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Accepted author version posted online: 12 Mar 2015. Published online: 12 Mar 2015.

To cite this article: Tsipy Ivry (2015): The Pregnancy Manifesto: Notes on How to Extract Reproduction from the Petri Dish, Medical Anthropology: Cross-Cultural Studies in Health and Illness, DOI: 10.1080/01459740.2015.1023952

To link to this article: http://dx.doi.org/10.1080/01459740.2015.1023952
The Pregnancy Manifesto: Notes on How to Extract Reproduction from the Petri Dish

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This article draws on 200 stories of procreation in an effort to revise a key-narrative about how humans come into being in technological societies. Before assigning Emily Martin’s famous article “the egg and the sperm,” I asked Israeli undergraduates to explain to a beloved girl how children come into the world. Their narratives included detailed accounts of sperm-ovum encounters as if envisioned through a microscope; the process of pregnancy was missing from most of the stories. My analysis illuminates the local politics of technologized reproduction underlying the invisibility of women’s procreative labor and suggests an alternative story of procreation as hard work done by women’s bodies within somatic and social environments. The discussion points beyond students’ narratives, at the reluctance of anthropologists of reproduction to take up pregnancy as a unit of social analysis. With the emergence of the new genomic sciences, studies of the political ecology of procreative labor become urgent.

Keywords egg and sperm, genomic science, procreative labor, political ecology, reproductive technologies

“Imagine a young girl that you love,” I ask of my undergraduate anthropology students—almost all of whom are young women,” and write how you would explain to her how babies come into this world.” A wave of quiet embarrassment stirs the classroom. I hold my breath as they struggle—while squirming and sighing—to phrase the paragraphs that will provide keys to eliciting their theories of procreation while exposing the underlying gender paradoxes. Then, I collect the anonymously written papers, and assign Emily Martin’s “The Egg and the Sperm: How science has constructed a romance based on stereotypical male-female roles” (1991) for the next class.

Martin’s analysis of the systematically privileged depictions of sperm over those of eggs in biological accounts of conception has been a source of inspiration in ‘anthropology of reproduction’ classes I have been teaching in Israel, as in classes in gender studies, anthropology of...
reproduction, and feminist science studies around the world. Throughout her scholarly work, Martin (1998) insisted that attention should be paid to the ways nonscientists actively engage in scientific knowledge. One of anthropology’s important contributions to Science Studies, she argued, is in plotting the connections between nonscientific engagements and the scientific praxis of knowledge production, consumption, and circulation. Students putting their own theories of procreation into words, I hoped, would facilitate a positioning of their ideas relative to the scientific literature analyzed by Martin.

In 2001, when I first tried this exercise, I expected to find versions of the egg and sperm story as a part of students’ narrations of how humans come into being. Martin’s essay prepared me for depictions of passive eggs being saved by heroic sperm. But the extent to which pregnancy was almost completely erased from students’ accounts struck me as worthy of further exploration. To give an initial sense of the paradox at the center of my analysis here let me cite a young woman, who explained in 2011:

Mommy and daddy go to bed, . . . , and then they make love, this process is accompanied with many hugs and kisses and then there is a race: daddy’s sperm competes with the other sperm in a race to capture mommy’s egg and finally daddy’s sperm wins and penetrates the egg and then a brother is born to you.

Pregnancy is absent from a quite detailed story that ends with ‘a brother’—a fully-fledged human family member—being born. Conception—a short term generative process involving a scene of sexual intercourse couched in language of romantic love and followed by a micro-level encounter of personalized reproductive cells invisible to the naked eye—was given ample narrative space; gestation—the long-term energy-consuming reproductive effort undergone by women, a visibly recognizable process of physical transformation—was erased from the story of how humans come into being. In many of these narratives, fertilization is a shorthand for procreation.

The absence repeated itself each year. Since 2001 I have collected over 200 written procreation stories and documented discussions in class about their meaning; they proved ‘good to think with.’ Here I briefly contextualize these stories within their local cultural politics of reproduction. In this article, however, I have opted to use my collection of procreation stories as a point of departure; it is first and foremost the means by which to rethink and revise a key narrative about how humans come into being in technological societies—one whose assumptions seem to prevail in ‘lay’ as well as in large parts of social scientific scholarly discourse.

