Material Appropriation for Infant Mortality Reduction: Troubling the discourse

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Abstract
Reducing the risk of Sudden and Unexpected Death in Infancy (SUDI) is a priority for infant health care services across the globe. Medical knowledge of risk factors for SUDI are well understood and have been part of public health messaging in the UK since the 1990s. These include the ‘back to sleep’ campaign that focused on newborn sleep position, not over wrapping the infant and to avoid passive smoke. Whilst progress has been made in reducing SUDI deaths worldwide, there are some infants who remain at high risk. This article adopts a sociomaterial lens to address the potential for material-based interventions to support messages to be tailored in culturally appropriate ways that do not negate parenting knowledge and practices. We focus on the proliferation of the ‘baby box’ as an example of material appropriation and consider the risks and the potentials for this object as a participant in parenting practices.

Keywords
Sociomaterial, safe sleep, SUDI, material appropriation, culturally appropriate

Introduction
Loss of a baby at any time is a devastating tragedy for the family and for all the professionals involved. Sudden and Unexpected Death in Infancy (SUDI) is the term used to describe a group of infant deaths usually in the first three months of life and up to
12 months and includes known causes of death such as unrecognised infection or underlying conditions. The majority of SUDI deaths cannot however be fully explained despite investigation and include what are described as Sudden Infant Death Syndrome (SIDS) (Blair et al., 2009). In England and Wales in 2018 there were 198 unexplained infant deaths (Office for National Statistics, 2018). SUDI deaths are disproportionate in families from the poorest backgrounds (Garstang et al., 2016), whilst young families are particularly at risk (Office for National Statistics, 2018) and there are a series of high-risk factors well known amongst health and social care professionals (Lullaby Trust, 2019; Pease et al., 2020). These include when babies are lying side or prone rather than on their backs (Fleming et al., 2000); when bed sharing with a parent who smokes (Fleming and Blair, 2007); has been drinking or takes drugs (Blair et al., 2014). Sleeping on unsafe surfaces such as chairs and sofas is also an extremely high-risk factor (McGarvey et al., 2006). A recent Department for Education (DfE) funded National Child Safeguarding Panel review of the circumstances in the families involved in SUDI deaths highlighted the contribution of sudden changes in maternal and infant routine as highly significant as such changes often result in co-sleeping on unsuitable sleep surfaces such as sofas (National Child Safeguarding Practice Review Panel, 2020). This review of 40 serious incidents reported between 2018 to 2019 identified that:

Co-sleeping was a feature in 38 of the 40 cases. Parental alcohol and drug use were common, as were issues related to parental mental ill-health (National Child Safeguarding Practice Review Panel, 2020: 7).

The systematic literature review (Pease et al., 2020) accompanying the DfE Review and subsequent papers (Garstang et al., 2021) focused on three areas of literature: parental decision-making (Pease et al., 2021), interventions and service engagement strategies (Garstang et al., 2021). The review concluded that whilst information about safe sleep is widely available to families, an approach to engagement needs to acknowledge the ecological contexts and constraints within which family life occurs. In particular, the:

Review highlights the importance of relationship-based practice and the characteristics of these relationships reported to be important: trust, non-stigmatising, and non-judgemental.

An approach that focuses on the wider needs of the family including housing and mental health needs is also important (Pease et al., 2020: 60–61).

In this article we are directly addressing this concern about how to deliver safe sleep messages in culturally appropriate ways that are resistant to out of routine changes, and we address the role of material objects in enabling these messages to be conveyed and acted upon. Whilst medical experts confirm that the safest place for infants to sleep is in kite marked cots and Moses baskets (Blair et al., 2018); sometimes these are not available to families, particularly if there is a sudden change of routine- and it is in these contexts that we consider the potential for portable sleep spaces, although with some caution about their use and to develop current understandings of the parenting messages conveyed. The National Child Safeguarding Practice Review Panel review makes two recommendations, one of which provides impetus:
There is a need for further research into the use of behavioural insights and models of behaviour change working with parents whose children are at risk to develop and deliver effective safer sleep messages and approaches (National Child Safeguarding Practice Review Panel, 2020: 45).

The review (National Child Safeguarding Practice Review Panel, 2020: 4) also concluded that better understanding is required of parental perspectives in the co-production of knowledge for preventative education and that SUDI should be seen in relation to wider social issues. Consequently, just as high-risk factors for SUDI are social, successful interventions are immanently social (Pease et al., 2020: 60) and culturally specific; whilst utilising familiar material objects in a sociomaterial nexus (Schatzki, 1996) seems to offer some potential for further consideration of the role of the material in infant care practices and behaviours. That the use of culturally adapted sleep spaces in high-risk groups has reduced the risk of infant mortality is underpinned by some evidence in New Zealand (Mitchell et al., 2016) where the Wahakura (a traditional Māori woven basket) reduced unsafe bed sharing or use of other hazardous sleep environments (Pease et al., 2020). We revisit this example later in the article, as evidence of material potentials of portable sleep spaces.

In addressing concerns over SUDI, we are conscious that critique is required of espoused childcare methods and interventions. Burman (2001) cautions against fictional fantasies of childhood and parent-child relations. She highlights the dangers of individualising and homogenous tropes of childcare and child development and the ‘cultural assumptions arising from the material and ideological contexts of their formulation’ (p. 8). The danger is that in developing understanding of what people ‘are’ to prescribing what they should ‘be’, thus ignoring the actuality of experience, creates mythical norms and abstract autonomous children and parents (p. 9). It is unsurprising therefore, as Pease et al. (2020: 7) found:

The most convincing evidence for interventions that work have a number of identifiable characteristics: they are personalised, culturally sensitive, enabling, empowering, relationship building, interactive, accepting of parental perspective, non-judgemental and are delivered over time.

