

Gendering 'round the Incubator et al.

Women as Technology Inventors, Inspirers & Interlocutors

My research explores the co-evolution of technology and personhood in the figure of the preterm baby. Women – in the role of experts, users, and participants – help chaperone the preemie into existence as a unique biological creature: a techno-historical invention who is at once neonatal patient and newborn kin. This article positions women as inventors, inspirers and interlocutors vis-à-vis medical technologies and their ontological productions.



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Preemie Domains of Existence

Before we review women's multiple relations to the artificial life-support machineries that service the preterm baby, a few words are in order to introduce us to the "preemie" and its technological entourage. "Preterm" defines a person born before completing the full in utero maturation of a 38-40 week pregnancy. At present, the sophisticated artifacts and practices of neonatology (the biomedical sub-specialty that caters exclusively to the preterm baby) have fair chances of keeping a still-fetalized newborn alive at 22 weeks gestational age (nearly half the timetable for our species). Needless to say, an extensive cast of human and non-human actors – medico-informatic equipments, healthcare professionals, pharmaceuticals, etc. – intervene in this remarkable mission. These actors not only heal frail and sickly babies "born before their time", they verily invent preemie ontology: a human being of unprecedented immaturity surviving (with the aid of prostheses) as a bio-physiological novelty outside its natural habitat. My research examines this being's coming into being, and the implications of that becoming, in the intersecting "domains" of biomedicine, kinship, and governance (the latter including epistemological, social and political orders). In this article I highlight women's engagements with the technologies of neonatology, and trace these engagements in and across these triple domains. The actions of women as technology experts, users, and participants, and

the archetype of woman as generative and nurturant – have brought forth manifold articulations of "gendering 'round the incubator".

Women in the Productivity Role

Neonatology in its modern form can be dated to the early 1960s, a temporal threshold by which it can be said to have consolidated its power/knowledge base and achieved an indisputable niche within the healthcare academy. Long before the discipline itself was christened, however – it was women from varied walks of life who tended preterm babies. Untold numbers of women did so throughout history in the role of concerned mothers, whose dedicated parenting likely had occasional fortune securing survival for a precocious newborn arrival. Little more than a century ago, one minor and predominantly female occupation emerged as professional preemie caretakers: this small, but historically-significant cadre of women invented some of the earliest tools and techniques catering to preemie humans. The women I here refer to were not employed by hospitals and were not considered practitioners of medicine, rather they worked as attendants at circuses and such public spectacles that we might call "freak shows" – where, as it turns out, preterm babies proved to be among the most popular fin-de-siècle attractions. Often through creative solutions and impromptu strategies, these women – verily proto-neonatologists – had success enhancing the survival chances of the too-early born. Such simple life-saving techniques as that exemplified by gavage feeding, which involved the invention of a special spoon for nasal feeding, proved indispensable to the quest for newborn viability. With the advent of incubator technologies, the preemie's popularity spilled over into the "World Fair" science displays that flagged the opening decades of the twentieth century. Women nurses were standard employees at these quasi-scientific "incubator baby sideshow" exhibits.



In fact, given the labor-intensive care required for every preemie patient, neonatology has long been dependent upon the skills and commitments of an unsung battalion of nurses – the majority assuredly women – who over the course of the century chaperoned several generations of preterm babies to childhood, and in so doing, chaperoned neonatology towards its current status at the frontiers of biomedicine. Women have not been relegated to the shadows of the discipline, however. Relative to other biomedical fields, the gender ratio has tended to be more equitable in neonatology, and pediatrics generally; with women accounting for a higher percentage of physicians and researchers as compared with other medical specialties. Neonatology's history is further distinguished by pioneering women who have been instrumental in the development of emergency transport techniques, ventilators, synthetic hormones, aptitude tests to evaluate newborn stability, and other achievements. A consideration of women as inventors, practitioners and general workers in the rise of neonatology pinpoints the importance of women as technology experts. The foregoing examples distinguish women in the productivity role of neonatal medicine; in the following section we entertain a consideration of women in the participatory role.

Women in the Participatory Role

The preterm baby “comes into existence” fraught with risk and peril: its patienthood not necessarily predicated upon disease, per se; but rather upon spatio-temporal displacement from an originary uterine home. The still-fetalized newborn is vitally dependent upon a customized, life-support universe that can be said to artificially