In the following text, after a brief account of the development of anthropological explorations of procreation, I describe Emily Martin’s classic essay. I then suggest a story of conception that goes beyond the egg and sperm as protagonists to emphasize the somatic labor involved in creating a supportive environment to enable it. I return to analyze students’ narratives, highlighting the absence of women’s reproductive labor in them. Finally, I suggest what might be at stake in the absence of pregnancy for women. I conclude with proposing comparative explorations of the ‘political ecology of pregnancy’ as a potent trajectory of research for anthropologists of procreation.

**EXTRACTING STORIES OF PROCREATION FROM THE PETRI DISH**

Interest in people’s theories of procreation—the physiological, social, and/or divine processes surrounding conception, pregnancy birth, and upbringing of human beings—has been central to
anthropological inquiry since its inception toward the end of the nineteenth century (Delaney 1991; Franklin and Ragone 1998). This interest persisted throughout the twentieth and into the twenty-first centuries, being periodically transformed by the waxing and waning of theoretical approaches in the social sciences, which evolved in correlation with biotechno-scientific developments in reproductive biology and significant changes in the world-order (for systematic reviews see Davis-Floyd and Sargent 1997; Franklin and Ragone 1998; Ginsburg and Rapp 1995). Here, I trace the history of the marginalization of pregnancy in anthropological explorations of procreation, highlighting turning points in ‘folk’ and biomedical conceptions and their anthropological theorization.

Insights into the correlation between procreation theories, gender conceptions, and social structure date back to Malinowski, who in 1927 identified the “idea that it is solely and exclusively the mother who builds up the child’s body [as] the most important factor of the social organization of the Trobriands” (Malinowski 1927:12). Malinowski—considered the pioneer of ethnographic research—inserted much detail into descriptions of Trobriand ideas about processes of conception, pregnancy, birth, and upbringing.

Rejecting cultural evolutionist premises, Malinowski, Radcliffe-Brown, and other scholars of British social anthropology constituted the synchronic study of kinship systems as a crucial part of the structural-functionalist endeavor. However, the erosion of faith in the structural-functional model of society in the second half of the twentieth century caused a waning of the centrality of kinship studies associated with that model (Collier and Yanagisako 1987). Nevertheless, procreative ideas and practices continued to capture researchers’ attention during the second half of the twentieth century, albeit from different theoretical perspectives, including structuralism (Lévi-Strauss 1969), semiotics (Schneider 1980), and cosmology (Carsten 1997; Delaney 1991; Gottlieb 2004).

The work of David Schneider and Carol Delaney are of importance here. Schneider (1980) analyzed American kinship as a symbolic system that organizes relatedness on the basis of shared biogenetic ‘substance.’ Sexual intercourse emerges as a morally dense transfer point from relations defined by law (conjugal) and therefore breakable, into relations defined by biology and therefore unbreakable; the potential of pregnancy to signify ‘substance’ remains unacknowledged in this system. Delaney builds on Schneider’s semiotic analysis to argue for a correlation between a ‘monogenetic’ theory of procreation and the theological doctrine of monotheism. The ‘seminal’ role of men as the generating force behind procreation, and women’s secondary role as ‘merely’ supportive mediums, she argues, is embedded in the cosmologies of all three monotheisms (Delaney 1991).

Indeed, monogenetic ideas are as apparent in the history of reproductive biology in Christian Europe as in Delaney’s Turkish village in the 1980s. A famous moment in that history belongs to Anton Van Leuvenhook, a Dutch textile merchant, who in the 1670s observed semen through his self-made microscope, claiming that semen consists of whole albeit tiny human beings that he called “homunculus”—little men (Cobb 2006).

Delaney singled out the scientific observations during the 1940s of the union of egg and sperm through the microscope as a turning point in ‘lay’ understandings of procreation. On the one hand, she notes, these observations validated preexisting notions of physical paternity embedded in monotheistic cosmological assumptions about creation, procreation, and gender, albeit on a different scale (Delaney 1991:12). On the other hand, the coupling of egg-and-sperm imagery with the growing prominence of genetics—particularly, I would add, versions of genetic determinism prevalent in the second half of the twentieth century couched in metaphors of DNA
as the blueprint of life—indicated to some women that they were at least equal contributors to procreation, and that their contribution was of the same kind as men’s (Delaney 1991:13).

In hindsight, the images of egg and sperm epitomized the shift toward technologization and fragmentation of the human body, along with the commodification of human body parts and cells. Specifically, the growing availability and routinization of new reproductive technologies—assisted reproduction and donor technologies as well as prenatal diagnosis—throughout the industrial world and beyond since the early 1980s have sparked lively debates among ethicists, religious denominations, and, prominently, feminist theorists and activists.