In this article we argue that interventions aimed at preventing SUDI, or that are promoted as assuring safe sleep must therefore be understood in sociomaterial relation- not to do so risks material appropriation, whilst not directly addressing infant health and mortality. That is, what people do to prevent SUDI and assure safe sleep is in complex relation with things, other people, places and spaces (Schatzki, 1996). Consequently, such interventions are not culture free and we argue that to simply import an intervention from one context to another and not account for human subjectivity and non-human power risks objectifying babies and parents to the status of the object. The most prevalent of these interventions in recent years is the ‘baby box’ to which we now turn.

**The rise of baby boxes**

The iconic Finnish baby box has been provided to all new parents for over 80 years as part of a wider package of health education and care (the maternity package) and comprises a
robust cardboard box with an internal mattress, bedding and a large assortment of baby
clothes and sundries which are unbranded and designed to support the first few months of
life. The proliferation of baby box schemes globally to over 60 countries (Koivu, 2017)
has however, led to concerns about the material appropriation (Reid and Swann, 2019) of
this significant Finnish cultural object by disconnecting it from the wider societal contexts
and the maternity package of health care and professional contact in which it is embed-
ded. The maternity grant that funds the baby box to all new mothers in Finland came
about as a result of the Maternity Grant Act of 1937 which initially focused on
loaning a box of essential items of bedding, clothing and basic hygiene equipment
such as a baby bath to mothers in impoverished conditions. Initially provided by local
agencies, by 1949 this grant was available to all new mothers and has been administered
by the Finnish Social Insurance Institution (KELA) since 1994. As a welfare intervention,
the maternity package is unique across the globe and each year KELA provides about
40,000 packages. In the 1930’s when the maternity package was introduced, high rates
of infant mortality were caused by a range of factors including poverty, poor nutrition
and diseases such as tuberculosis. Consequently, the maternity package was a welfare
and public health intervention that drew on the principles of social-medicine and was
also aimed at tackling inequality (Kettunen, 2001). Whilst this socio-historical framing
assists with understanding the position of the baby box within the Finnish welfare
state; elsewhere, the majority of baby box schemes have developed without concern
for these relations and dynamics. There has also been an emphasis on narratives of the
boxes as ‘safe sleep’ spaces which was only ever part of the Finnish narrative, which
was far more rooted in drivers of social justice and poverty alleviation (Kettunen, 2001).  

Baby box use has increased substantially in England since 2016 following their intro-
duction by a London hospital and adoption by the Scottish government a year later (Ball
and Taylor, 2020). In their review, Ball and Taylor (pp. 2–4) identify four types of baby
box scheme: (1) government funded, (2) commercial reward, (3) commercial-health pro-
vider partnership, and 4) retailer for profit scheme. The Scottish scheme is of type 1
whereas the majority of schemes in England are type 3. In common, narratives around
the efficacy of baby boxes outside of their Finnish context focus on claims of reductions
in the incidence of infant deaths (Ross, 2017). Indeed, in the UK, both the Scottish
Government (2017a) and the Royal College of Midwives (RCM, 2018) acknowledge
the potential of baby boxes in reducing the incidence of sudden infant death, as do commer-
cial suppliers of the boxes (the box contains a mattress and parents are encouraged not to
bed share and to use the box as a means of protecting the baby against SIDS and SUDI).
However, KELA have never made any claims about baby boxes, safe sleep or reductions in
infant mortality. While they review baby box provision annually this focuses on, particu-
larly mothers’, feedback on the contents of the box including suitability and colour of cloth-
ing (personal communication). The most recent research cited by KELA on their website by
Koivu et al. (2020) celebrates the success of 91 baby box schemes in 60 countries, noting
the need for more research. Indeed, a more critical consideration of baby boxes as an inter-
vention is required including the primary focus on working with mothers and success in
maternal and child health in countries where boxes are not used. As Blair et al. (2018)
note, reduction in infant mortality in Finland since 1938 (to one of the lowest rates globally)
is not evidence that boxes reduce SIDS since:
Rates in neighbouring countries, such as Sweden and Denmark, are equally low, despite them not traditionally providing boxes (Ibid., p. 1).

The handful of observational SIDS studies conducted in Finland do not mention the box and largely attribute the lower mortality rates to:

A reasonably high standard of living, good educational level of mothers, well organised primary maternal and child health services, and the rapid advances in obstetric and neonatal care equally available and regionalised (Piekkala et al., 1986: 145).

Whilst the claimed reductions in infant mortality are of course positive, the causal link between sleeping in the box and the reduction has not been made (Blair et al., 2018; Rimmer, 2017; Ross, 2017).

The materiality of the (Finnish) baby box

The materiality of the baby box in Finland is clear. The design is uniquely Finnish with the exterior box design and contents reflecting connections with nature and with a focus on using natural and sustainable materials. The box is made from cardboard and some have suggested this denotes sustainable and democratic functions in its ability to be multi-purpose, flexible and recyclable; conveying ideas of social justice and equality, so that ‘the package has a deeply symbolic meaning … [and] a pregnant idea of equality has grown and continues to grow’ (Turrini, 2017: 1689). The contents are largely utilitarian and unbranded (e.g. baby clothes, sleep suits, nail scissors, brush, toothbrush) and described as providing everybody with an equal start in life in KELA’s promotional videos (KELA, 2018).

There are other objects also present at various times in the box that have received little academic attention over the last eighty years, including a parenting guide, condoms, reusable toweling nappies and a book for the baby. The parenting guides have variously developed from advice to mothers (originally called The Mother’s Guidebook) which instructed mothers on hygiene for her and the baby, parenting skills and even about how she should dress to please her husband and so as not to represent pregnancy as ‘ugly’ (Särkelä, 2013). Fathers were not excluded from advice but were encouraged to provide playful experiences and educational stimulation to their children.

