for instance, the brightly coloured yellow and black plinth was created to immediately catch the eye from across a tent and make a connection with bees. Critically however, the installation was designed to emphasise the contrast between the copper Beespoon and the acrylic plinth to intentionally provoke dialogue.

When visitors entered the space they were shown the Beespoon and invited to make origami flowers to add to the display (fig. 6). Visitors were shown how to make flowers of different designs and complexity. This made the activity accessible but also hinted at differences in effort as bees travelled to flowers close to the hive and further away. Origami flowers made by visitors were attached to the wall hanging so that, over the course of the day, visitors' work could be compared to that of a bee visiting flowers to collect nectar and pollen for the hive. For every flower made, the visitor was encouraged to press a button to pump a minuscule amount of honey so that over the day the Beespoon would gradually be filled.

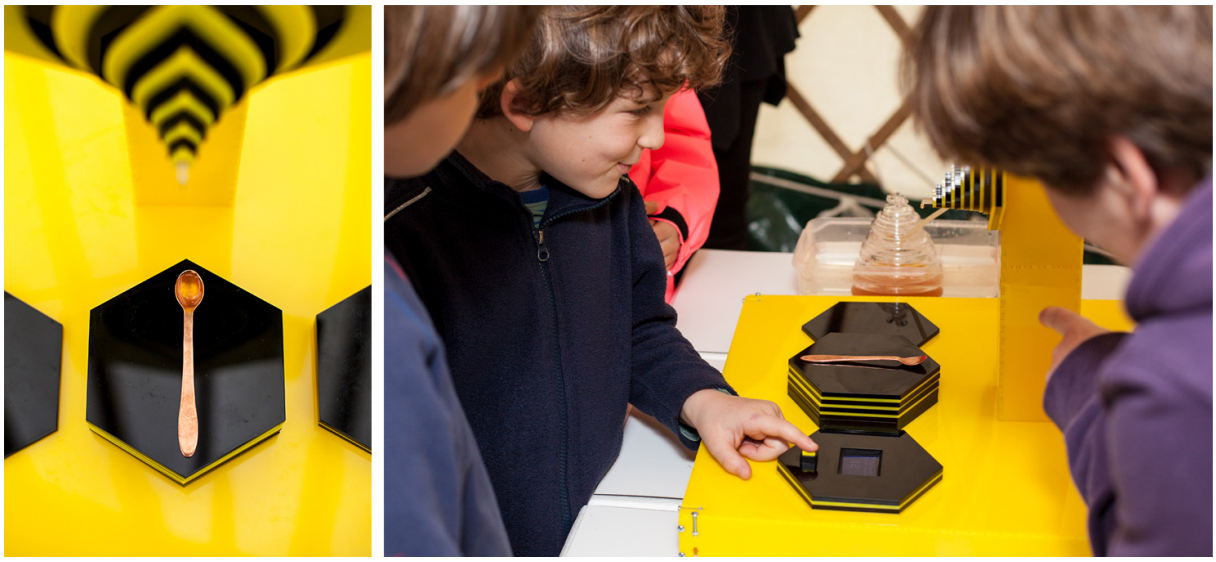

Figure 5. Activating the Beespoon installation. Image credit: Lindsay Perth.

Figure 6. Making origami flowers. Image credit: Lindsay Perth.

Beespoon bookmarks and packets of Scottish flower seed with beelore imprinted on them were distributed to visitors as a reminder of the relationship between production and pollination.

The Beespoon installation functioned in several ways. At a basic level the installation turned the Beespoon into a piece of *information visualisation* showing the whole life productivity of

a honey bee. It also compounded the blurring between reality and fiction, by turning the spoon into an active honey-collecting utensil, making it perform, hinting at a potential existence in the 'actual' world. The plinth-like stand was intended to take the spoon out of its everyday and mundane associations and present it as an iconic symbol of value.

The flower display and origami activity provided opportunities to talk about flowers, gardens, foraging and bee jobs, so expanding the range of potential stories offered by the Beespoon alone. It also *changed the focus* from productivity to effort and work. The various parts of the installation acted as story prompts, for example the paper colours were a reminder of bees' preference for blue and purple flowers over red ones. Another function of the Beespoon installation was to increase the activity space around the Beespoon and extend the potential for time spent in conversation, reflection and speculation. The research team took on a supporting (or accessory) role performing in response to the installation prompts, sharing knowledge synthesised during time spent with beekeepers and storytellers alike.

We were surprised by the quality of the engagement from those who visited the yurt. We had anticipated that visitors might only stay a short a time and make the quickest, easiest flower possible in order to interact with the Beespoon, but children were captivated by the complicated designs and often chose them though they took much longer to make. Many children were in the tent for more than fifteen minutes with some staying over 30mins, or making return visits over the course of the day's installation.

The Beespoon always provoked a response, often astonishment, generally followed by contemplating the number of bee lives that produced the honey on a piece of toast. Some commented that it made them feel bad about how much honey they used. Others marvelled at the preciousness of honey.

On the day of the festival a temperature drop increased the honey's viscosity and distorted the calculations connecting numbers of origami flowers with pulses on the peristaltic pump, but we adapted the interaction and it seemed to have unintended positive outcomes. There were more opportunities to talk as children often spent several minutes waiting for the burgeoning droplets to fall, whilst visitors had time to tell us about their bee experiences and ask questions.

We intended to display the Beespoon symbolically but the associations with historical or imagined relics emerged through the design process. This arose from the codesign workshop 'show and tell' sessions when beekeepers brought in equipment old and new. The Beespoon intrinsically appeared to fit this world.

4. Final Thoughts

This paper has presented a Research through Design process and artefact, the Beespoon, which formed part of an interdisciplinary research project that sought to reveal knowledge held and shared by beekeepers about bees and beekeeping practices. As we have seen,

beekeeping is a rich and pertinent area in which to consider the role and potential of design, situated within complex environmental and political debates. Our codesign process brought Scottish beekeeping communities, storytellers and researchers together to consider past stories, contemporary management practices and future narratives.

The Beespoon, at face value a small copper spoon 1/12th the size of a teaspoon, represents the amount of honey a bee can make across her entire lifetime. By reflecting on its codesign process and an interactive installation of the Beespoon at a community fruit festival, we have explored the many functions and spaces it inhabits. We argue that the Beespoon acts as an example of a *future folklore* artefact, drawing on the past (through the design process and artefact aesthetic), reflecting on the present (by saying something about our current societal state) and projecting into the future. Like traditional folklore, we rescind fixed ownership over the work, encouraging story patinas to emerge and evolve through the collective memory of our codesigners and festival visitors. As we have discussed, the Beespoon afforded a set of spaces within which conversations, understandings and new imaginings could emerge. This nuanced approach to *future folklore* is we believe a fruitful area worthy of future study.

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