The social scientific explorations of human reproduction that developed thereafter at the intersection of feminist theory, medical anthropology, and science studies has been concerned with the ways women’s reproductive capacities are being technologically mediated, manipulated substituted, and bypassed, illuminating their configurations in different sociocultural religious and political settings. With few exceptions (Han 2013; Ivry 2010a), scholars have been hesitant to take up pregnancy as a meaningful unit of analysis, let alone its focus. Rather, women’s encounters with reproductive technologies and medical interventions became the ultimate perspective from which to study the meaning of ‘reproduction’ (cf. Morgan 1990).

For the past four decades, feminist studies of reproduction have drawn attention to the transformative effects of new reproductive technologies (NRTs). Scholars working in Europe and America claim that obstetrical ultrasound imaging is increasingly transforming fetuses into fully-fledged patients whose rights might conflict with the mother’s, rendering women’s bodies increasingly permeable and transparent entities (Mitchell 2001; Taylor 2008). The mother has become “an empty space,” writes Barbara Katz-Rothman (1986:114); and Rosalind Pollack-Petchesky, analyzing the uses of ultrasonic imagery in antiabortion propaganda, poignantly commented on the deadly consequences of “the denial of the womb” (Pollack Petchesky 1987:270).

Scholars documenting the routinization of prenatal diagnosis have shown how women’s experiences of pregnancy are increasingly complicated by the need to contemplate the prospect of anomalous fetuses; amniocentesis has made pregnancy ‘tentative’ (Rothman 1986) and is pushing women who face postdiagnostic decisions about terminating the pregnancy to ‘moral pioneering’ (Ivry 2010a; Rapp 1999; cf. Gammeltoft 2014).

The literature on in vitro fertilization (IVF) has illuminated the ordeals of women and men seeking technological assistance in their quest for biological parenthood around the globe (Bharadwaj 2006; Inhorn 2003; Roberts 2012). Israel, known for its highest number of IVF clinics per capita in the world, has attracted scholarly attention (Birenbaum-Carmeli 2004; Ivry 2010b; Kahn 2000).

Of special significance here is the work of Sarah Franklin (1997), who has drawn on her extensive array of ethnographic and historical explorations of assisted conception in the United Kingdom to argue, together with Marilyn Strathern (1992), that reproductive technologies are transforming our understandings of ‘the facts of life,’ together with notions of ‘nature’ and ‘culture.’ Whereas IVF has been conceptualized in public media as “giving nature a helping hand” (Franklin 1997:10), Franklin argues that the effect is bidirectional: technologically assisted conception is increasingly becoming the primary frame of reference from which ‘natural conception’ is understood (Franklin 2013, 1997; Strathern 1992). Spontaneous conception is increasingly being imagined as if it has occurred in a petri dish; both ‘assisted’ and ‘unassisted’ conception are understood as increasingly complicated processes with high failure rates, and are envisioned
in ever greater detail. Martin’s essay analyzing scientific accounts of fertilization in reproductive biology texts from the 1950s to the early 1980s—published three years after the birth of the first ‘test-tube baby’—illuminates these details as saturated with gender stereotypes.

BEYOND SLEEPING METAPHORS AND EGALITARIAN DEPICTIONS

Martin shows how biology texts emphasize the fragility and dependence of the egg rather than that of the sperm, despite scientific awareness of their dependence on intra-somatic environments inside the woman’s body for their survival; both egg and sperm die within a few hours unless they merge. The egg has been depicted as “large and passive” (p. 489), a “sleeping beauty” (p. 490) awaiting her savior’s magical kiss of life while she “drifts” (p. 489) in the fallopian tube; the sperm is described as a hero, a warrior (p. 491) on a mission (p. 490) to rescue the egg, a swift tiny creature thrashing its tail, determined to burrow through the egg coat, penetrate it, and activate its developmental program (p. 489).

Negative depictions of the egg persist, despite new research that from 1984 began to show evidence that egg and sperm are mutually active partners. Scientists were making different choices of language to attribute a more active role to the egg, but at the cost of depicting her as a “disturbingly aggressive” spider (p. 498). Martin argues that the enthusiasm of biology texts for spermatogenesis and their disenchantment with oogenesis owe their intensity to the values attributed to large-scale production in industrial societies.