In the post-war years there was an encouragement to families to increase in size as an act of patriotism in the collective aspiration to increase the population, with publicly set goals of at least six children per family (Särkelä, 2013). In 1971 however, condoms were added to the box and the Guidebook focused on active family planning advice, although the imperative seemed to be to avoid exhausting mothers, rather than as population control, as a ‘rested mother is a better mother’ (Särkelä, 2013: 24). This also coincided with the Day Care Act (1973) which provided for mothers to access state childcare and choose to engage in employment as part of the ‘child legislation package’ (Alanen et al., 2004: 157), so different state drivers were arguably emphasised with mothers increasingly focused on for their economic potential and the baby box contents reflected these changing socio-demographics and priorities of the country.
There are also missing items from the box – there are no feeding bottles or milk formula – deliberately, some critics have suggested (Tierney, 2011), as breastfeeding is widely promoted and there are no disposable nappies – emphasizing further the sustainable and environmentally conscious values in the design. Motherhood practices are strongly framed as practices of care of a particular kind that reflect natural motherhood and there is an emphasis on the importance of the natural world – one of the ‘Ten pillars’ of a good Finnish childhood (Pulkkinen, 2012), that is communicated through designs on the box and baby clothing as well as in the natural and sustainable materials that make up the box and its contents (cardboard, cotton, linen, cashmere) (https://www.kela.fi/web/en/maternity-package-2020). The 2020 box design description captures a romantic idea of Finnish childhoods:

The name of the design is Mustikkamaito (blueberries with milk), and the inspiration for the design comes from the designer’s own childhood, summer and happiness (KELA, 2020).

The textual, material properties of baby boxes inculcate wider parenting expectations through a version of social investment (Rimmer, 2017) focused on the infant, whereby ‘children are a reasonable object of economic, social and cultural investments’ (Alanen et al., 2004: 144). Consequently, the material gifting, combined with the welfare conditionality and material incentivisation (Rudrum et al., 2016) are aspects of the discursive formations through which mothers and babies learn of and are produced as an effect through and within the wider baby box discourse whereby:

Practices of labour and interpretation are always implicated within particular gender, class, historical, geographical and cultural relations, and (therefore) are never innocent (Burman, 2001: 7).

Developing a sociomaterial critique of baby boxes

Further consideration should be given to the relationship between the materiality of baby boxes, the people who use them, and the power dynamics at play. Miller (1987) argues for the ‘humility of things’ and suggests that objects frame subjectivity. He claims that far from being obvious and ever-present, material culture is largely ‘familiar and taken-for-granted’ (p. 50) and that what makes us who we are is the material world that operates as ‘an exterior environment that habituates and prompts us’ (p. 51) – these everyday objects mediate mundane truth regimes (Weir, 2008). Objects hold memories and there is a strong association understood between material artefacts and memory. As Turkle notes: ‘We think with the objects we love; we love the objects we think with’ (2007: 5). Understanding the role of objects in constructing motherhood and childhood, through both sociomaterial and relational exchanges, involving institutional and political contexts, is essential to understand the uniqueness of people’s experience. We argue that it is important to reveal the stories of things, since:

This methodological and analytical focus on the active material constitution of the archive imports an ethical-political commitment to valuing materials and practices that are typically
overlooked or undervalued (even discarded), and so have been rendered outside both use and exchange value (Burman, 2019: 3).

While the box and its contents can be universally understood as a material object in the intimate care of an infant, and in developing the relationship between parent and infant (Noddings, 2003) and state, there are differences in ideology and politics in how needs are met. This is of moral concern since there are those who seek to define needs for particular purposes, from particular positions of power, through particular regimes of truth; thus, giving rise to questions about the process and ethic of care (Tronto, 1993). Indeed, the mediation of motherhood has been visible in the provision of information accompanying baby boxes in Finland. As highlighted above, The Mother’s Guidebook was primarily promoted as a guidebook for mothers, this emphasis on informing mothers of the State’s expectations for good maternity and infant care practices continued into the 1970s. While the guidebook changed in 1980 to more fully acknowledge the role of fathers in childcare the focus remained ideologically and politically firmly on the mother as primary caregiver (Helsti, 2000). The concern here is the relation between powerful discourses of maternity and the material practices of maternity (Butler, 1993). Such political abstraction of motherhood is not unique to Finland however the maternity package, and consequently the baby box, has been the ideological and cultural cornerstone for assimilating awareness of how a mother should act (Krok, 2009).

Schatzki’s (1996) practice ontology is helpful here as it focuses on people’s everyday doings in relation with material arrangements and highlights the significance of materiality in understanding the constituents and phenomena of social life. People’s doings and sayings are mediated by shared understandings, the ends and purposes of phenomena (teleology) and rules (Ibid.). Consequently, the nexus of arrangements which people’s doings create and through which they emerge include other people, artefacts, organisms and the natural world (Schatzki, 2002). Parenting and keeping infants safe from sudden death is arguably what Schatzki (1996) describes as an integrative practice: ‘A set of doings and sayings linked by understandings, explicit rules and teleoaffective structure’ (p. 103) and mediated by health and parenting guidance, other family members and material objects, which all ‘acquire meaning within practices’ (p. 113).

Baby boxes are nothing but a concept without people to design, mediate and take up their symbolic, political and conceptual power and similarly safe sleep practices are made possible through material sleep spaces which might include a baby box (Schatzki, 2002). People live their lives in an environmental context which includes consideration of the objects of nature, pets and the outdoors in inter-species entanglements (Vladimirova and Rautio, 2018). Significantly, the natural world is in material relation with people’s developing consciousness; since sensation, perception and concepts are experienced by people and their doings through the material actuality of their everyday lives (Ibid.). This does not involve a linear relation but can be understood as a complex web of relations in which mothering is orientated towards an object. The practice is not within the mother but arises by virtue of the object and telos (Schatzki, 1996, 2002). So, while mothers may have a deep, intimate relationship with their child that motivates their mothering, this is mediated by the object (e.g. the baby box) and telos and imbued with meaning as the practice unfolds. The baby box exerts what Barad would define as ‘agential realism’ (Barad, 2007) which contends that the human and non-
human cannot be researched as separate entities but should be understood as interdependent (**Ibid**.). An important question arises about the potential of the power invested in the material object to mediate the agency of the actor. Consequently, approaches which promote understanding a mother’s interaction with her baby through a box as a matter of cognitive, personal practices within the mother, yet which ignore wider material relations, risk objectification – the problems are understood to be within the mother and do not include wider mediating power. Such approaches are essentialist (Tronto, 1993) in promoting a too simple view that mothering is principally a matter for women that reduces care to a private sphere of virtues and silences with little consideration of institutional, structural or material phenomena.