“gestate” the preemie into maturity, whilst guarding it from a host of serious afflictions to which it remains vulnerable. Lengthy hospitalization is common and outcomes – whether those of short-term survival or long-term prognosis – are uncertain. The baby's health odyssey radically disrupts the mother-infant relationship, thereby exacerbating ruptures already caused by precocious delivery (and its perversion of a normal “pregnancy equation”) and further destabilizing the situated identity of a new mother, who might herself be suffering health complications and assigned to the category of patient. Over years of fieldwork in a neonatal intensive care ward at a metropolitan U.S. hospital, I have studied how many a mother copes – psychologically and practically – with prolonged estrangement from her hospitalized newborn and the emotional roller coaster implied by living with uncertainty as to whether her child will live or die, will be “able” or disabled. As women themselves are apt to explain, the ordeal relegates mothers to a satellite position, and subordinates the maternal role. It challenges mothers' expectations about bonding and their agendas to forge primary attachments with babies connected to, and engulfed by, a web of life-support machinery. By means of interviews with preemie mothers and observations of their behaviors in the hospital context, I have sought to understand how mothers meet these challenges. Mothers' words and deeds attest to substantial engagement with the machinery that surrounds their new kin. At the intensive care ward where I worked, mothers characteristically placed toys and trinkets (e. g. “teddy bears”, dolls, etc.) in their babies' incubator units, and used ribbons, greeting cards, pictures and so on,

to “decorate” the incubator. Mothers described these actions as attempts to “soften”, “warm”, “make colorful or cozy”, and in like words animate (or could we even say humanize?) the machinery – machinery, it bears note, that is already buzzing with the lights, sounds, and movements typical of life-simulating and life-signifying devices. Mothers were also prone to reference the machinery when simply talking about their infants (and vice versa). Such findings have led me to conjecture that many a mother incorporates the incubator et al., into her itineraries to bond with child. These are emotional, embodied, enacted, and on occasion enunciated (to me, the anthropological interlocutor) itineraries in pursuit of intersubjective knowing; and in pursuit of them, my data suggest, mothers coincidentally and/or isomorphically pursue an accordant relationship with the machinery. What I am proposing is that there is a tendency for mothers to engage in a kind of “bonding” with the machine; as indicated by a reading of mothers' practices and discourses, which imply various ways of “conversing” with the machine as interlocutors. Pushing the argument further, I have wondered as to whether this triadic bonding inclines towards “thouing” the machine? In querying these relations, we inevitably query the role of vital machines – what I have called “charged artifactual others” – in the worlds and worldviews of these women. We also raise insights into the intersecting relations between the domain of medicine and that of kinship, through an intimate look at women in the participatory role vis-à-vis the technologies of neonatology.

Women in the Performative Role

Whereas a decade ago, mothers by-and-large remained lay witnesses of neonatal equipments in-action; preemie mothers of today increasingly are being recruited (some might even say conscripted) into active duty. Such enlistment marks an instrumental response to the ever-earlier hospital discharge of preterm patients who arrive home still prosthetically-connected and with their vital machines in tow. This is bringing about new home-hospital partnerships and pedagogical relations, predicated upon the necessity for mothers (and fathers) to competently operate heart monitors and respiratory machines, and to be otherwise instructed in the healing arts and science of life-support governance. Hereby parents are

expected to assume command in what we might describe as a trend towards hyper-technologized caregiving in the domestic arena. We have little information, at present, as to how such trends might shift human-technology relations, alter technological consciousness, and/or transform gender identities and relationships. We might note, however, that this again situates charged artifactual others at the epicenter of one of life's most intimate relationships, and extends the sphere of governance across science and kinship, public policy and planning. In our discussion about the challenges of mother-preemie bonding, we focused on the interpersonal relationships unfolding between a mother and the newest member(s) of her family unit, implying here both baby and incubator et al. Before concluding, we might make brief mention of another technological arena that is also mediating mothers' relationships with and about preemies – the arena of information-communications technologies where women (and men) are building “parents of preemies” virtual communities to converse about preemie matters. The in-depth discussions about medical procedures and the ubiquitous graphics of incubators (with and without their infant inhabitants) common to these virtual communities vividly illustrate the continuing presence of “the machine”, and (I would further argue) exemplify collective projects to “make sense of” these technological others. Via chat sites and hyperlinked homepages, mothers are sharing stories, offering advice, exchanging information and in myriad ways discursively authoring the preemie into existence as a kin member, a social actor, and a brand new historical persona. These are meaning-making missions with women in the performative role as interlocutors of and with “cyborg” technology. As exercises in the epistemological management and “mainstreaming” of the preemie, these performances also index gestures of ideological governance.

Woman in the Archetypal Role

In closing, we might note that women – or it would be more apt to say woman – have performed another (unwitting) role vis-à-vis neonatal technologies: that of inspiration, technology's muse. It is the ontological premises, the organic functions and corporeal performances of the female body-in/of-reproduction, after all, that provide the ersatz template for incubator machinery. Inevitably the technologies of neonatology



are substitutes for maternal gestation: instrumental simulacra upon life itself. While they don't (as yet?) simulate what happens in utero (albeit there is research to develop an artificial placenta) they do answer the purpose of a surrogate womb. Perhaps then it is not surprising that, over time (as illustrated in the evolution of incubator adver-

tisements and journal discourse) there has been a symbolic gendering 'round the incubator et al., into feminine metaphors, involving a metonymic conflation of infant and incubator. In sum, women have been engaged with neonatology in the role of technological inventors, interlocutors and inspirers. ■