Alternatively, suggests Martin, the woman’s reproductive system could be appreciated for her skillful and adequate ripening of one egg at a time as needed; sperm could be viewed as coping with degeneration of germ cells in the testes; not to mention their huge “waste” as millions die in their quest. The egg and sperm could be depicted as mutually active partners working together to achieve a common goal; fertilization could be seen as initiated by the act of matching, rather than by the sperm penetrating the egg.

Martin recognizes that “(m)ore crucial, then, than what kinds of personalities we bestow on cells is the very fact that we are doing it at all” (italics and bold in original p. 501), but still she yearns for egalitarian (p. 501) depictions of human conception; the critical project she advocates in her 1991 article remains at the cellular level. Martin declares a feminist challenge to “wake up sleeping metaphors in science, particularly those involved in descriptions of sperm and egg” as a means to “rob them of their power to naturalize social conventions about gender” (1991:501). 1

Considering my students’ narrations of procreation with Franklin’s insights in mind, Martin’s project takes on additional urgency. Not only have detailed stories of eggs and sperm, taken straight from the petri dish, seemed to loom over their imagination of how fertilization occurs; this imagery has colonized their whole vision of procreation.

I propose an updated project, going beyond waking sleeping metaphors, to question the framing of the objects of metaphorization—the ‘egg and sperm’—as the protagonists of procreation. An update might be possible; more than two decades of production and consumption of reproductive techno-science have passed. Thirty years of clinical practice with IVF have opted to extend our understanding of reproductive biology (Franklin 2013). In 2001 the completion of the first ‘draft’ of the human genome was announced, creating a shift in understandings of the mechanisms controlling gene expression, indicating a decline of genetic determinism. What can be broadly referred to as ‘epigenomic sciences’ are revising much of what has been known about the effects
of material environments on the relationships between genotypes and phenotypes (Lock 2013). The idea “that environment(s) can make a direct contribution to characteristics passed along to ensuing generations— informs one aspect of the foundational thinking of the burgeoning discipline of epigenetics” (Lock 2013:291; see also Landecker 2011; Landecker and Panofsky 2013). In fact, the new postgenomic truth claims echo indigenous procreative beliefs about the centrality of women’s somatic contribution to reproduction documented by anthropologists studying non-Western societies.

Insights from the new genomic sciences, as well as earlier contributions from epidemiological research into the fetal origins of adult disease established by David Barker (1995), may be explored so as to expand recognition of women’s contribution to reproduction way beyond their gametes—at least in stories that women tell themselves about coming into being—while paying heed to the new forms of somatic and molecular reductionism that emerge with the new sciences. But the time is ripe to reach beyond cellular dramas, to ‘wake up’ or animate the crucial importance of the somatic-social environments that give them life; to rob the ‘black outer space’ of its power to silence and nullify the long-term reproductive labor still required of women—in neoliberal social orders where commodified modes of reproduction are burgeoning as in prior social orders—for humans to come into being.

A broad perspective on human reproduction renders the quest for egalitarian depictions of reproductive biology paradoxical; it reveals a hugely unequal division of labor between the sexes in which the female body is infinitely more active throughout the stages of reproduction, including the celebrated instance of conception. It remains true, at the beginning of the third millennium, that any living human being will have been gestated for some months inside a woman’s body. This includes premature babies, and babies who have been conceived through surrogacy agreements. Even ‘test-tube babies’ are (still) gestated inside women’s bodies.

The pedagogical trajectory offered here opts to give narrative space and detail to the consecutive interdependent somatic environments on which procreation depends: the egg is a component of the female reproductive system, which is again part of the whole body (which is encapsulated in consecutive material and social environments). And then, there is a woman in that body, to paraphrase Martin’s groundbreaking book (Martin 1989). Pregnancy, however, is absent from “The Woman in the Body”—a juxtaposition of scientific narrations of menstruation, menopause, and birth with women’s accounts of these experiences. If the biomedical gaze is about zooming into the human body in pursuit of “deeper structures [which] are not social or divine but ever more fundamental orders of material reality” (Good 1994:75), the feminist intervention offered here is a counter movement—an exercise in mindfully zooming out.