Schatzki’s theory is elaborated by Nicolini (2017) who argues that ‘practices are durable regimes of performance’ (p. 21) and by Pahl and Roswell (2011) who posit a theory of artifactual literacy, which recognises the importance of objects and things in developing stories, storytelling, imagination and language. In arguing for practices as performance, Nicolini considers the history of object-oriented doings so that each new interaction with an object, by any person in a social group, is a re-performance within that social milieu. When performed and re-performed regularly, normative understanding and behaviours (doing something required by the elite the correct or incorrect way) develops- a process of incorporation as defined by Hahn (2004) (see below). Consequently, a boundary emerges at the disjuncture between desired and contested practices which also gives rise to questions of power. One possible approach to reveal the wider web of relations and power requires moving from the box as an object in a specific performance to acknowledging the box as a significant artefact in social and cultural practice. This elevates it from a mundane, everyday object, as something that only has value insofar as it contains ‘stuff’, to considering it as an embedded form of expression (Miller, 2010). This involves explicating the inherent literacy (Brandt and Clinton, 2002) of the box (it’s texts, symbols, colours, textures and history) and a mother’s use of the stuff – the meaning she attaches to her practices, her text-making processes and the stories she creates (Pahl and Roswell, 2011).

**The problem of material appropriation**

The baby box has transitioned from being a local good with a specific cultural heritage to a global good in the sense that it is a desired material object transposed into new cultural contexts with little appreciation of its history or intended utility (Hahn, 2004). Whilst its external design and focus on the natural world might be assumed to be Finnish, its place in protecting infants from sudden death has been somewhat imposed as a cultural myth. In an anthropological context, Hahn (2004) argues that for objects to move from being just a commodity, to a personal belonging imbued with meaning and connection, that it needs to move through four stages of (1) material appropriation; (2) objectification; (3) incorporation and (4) transformation (p. 218) – a framework that we revisit below.

The growth of baby box schemes in England and Scotland highlighting unsubstantiated claims about reducing SIDS/SUDI has been met by criticism from experts in the social sciences, humanities and medicine (Blair et al., 2018; Watson et al., 2020) who have challenged the lack of scientific evidence; while others have noted a reluctance to commission empirical research to provide evidence (McCartney, 2017). Concerns have
been raised about the basis of the intervention transposed into different cultural contexts (Reid and Swann, 2019) without an existing robust evidence base to draw upon (Blair et al., 2018; Murphy, 2016; Wise, 2018). New schemes typically claim to be developed on similar principles to the Finnish model although it is clear that these are taken out of the particular context of the Finnish social welfare maternity package (Carrell, 2018) with the associated health care education and support provided in Finland.

The review and evaluation of the Scottish baby box scheme undertaken before national roll out (Scottish Government, 2017a) is particularly helpful when thinking about appropriation. Following Hahn (2004), it is evident that material appropriation into the Scottish and indeed English context, has been about adding cultural identity to the box. In particular, the exterior images printed on the box are modified to more familiar decorations – a Loch Ness Monster design in Scotland and a London Underground design in some of the London hospital schemes. In relation to objectification (becoming an everyday object), although advertised as an object offered to parents the Scottish and English boxes are made available on the basis on engagement with clinical services which inevitably means the focus is on the mother (Burman, 2001). The Scottish Government review (2017a) acknowledges that ‘all pregnant women’ (p. 2, our emphasis) in the pilot areas were entitled to receive a box and that ‘most interviews were with mothers’ (p. 3). Thus, reinforcing the argument that the discourses that mediate caring practices do not operate without mothers who are required to take up the concomitant texts and power of the boxes (Smith, 2005). The incorporation of desired practices and routines, what is required of mothers in the daily care of their baby, involves the contents of the box, including the mattress, sheet and blanket promoting the box as a safe sleep space, and the exchange of information between mother and maternal and child health professionals. The Scottish box, for example, also contains books and other objects to promote attachment between mother and child (Scottish Government, 2017a). There is less evidence of transformation (appropriation which results from integration into the local context) (Hahn, 2004). However, the Scottish review (p. 27) also highlights the need to overcome cultural barriers (incorporating local people and local contexts) to assure widespread take up. A subsequent telephone survey of parents’ views by the Scottish government (2017b) focused on the contents of the box. It highlights a mixed response from parents in relation to using the box as a safe sleep space – 64% had not used the box for the baby to sleep in at the time of the survey (p. 3). However, most parents were using the items, particularly clothing. There is a danger therefore that the proliferation of baby box schemes develop as a form of ‘cargo cult’ (Lindstrom, 1993) where the Finnish icon has become fetishized as a desirable commodity with little appreciation for its specific socio-historical origins, and with the danger that the focus is on the goods, rather than their potential in facilitating infant health practices:

Reliance on cargo cults leaves us passively waiting, searching the horizon for the next plane or shipload ‘influx of goods’, instead of actively addressing other pressing issues (Johnson, 2000: 71).

Furthermore, Type 2, 3 and 4 boxes in England highlight the encroaching commercial relations of babyhood and maternal practices (Cook, 2004, 2008). Ball and Taylor
(2020) also highlight how baby boxes and baby box schemes have developed since 2016 with associated and often ignored practitioner concerns about commercial influences on the contents, quality of information and data mining of recipients’ personal information–none of which are evident in Finland. In this regard, this too risks a surface level material appropriation which is based on consumerist values of wanting to have desirable goods, rather than embedding their use in everyday parenting practices.