ZOOMING OUT STAGE ONE: THE COURAGEOUS EGG, PAMPERED SPERM, AND THE NURTURANT ENVIRONMENT OF CONCEPTION

The exposition of Martin’s arguments in class recruits students to the mission of recreating conception stories respectful of women’s somatic contributions. Through the years I have taught seminars of around 20 students who affiliated themselves to the three monotheistic traditions; most were young women in their early to mid-20s, about one-tenth of them mothers. Their ethnic-religious distribution included 80% Jewish-Israeli students and 20% Palestinian-Arab
Muslims and Christians. My seminar was their first encounter with the anthropology of reproduction.

Regardless of their ethnic and religious affiliation, students were perplexed at learning that new scientific discoveries did not work to improve the egg’s image. I suggest to them that to extend the empowering effects of the alternative descriptions that Martin suggests we might change the scale of our gaze, acknowledging that fertilization does not take place in outer space (Pollack Petchesky 1987) but inside a woman’s body, and that the female reproductive system is far from a passive location for the drama of conception.

I emphasize to my students that a woman’s body must labor to build, maintain, and nourish a somatic environment that will actively support conception and later gestation. Some of the achievements related to the sperm, or better to an interaction between egg and sperm, could not have been accomplished unless the female reproductive system had worked meticulously to produce a suitable ecosystem for them to take place—what the literature on IVF laboratory techniques would try to imitate and call a ‘medium’ or a ‘culture’ (Franklin 2013).

The following list of anecdotes is taken from a lecture I polish annually, based on literature on reproductive medicine and assisted conception (Speroff and Marc 2010). I start from where Martin’s description ends, recounting the fragility of sperm cells, but I expand on the fact that their survival depends on maintenance of supportive mediums. To survive more than an hour, sperm need a temperature of around 37 degrees Celsius and a medium that will nourish and protect them. Such a supportive medium is produced toward ovulation through the collaborative work of the female reproductive system. A hormonal exchange carried out between the pituitary gland and the ovaries ‘orchestrate’ a cyclical dynamics of change in the quality of cervical secretions. In the days nearing ovulation the cervix produces (or ejaculates) a special cervical liquid whose high concentration of sugars and proteins nourishes and protects sperm, while a fern-like molecular structure facilitates their motility. According to professional literature, sperm can thrive in such preservative liquids for three to five days while they are waiting for the egg to emerge.

These are sperm that wait in cases when sexual intercourse takes place before ovulation. I ask my students to envision these sperm as hanging around in the cervical waiting room all pampered with sugary protein liquids. The hostile vaginal environment that biology texts tend to emphasize as a background to the sperm’s bravery—made of vaginal flora that protects women’s bodies from infections—becomes a ‘friendlier’ environment due to cervical fluids secreted before and during ovulation, and sperm that manage to pass through it reach the ‘heaven’ of the cervix.

The same hormonal exchange that collaboratively inspires the production of friendly cervical fluids also choreographs a competition to choose the first egg that matures from a selected cohort of follicles in the ovaries.

Each month, under the influence of the follicle stimulating hormone secreted by the pituitary gland and responded to by the ovaries, about 15 to 20 oocytes start to mature in one of the ovaries; the first to mature will burst out of its shell. Martin has noted the biological inadequacy of the concept of ‘sperm race,’ the first sperm that arrives at the egg will not necessarily be ‘chosen’ by her. But ‘egg race,’ I propose, can be regarded as an adequate concept: a process of self-supervised inner selection activated by the female reproductive system toward its components—a process that microbiologists are still striving to fully understand. The egg that manages to mature first bursts out of its shell and starts burrowing or drilling or burning or melting its way through the ovarian wall. If we wanted to personalize and valorize cells, the egg would seem an appropriate candidate for bravery: for diligently burrowing through a thick barrier adventurously sending
itself to the open space of the abdominal cavity. However, this would be a huge reduction; that ‘space’—again—is active and supportive. The fallopian tubes will now extend their fimbria—their fingers—to embrace the egg safely and insert the ‘brave pioneer’ into the fallopian tube. The sperm that have been coddled in the cervical waiting room will now be pushed toward the fallopian tubes by the womb’s contractions.

The above excerpts from my lecture draw on the burgeoning medical literature in assisted reproduction that tries to imitate, in the petri dish, the quality of the supportive ‘media’ of fertilization provided through the collaboration among organs of the female reproductive system: the ovaries, the fallopian tubes, the womb, as well as other organs—the pituitary gland and the hypothalamus to mention just the most prominent. Instead of singling out the egg or sperm as the bravest hero of the story, it would be more appropriate to valorize the ingenious cooperative work of the woman’s body. Noteworthy is that while thousands of medical articles describe ovulation in the petri dish, little is known about the mechanism that enables “spontaneous” (i.e., unassisted) human ovulation (Lousse and Donnez 2008:833; see also Das, Khan, and Mocanu 2011:677). My lecture proceeds to describe the processes of implantation (as a conversation between the embryo and the endometrium), the development of the placenta and umbilical cord that function as an elaborate life support system.