Denied subjectivity: A question of ‘performing motherhood’

As highlighted above, questions arise about the material appropriation of baby boxes and objectification and incorporation involving the materiality of maternity by mothers (Butler, 1993). Butler highlights the entwined relation between maternity discourses and the material practices of maternity, arguing that motherhood must be understood as a form of ‘performativity’. A mother’s subjectivity is not fixed but constantly negotiated in the relation between discursive and material practices, consequently, performativity involves ‘the reiterative and citational practice by which discourse produces the effects that it names’ (Ibid., p. 2). As Burman (2001) notes, Western knowledges and practices, especially practice drawing on developmental psychology, promote masculinist, essentialist and normative ideas and discourse on the relationship between mother and child. The knowledges are deeply embedded in the materiality of baby boxes. While the type 1 baby box scheme in Scotland is universal and focuses on public health concerns, it is also provided as a tool in developing the attachment between parents and child by promoting desired parental behaviours. While the cultural specificity and hegemonic approach within developmental psychology, on which attachment theory is based, are not universally accepted (Burman, 2001, 2016), in this context, this dominant discourse relies on a mother’s practice involving the box to secure its validity. Such normative regulation of a child’s development and a mother’s practices invests power in professionals and others outside the intimate relationship between mother and child, yet there is a significant absence and silence on these concerns and relations in empirical baby box research.

Such silencing of aspects of women’s experience in the transformation to universal tools and objects risks denial of a woman’s bifurcated consciousness (Smith, 2005) and agency (Butler, 1993). The imposition of desired discourses and mothering practices has the potential to constrain a mother’s knowledge of other ways of doing and being, to deny her subjectivity. An antidote to this would involve enabling mothers to disrupt both the discursive and material practices of maternity.

Of course, in this account of silencing we are foregrounding silence as both a presence and a problem – as an absence of mothers’ voice subjugated to the power of normative discourse and the material of maternity. However, there has been no consideration of silence as an aspect of the material practices of maternity, as:

A medium of expression, communication, and transmission of knowledge in its own right or as an alternative form of personal knowing that is not dependent on speech for its own objectification (Kidron, p. 7).
In bringing a critique of baby boxes, we acknowledge that the concept is intriguing. The point is that much more empirical work is required to explore the relation between silence, the subjective, and the material, institutional and discursive practices that give rise to them (Spyrou, 2015). Furthermore, the fact that it has retained traction in Finland for 80 years suggests that there may be aspects of the concept that could be developed in culturally appropriate ways that are acceptable to families in a diverse set of circumstances and we examine an example below.

The Wahakura and the Pepi-Pod

The Wahakura woven flax basket in New Zealand is a traditional infant sleep space, inspired by Porakaraka cradles used by Māori families. More contemporarily this has been adopted as a portable Infant Safe Sleep Device (ISSD) to address concerns about SUDI particularly within indigenous communities where rates of infant death remain disproportionately high (Mitchell et al., 2016). The Wahakura utilises culturally familiar materials (Schatzki, 1996) and craft skills:

Weaving workshops were held in Māori communities nationwide to spread Safe Sleep awareness and to teach the making of wahakura. Māori midwives issued wahakura to families, together with ‘wahakura rules’ for promoting safe use (Mitchell et al., 2016: 1313). From a six-year pilot of distributing these to pregnant women, there is some evidence that parents have found this to be both acceptable and assists with not putting infants at risk of over-sleeping (Mitchell et al., 2016). The basket is placed in the bed with the parents and provides the infant with a separate space, albeit close to their parents as a form of ‘safer bed sharing’ (Ibid., p. 1317). Not surprisingly this traditional woven construction was acceptable to the Māori and Pacific communities who participated, although accessing sufficient materials and skill to produce these at scale meant that modifications had to be made and 90% of the ISSD’s distributed in New Zealand during the pilot were made from transparent polypropylene (called a Pepi-Pod). During the massive earthquake in Christchurch in 2011 the Pepi-Pods were distributed as an emergency response to unsafe infant sleep and rated highly by families (Cowan et al., 2013). They are not unlike the cardboard baby box at first glance but have much lower sides and are transparent (allowing parents to see their infant easily), and intended for use in-bed, which the Finnish boxes are not, and nor do they exhibit any imposed external cultural identity. The findings of the trial indicate that:

Infant mortality in New Zealand fell by 29%, primarily among Māori infants, over the period 2009–15, suggesting that Māori cultural concepts, traditional activities and community engagement can have a significant effect on ethnic inequities in infant mortality (Tipene-Leach and Abel, 2019: 406).

The Pepi-Pod variant of the Wahakura has also been trialled with Aboriginal and Torres Strait Islander infants in Queensland, Australia where the rates of SUDI are almost four times higher than non-Aboriginal and Torres Strait Islander infants. The trial with 260 families was found to reduce hazardous co-sleeping:
Innovative nursing and midwifery strategies which allow for co-sleeping benefits, respect cultural norms and infant care practices, whilst enabling safe sleep environments are necessary to further reduce SUDI (Young et al., 2017: 37).