With all this elaborate work of the body, egalitarian depictions of conception appear distorted at best; the division of somatic reproductive labor between the sexes emerges as unequal. The perspective broadens to include the efforts of the woman’s reproductive system, indeed of her whole body, to protect and nourish sperm and to usher them to the brave adventurous egg, which—being first to mature—won the egg race by first bursting through the follicular envelope, only to go as far as melting the ovarian wall, liberating herself into the open space of the abdominal cavity (trusting the fallopian tubes to catch her), in order to welcome sperm, unite with her chosen partner, and bring both of them safe and sound into the womb—a central supportive and active space.

And when students start smiling with relief saying they are getting an idea of how to construct an empowering explanation for girls about how children come into the world, I turn our attention back to their own narrations of procreation.

FRAMING STORIES OF PROCREATION

Any story is a result of inevitable choices—”at once theoretical and methodological about what and whom to include, what and whom to leave out, and why” (Taylor 2010:2). I distribute among the students handouts that I prepared with excerpts from their stories and encourage them to think about the choices made. The initial goal of our analysis is to answer a meta-question—what is the story about—with the aid of a series of specific questions: Who are the protagonists? Who is endowed with agency? What is told about? What is skipped? How is the story organized? Does it have a beginning and end? Does it have a climax? Where does the story become detailed? I ask them to contemplate these questions vis-à-vis the temporal and experiential dimensions of procreation; based on their own experiences, those of relatives and friends, or as they imagine them from various media sources.

About half of the narratives made sure to position procreation within a social setting of clear commitment between a man and a woman. Most often children were conceptualized as ‘the fruit’ or an ‘expression’ of love between married or unmarried heterosexual couples (cf. Schneider
and were conceived as the result of a ‘decision’ they made. Students strove to tell an ideal story of procreation for a beloved girl.

The narratives of Palestinian Arab students went into great detail to establish the legitimacy of the bond; they account for how the man has asked the hand of his beloved in marriage from her father, and provide details of their wedding. Several narratives stated that the child was the couple’s wedding gift from God. These stories tended to refrain from explanations of sexual intercourse altogether and often from cellular dramas (cf. Kanaan 2002).

The stories of Jewish Israelis were generally organized as a zooming-in movement through a series of parallel encounters between male and female ‘agents’ of different orders of magnitude, beginning with the romantic relations between a man and a woman, then an encounter between their bodies and/or their sexual organs, which finally reverberated in the interaction between their gametes.

Not all narratives stopped at each and every post; many skipped depicting the romantic lovers, going directly to the cellular encounter. Others bypassed the romance and started from sexual intercourse, quickly zooming in to the cellular level. The egg and sperm were rarely absent from the narratives of Israeli-Jewish students and in most cases their encounter and or an account of sexual intercourse (when not skipped) represented the climax of the story.

Notions of egg and sperm that Martin criticized emerge, revealing, however, a broader range of ideas. At one end of the continuum lies monogenesis: the idea that the male partner is the sole generator of life. A narrative from 2007, to take one example, does not mention the word ‘sperm’ but echoes the homunculus idea: “The man inserts into the woman something special that creates a baby.” In the class discussion, students explained that the omission of ‘sperm’ is a phrasing addressed at particularly young children. The egg, however, was completely absent from that story, not to mention the female body or any aspect of reproductive labor. A narrative from 2011, to take another example, asserts that a child is an achievement of the winning sperm: “There are many sperm (cells) and only one succeeds. If he succeeds, a fetus develops.” Such monogenetically oriented ideas emerge as part of narratives that feature mutual affection between partners. A 2012 story about “mommy and daddy who love each other so much” goes on: “They got into bed and they kissed and hugged a lot and then an important component from daddy’s sexual organ was secreted. This component is important because when it meets with another element in mommy’s body, a small cell is created, one that becomes a baby with time.” The male component is declared important; the female’s is trivialized as “another element.” And once the accomplishment of the male component is complete, the development of a baby from a cell seems involuntary, merely a matter of time, not requiring any effort from either partner or any elaboration by the narrator. The idea of women as receptacles of ready-made babies inserted by men (the homunculus) follows logically from such narrations. The notion of woman-receptacle emerges as frequently in narratives that explicitly insist that male and female gametes make equal contributions to the creation of a new life.

Such narratives can take on a recitative textual formation in depicting male and female reproductive processes as symmetrical. Rather than differentiating male ‘production’ of sperm from women’s ‘ripening’ of eggs, both sexes are depicted as industrious: “The man produces a cell called sperm and the woman produces a cell called egg.” Interestingly, here each partner produces one gamete. Another way to go about the same idea is to depict both eggs and sperm as numerous—“inside daddy there are many many tiny sperm and inside me (the woman narrator) there are many many tiny eggs”; here difference in order of magnitude, in terms of both number
of cells (sperm are produced in millions whereas eggs are produced in the singular) and their size (an ovum is hundred times larger than a sperm), are completely ignored. Finally, rather than depicting the egg as ‘drifting’ and sperm as energetically thrashing their tails, a narrative from 2011 describes both cells as motile: “Inside (the woman’s body) swims a little bubble that is called egg and inside daddy swims a little fishy called sperm.”

Depictions of aggressive eggs that trap sperm in spiders’ webs (Martin 1991:498) are absent from students’ stories. And, as mentioned, while notions of the winner sperm emerged sporadically, the majority of narrators used a range of verbs—“the egg and sperm connect,” “join,” “merge,” “unite,” “meet”—to depict a collaborative mutual action between sperm and egg at the moment of fertilization, explaining that both male and female partners participate in the creation of a new life; some spoke of collaboration and joint responsibility. The majority stressed partners’ equal contribution.

In a narrative from 2008 the contributions are numerically equated: “Mommy and daddy love each other so much and want to bear a child that will be half like mommy and half like daddy. Nature makes sure that half of his (the child’s) traits (t’chunot) will be like its mother and half like its father.” In the discussion in class, students explained that this narrative draws its authority from popular notions of genetic heredity. Some fervently supported the conceptualization of a child (not a zygote) as “half–half,” illuminating the persistence of genetic determinism in the postgenomic age and its appeal to advocates of gender equity. Students were surprised to learn that new insights from postgenomic science show that phenotype and genotype are mediated in ways much more complex than previously thought, through the intrauterine environment. Current scientific efforts in reproductive biology are increasingly dedicated to understanding the “media induced” effects and “parental imprinting” on embryonic development (Franklin 2013:751–752, emphasis added), rather than genetic “blueprints” (Lock 2005:S47, emphasis added).

Other narratives were less explicit about calculating parts but nevertheless used other metaphorical devices to deploy equal contributions. A narrative from 2010 claims that each partner contributes one piece: “A baby is made of a piece from mommy and a piece from daddy. The two parts connect in mommy’s belly and a fetus is created and grows until a baby is born.” A narrative from 2008 states: “Each one of the parents contributes his share in the process—each one brings something from himself, something internal, the mother brings an egg and the father brings a sperm/seed and together a baby is created.” Gestational efforts disappear in such an arithmetic of contributions.

With the processes of pregnancy, birth, and parenting in mind, I ask my students: Is an egg all that a woman brings in order for a child to come into being?

WHERE ARE OUR BODIES AND OURSELVES IN STORIES OF PROCREATION

Narratives that rendered the pregnant body visible at all spoke laconically about the woman’s “big belly” or about the gradual “swelling” of “mother’s belly.” But in most of them the baby was rendered as spontaneously “growing up in the belly” or “dwelling in the belly for nine months until it is ready” (cf. Teman 2010). The most detailed account of the mechanism of “growing up” stated that “he (the baby) actually eats and drinks what she [the pregnant woman] eats and drinks and this is how it grows.” The idea that a woman might be actively “feeding the fetus” (cf. Markens, Browner, and Press 1997:351) rarely appeared.
Rarely was pregnancy chosen as an object for metaphorization. A narrative from 2011 is one example: “To make a child one needs two ingredients, like a food recipe... a man’s sperm and the woman’s eggs.” The metaphor of food and cooking opens up the possibility of acknowledging the importance of maternal nurturance”(cf. Markens et al. 1997). However, the cooking metaphor went on to render the pregnant body merely an oven: “Mommy becomes pregnant (nichneset leherayon) and a baby is being cooked (mitbashel) in her belly and when the time comes the baby comes out.” Israeli surrogate mothers documented by Elly Teman (2010) used these metaphors to allocate privileged importance to the babies’ genitors rather than to their own gestational contribution.