If we return to the starting premise of this article of understanding the role of material actors in infant health and reduction of mortality, then the proposition is that baby boxes or alternative portable sleep spaces that are culturally adapted and delivered in non-stigmatising and relationally supportive ways (Pease et al., 2020) could have a role to play in engaging families with safe sleep advice messages and practices to reduce the risk of infant mortality. But what is apparent from the New Zealand and Australia examples is that the material object needs to be culturally resonant, and a cardboard baby box is not necessarily the solution. The significant difference between the New Zealand and UK approaches is one of standpoint (Smith, 2005). In New Zealand the project foregrounded a mother’s understanding of her and her child’s needs through the lens of Māori cultural concepts and objects, traditional activities and community engagement (Tipene-Leach and Abel, 2019) drawing on Kaupapa Māori research practice (Curtis, 2016) that is cognisant of power and privilege, rejects deficit approaches, cultural essentialism and is accepting of alternative knowledges and ways of doing things. The same cannot be argued for the UK projects since the concept of safe sleep is appropriated and imported into the intimate relationship between mother and child as a form of privileged irresponsibility (Tronto, 1993). Unsurprisingly, the English pilot of baby boxes (Ball and Taylor, 2020) reported limited use of the box as a sleep space:

The most frequent observed uses were as a toy box/storage container (n = 13), an occasional daytime sleep space at home (n = 9) or in someone else’s home (n = 4), as a primary sleep space (n = 2), or as a dog bed (n = 1) (p. 6).

This resonates with a study conducted in a hospital in the USA which distributed Finnish style baby boxes (Type 3 scheme) where only 52% of mothers reported they would let their baby sleep in the box, with concerns being raised about safety and the material of the cardboard box as denoting poverty, storage, transience, a pet sleep space or that it looked like a small coffin (Dalvie et al., 2019).

**Discussion**

Objects, such as baby boxes, both structure and are structured by experience, yet there is little empirical understanding of these relations. Taking a sociomaterial perspective (Schatzki, 1996, 2002) enables us to reveal the everyday from the standpoint of people and their relationship with other people, concepts, objects, the natural world and their bodies. As has been acknowledged:

At the core of these approaches [sociomateriality] is a focus on the relations between agential entities rather than on the individual (human) actors. This means that emphasis is on the shared processes through which relations take place rather than on individual (human) views of these relations (Vladimirova and Rautio, 2018: 3).
In a context of trying to engage families in safe sleep messages to avoid the tragedy of SIDS or SUDI, then baby boxes or other portable sleep spaces may have a role to play as vehicles for messaging, rather than (just) as the solution to ensuring the baby is in a safe sleep environment. But this is research that has yet to be conducted. Rather than imposing a new truth regime on families (that of the baby box) our motivation in writing this article has been to explore what is and is not known about the baby box and to bring a new sociomaterial gaze to how we understand material actors in parenting practices. From a consumerist perspective baby boxes are desirable ‘cult cargo’ (Lindstrom, 1993) and we have argued that at best they have experienced material appropriation (Hahn, 2004) from their Finnish origins to new country contexts such as England and Scotland. But this risks objectification of carers (mothers) and of infants to being vessels for the texts and symbols engrained in the box and its contents: about how infants should be cared for, with underlying (unfounded) messages about the potential of the box to help avoid sudden death of infants. The objectification of mothers arises because the materiality of the box works as a form of sexual trope for the performativity of gender (Butler, 1990) – an imagining of motherhood through an object in which the sign ‘mother’ is put to work by others to reinforce her status as care giver (Tronto, 1993). Consequently, the baby box, we argue, becomes a silencing cultural script for the assumed non-agentic, childbearing woman to enact as they engage in a performativity of motherhood (Butler, 1993).

The use of baby boxes in England could be critiqued as one of many ‘quick fixes’ in a National Health Service looking to avoid financial distress (Kmietowicz, 2014) whilst still delivering health improvements (reduced infant mortality, increased safer sleep practices, better parenting) that it alone cannot possibly achieve, and this negates the possibilities for incorporation and transformation. Whilst incorporation of public health messages into parenting practices may occur through this vehicle, our concern is that in the absence of embedded cultural context this becomes a set of technocratic professionalized rules by which to parent that promotes professional allegiances (Davis-Floyd et al., 2009) with little investment from families in any form of transformation in parenting practices which may seem inappropriate to their cultural context and easily ignored when routines suddenly change- a key factor noted in SUDI deaths (Pease et al., 2021).

The role of material goods in facilitating health messages such as safe sleep for infants clearly requires greater empirical investigation in respect of how to engage families with these key messages if we place the material actors at the centre, rather than the periphery of the parenting practice entanglement. As Schatzki (2002) explains: ‘Practices are intrinsically connected to and interwoven with objects (i.e. substances)’ (p. 106) and ‘objects and orders not just are coordinate with, but also exert a causal impact on activities and practices’ (p. 107). The examples cited from New Zealand and Australia point to ways in which portable sleep spaces effect certain actions and practices providing incentives for parents to have increased engagement with health professionals and this offers additional opportunities to convey safe sleep messages. But these must be delivered in culturally appropriate and non-stigmatising ways and the focus needs to move away from the baby box as a solution for sudden unexplained infant death.
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References
Alonen L, Sauli H and Strandell H (2004) Children and childhood in a welfare state: The case of Finland. Children’s Welfare in Ageing Europe 1: 144–209.

Ball HL and Taylor CE (2020) Baby-box schemes in england: Parent and practitioner experiences, and recommendations. BMC Pediatrics 20: 154. https://doi.org/10.1186/s12887-020-02064-2

Barad K (2007) Meeting the Universe Halfway: Quantum Physics and the Entanglement of Matter and Meaning. Durham, UK: Duke University Press.

Blair PS, Pease A, Bates F, et al. (2018) Concerns about the promotion of a cardboard baby box as a place for infants to sleep. BMJ 363: k4243.

Blair PS, Sidebotham P, Eason-Coombe C, et al. (2009) Hazardous co-sleeping environments and risk factors amenable to change: Case-control study of SIDS in south west England. BMJ 339: b3666.

Blair PS, Sidebotham P, Pease A, et al. (2014) Bed-sharing in the absence of hazardous circumstances: Is there a risk of sudden infant death syndrome? An analysis from two case-control studies conducted in the UK. PLoS One 9(9): e107799.

Brandt D and Clinton K (2002) Limits of the local: Expanding perspectives on literacy as a social practice. Journal of Literacy Research 34(3): 337–356.

Burman E (2001) Beyond the baby and the bathwater: Postdualistic developmental psychologies for diverse childhoods. European Early Childhood Education Research Journal 9(1): 5–22.

Burman E (2016) Deconstructing Developmental Psychology. (3rd ed.) London: Routledge.

Burman E (2019) Found childhood as a practice of child as method. Children’s Geographies 1–13.

Butler J (1990) Gender Trouble: Feminism and the Subversion of Gender. London: Routledge.

Butler J (1993) Bodies That Matter: On the Discursive Limits of “Sex”. New York: Routledge.

Carrell S (2018) Finland disputes Scotland’s baby box claims after experts warning. The Guardian. https://www.theguardian.com/society/2018/may/03/finland-disputes-scotlands-baby-box-claims-after-expert-warning (Accessed 20 July 2020).

Cook DT (2004) The Commodification of Childhood: The Children’s Clothing Industry and the Rise of the Child Consumer. Durham: NC: Duke University Press.

Cook DT (2008) Lived Experiences of Public Consumption: Encounters with Value in Marketplaces on Five Continents. London: Springer.
Cowan S, Bennett S, Clarke J, et al. (2013) An evaluation of portable sleeping spaces for babies following the Christchurch earthquake of February 2011. *Journal of Paediatrics and Child Health* 49(5): 364–368.

Curtis E (2016) Indigenous positioning in health research: The importance of Kaupapa Māori theory-informed practice. *AlterNative: An International Journal of Indigenous Peoples* 12(4): 396–410. doi:10.20507/AlterNative.2016.12.4.5

Dalvie N, Nguyen V, Colson E, et al. (2019) Mothers’ perceptions of the cardboard box as a potential sleep space. *Academic Pediatrics* 19(7): 787–792.

Davis-Floyd RE, Barclay L, Tritten J et al. (eds) (2019) *Birth Models That Work*. California, USA: University of California Press.

Fleming P, Bacon C, Blair PS et al. (eds) (2000) *Sudden Unexpected Deaths in Infancy. The CESDI SUDI Studies 1993–1996*. London: The Stationery Office.

Fleming P and Blair PS (2007) Sudden infant death syndrome and parental smoking. *Early Human Development* 83(11): 721–725.

Garstang J, Ellis C, Griffiths F, et al. (2016) Unintentional asphyxia, SIDS, and medically explained deaths: A descriptive study of outcomes of child death review (CDR) investigations following sudden unexpected death in infancy. *Forensic Science, Medicine, and Pathology* 12(4): 407–415.

Garstang J, Watson DL, Pease AS, et al. (2021) Improving engagement with services to prevent sudden unexpected death in infancy (SUDI) in families with children at risk of significant harm: A systematic review of evidence. *Child: Care, Health and Development* 1–28. https://pubmed.ncbi.nlm.nih.gov/33929753/

Hahn HP (2004) Global goods and the process of appropriation. Between resistance and expansion. Explorations of local vitality in Africa. *Beiträge zur Afrikaforschung* 18: 211–229.

Helsti H (2000) *Kotisynnytysten Aikaan: Etnologinen Tutkimus äitiyden ja äitiysvalistuksen Konfliktieosta* (Trans. At the Time of Home Births: Ethnological Research on the Conflicts Between Maternity and Maternity Education). Helsinki: Finnish Literature Society. ISBN-13: 978-9517462006.

Johnson R (2000) Colonialism and cargo cults in early childhood education: Does reggio Emilia really exist? *Contemporary Issues in Early Childhood* 1(1): 61–78.

KELA (2018) Baby Box 2018: KELA Maternity Package, https://www.youtube.com/watch?v=vzs9_M8WH48

KELA (2020) Box and Lid, https://www.kela.fi/web/en/maternity-package-2020/-/blogs/box-and-lid (Accessed 03/08/20).

Kettunen P (2001) The nordic welfare state in Finland. *Scandinavian Journal of History* 26: 225–247.

Kidron CA (2009) Toward an ethnography of silence: The lived presence of the past in the everyday life of holocaust trauma survivors and their descendants in Israel. *Current Anthropology* 50(1): 5–27. Retrieved: http://www.jstor.com/stable/10.1086/595623

Kmietowicz Z (2014) “Quick fixes” are not answer to financial failure in NHS, says think tank. *BMJ* 349: g6140.

Koivu A (2017) *Mapping the Baby Box Projects Around the World*. Tampere: University of Tampere. Retrieved: https://researchandstudy.uta.fi/2017/12/21/mapping-the-baby-box-projects-around-the-world/

Koivu A, Phan YTH, Näsi E, et al. (2020) *The Baby Box. Enhancing the Wellbeing of Babies and Mothers Around the World*. Helsinki: Kela Non-serial Publication. Retrieved: https://helda.helsinki.fi/handle/10138/319524

Krok S (2009) Good Mothers and Everyday People – Single Parents on the Margin. Doctoral thesis, University of Tampere. Retrieved: https://trepo.tuni.fi/handle/10024/66494

Lindstrom L (1993) *Cargo Cult: Strange Stories of Desire From Melanesia and Beyond*. Washington: Smithsonian Institution Press.
Lullaby Trust (2019) *Evidence Base*. London: Lullaby Trust. Retrieved: https://www.lullabytrust.org.uk/wp-content/uploads/Evidence-base-2019-1.pdf

McCarty M (2017) Margaret McCartney: Cool and cute—but cost effective? *BMJ* 357: j1766.

McGarvey C, McDonnell M, Hamilton K, et al. (2006) An 8-year study of risk factors for SIDS: Bed-sharing versus non-bed-sharing. *Archives of Disease in Childhood* 91(4): 318–323.

Miller D (1987) *Material Culture and Mass Consumption*. Oxford: Blackwell.

Miller D (2010) *Stuff*. Cambridge, MA: Polity Press.

Mitchell EA, Cowan S and Tipene-Leach D (2016) The recent fall in post-perinatal mortality in New Zealand and the safe sleep programme. *Acta Paediatrica* 105(11): 1312–1320. In S. Cowan, *Their First 500 Sleeps*. Pepi-Pod Report: 2012-2014. 2015, Change for our Children Limited.

Murphy M (2016) UK’s first baby box programme launched at London NHS Trust. *British Journal of Midwifery* 24(7). Published Online: 11 July 2016. doi:10.12968/bjom.2016.24.7.521

National Child Safeguarding Practice Review Panel (2020) Out of routine: a review of sudden unexpected death in infancy (SUDI) in families where the children are considered at risk of significant harm. Crown copyright.

Nicolini D (2017) *Practice Theory as A Package of Theory, Method and Vocabulary: Affordances and Limitations. Methodological Reflections on Practice-Oriented Theories*. Cham: Springer, 19–34.

Noddings N (2003) *Caring: A Feminine Approach to Ethics and Moral Education*, 2nd edn Berkeley: University of California Press.

Office for National Statistics (2018) Unexplained deaths in infancy, England and Wales. Retrieved: https://www.ons.gov.uk/peoplepopulationandcommunity/birthsdeathsandmarriages/deaths/bulletins/unexplaineddeathsininfancyenglandandwales/2018

Pahl K and Roswell J (2011) Artifactual literacy: A New perspective for literacy education. *Berkeley Review of Education* 2(2): 129–151.

Pease A, Garstang J, Ellis C, et al. (2020) Systematic literature review report for the National Child Safeguarding Practice Review into the sudden unexpected death of infants (SUDI) in families where the children are considered to be at risk of significant harm. https://research-information.bris.ac.uk/en/publications/systematic-literature-review-report-for-the-national-child-safeguard

Pease A, Garstang JJ, Ellis C, et al. (2021) Decision-making for the infant sleep environment among families with children considered to be at risk of sudden unexpected death in infancy: A systematic review and qualitative metasynthesis. *BMJ Paediatrics* 5: e000983. Open. doi: 10.1136/bmjpo-2020-000983

Piekkala P, Kero P, Tenovuo A, et al. (1986) Infant mortality in a region of Finland, 1968–1982. *European Journal of Pediatrics* 145(6): 467–470.

Pulkkinen L (2012) Ten pillars of a good childhood: A Finnish perspective. *Childhood Education* 88(5): 326–330.

RCM (2018) *Position Statement: Baby Boxes*. London: RCM.

Reid J and Swann D (2019) Decolonising the Finnish Baby Box: a sociomaterial approach to designing interventions for infant and maternal health and well-being in Zambia. *Journal of Early Childhood Education Research* 8(2): 312–331.

Rimmer S, Brown H and Oliffe JL (2016) Understanding the meaning and role of gifts given to Ugandan mothers in maternity care settings: ‘The help they give when they’ve seen how different you are’. *Sociology of Health and Illness* 38(8): 1318–1335.
Särkelä S (2013) Visible and invisible content of the maternity package. Unpublished Master’s Thesis, University of Helsinki, Finland.

Schatzki T (1996) Social Practices: A Wittgensteinian Approach to Human Activity and the Social. Cambridge: Cambridge University Press.

Schatzki T (2002) The Site of the Social: A Philosophical Account of the Constitution of Social Life and Change. University Park: Pennsylvania State University Press.

Scottish Government (2017a) Scotland’s Baby Box Pilot: Qualitative Research. Edinburgh: The Scottish Government.

Scottish Government (2017b) Scotland’s Baby Box: Parents’ Views on Contents. Edinburgh: The Scottish Government.

Smith DE (2005) Institutional Ethnography: A Sociology for People. Toronto: Altamira Press.

Spyrou S (2015) Researching children’s silences: Exploring the fullness of voice in childhood research. Childhood (Copenhagen, Denmark) 23(1): 7–21. doi: 10.1177/0907568215571618

Tierney D (2011) Finland’s ‘Baby Box’: Gift from Santa Claus or Socialist Hell? Retrieved March 13, 2017, from https://www.theatlantic.com/international/archive/2011/04/finlands-babybox-gift-from-santa-claus-or-socialist-hell/237240/

Tipene-Leach D and Abel S (2019) Innovation to prevent sudden infant death: The wahakura as an indigenous vision for a safe sleep environment. Australian Journal of Primary Health 25(5): 406–409.

Tronto JC (1993) Moral Boundaries: A Political Argument for an Ethic of Care. NY, USA: Psychology Press.

Turkle S (2007) Evocative Objects: Things we Think With. Massachusetts: MIT press.

Turrini D (2017) Democratic cardboard. Materials and design for a sustainable society. The Design Journal 20(1): S1682–S1691.

Vladimirova A and Rautio P (2018) “Unplanning research with a curious practice methodology: Emergence of children forest in the context of Finland.” In: Cutter-Mackenzie A, Malone K and Hacking EB (eds) Research Handbook on Childhoodnature. University of Oulu, Finland: Springer Nature, 1–26.

Watson D, Ball H, Reid J, et al. (2020) Baby box: child welfare experts say use of sleep boxes could potentially put infants’ lives at risk. The Conversation. https://theconversation.com/baby-box-child-welfare-experts-say-use-of-sleep-boxes-could-potentially-put-infants-lives-at-risk-125512 (Accessed: 20 July 2020).

Weir L (2008) The concept of truth regime. Canadian Journal of Sociology 33(2): 367–389.

Wise J (2018) Cardboard baby boxes should not be promoted as safe to sleep in, warn experts. BMJ 363: k4311.

Young J, Watson K, Craigie L, et al. (2017) Uniting cultural practices and safe sleep environments for vulnerable indigenous Australian infants. Australian Nursing and Midwifery Journal 24(9): 37.