Another narrative from 2011 echoing the transparency effects of obstetrical ultrasound states: “The womb is like an aquarium in which the baby receives everything it needs [it is unspecified from whom] during nine months and then he comes out through mommy’s vagina and this is how children come into this world.”

Notably, in the two narratives, as in two thirds of the accounts, the birth of a baby was described in the passive voice—”the child is born”—or agency was allocated to the baby—”the baby decides that it wants to meet mommy and daddy.” In a third of the narratives the agency was allocated to medical professionals: “Mommy goes to the hospital and the doctor takes the baby out.” A few narratives declared that mother “makes a big effort to push the baby out.”

Returning to the absence of gestation, there was hardly any experience of pregnancy in the stories. Wondering whether the reason might be that most students had never experienced carrying pregnancy to term themselves, in 2012 I devised an additional assignment: students were to interview parents about how they handle explaining to their children how they came into the world. It transpired (in the case of heterosexual couples) that in most cases such explanations were regarded as quintessentially the role of the mother. Second, both self-proclaimed ‘nonreligious’ or ‘secular’ Jewish Israeli mothers, who prided themselves as being ‘open,’ and Muslim and Christian Arab mothers, who openly admitted their distress, were highly embarrassed by questions about coming into being. Some claimed that there is no need to explain because “these days children know everything.” Finally, none of the 20 mothers who agreed to give an interview spoke at length about their own experiences of pregnancy; five stated explicitly that they refrained from conveying to the child the physical and mental difficulties that they went through. The data suggest that an “ethics of love” (Sa’ar forthcoming) might stand in the way of acknowledging maternal contributions and efforts.

Reflecting on the excerpts from their narratives listed in the handouts, students readily notice that eggs and sperm are rendered the protagonists of stories of procreation, and protest when unequal depictions emerge. Tackling the meta-question of what their stories are about, they realize that they are about a generative moment—the creation of a zygote, although usually I have to point out what the story is not about: it is neither about the process of creation and growth of a human being nor the efforts of the woman creator/progenitor.

When I highlight the absence of the gestational process, students often insist that the deflation of “how children come into the world” into a “story of fertilization” is obvious. Year after year, they defend their assumption: their imagined child would be uninterested in pregnancy precisely because it is a visible process. The interesting question, they claim, is about genesis: how the baby entered the belly; not about the gestational process of nurturance. Many felt embarrassed when trying to convey sexual intercourse and resorted to range of rhetorical ways. They drew on the biblical metaphor of a men and woman becoming “one body” (cf. Teman 2010); or they
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Why is pregnancy marginalized to the point of disappearance in so many accounts of procreation—both ‘lay’ and scholarly? What can be gained or lost, and for whom, by resisting the absence of pregnancy? And what can anthropological scholarship gain—in terms of the revelatory powers of its trajectories of theorization—from re-introducing pregnancy as an important unit of social analysis?

I begin by addressing these questions in respect of the narratives of young Israeli women: If ‘how children come into being’ is a genre of stories that people tell themselves about themselves (to paraphrase Geertz), what can anthropologists learn about the assumptions held by women who tell ‘pregnancy-free’ stories of procreation? Certainly, deeper explorations of these young women’s life worlds with due attention to their diversity is necessary for systematic contextualization of their ideas of procreation, far beyond the scope of the class exercise. But let me hypothesize that had these young women felt that gestation made a significant contribution to the constitution of the fetus, they might still have started their stories with accounts of fertilization, but could have continued by saying that “much physical and emotional effort is needed on the part of the pregnant woman, her supporters and in fact her society if a baby is to develop from that zygote.” Clearly, such a view of procreation attributes considerable power to women and their bodies. Moreover, narratives of procreation that speak the truth as to the labor required in the process of procreation rather than focusing on the generative potency delegated to romantic love might shed light on what is at stake for many women in becoming pregnant (whether they will eventually get paid for it as ‘surrogates’ or not): intensive physical and emotional work.

However, at least in contemporary Israeli cultures of pregnancy (Israeli-Jewish cultures in particular), relatively little stands to support the idea that women make their future babies with their bodies. Quite the opposite is true. My comparative ethnography of medicalized pregnancy in
Israel and Japan shows that while in both cultures women are held responsible for ‘pregnancy outcomes,’ maternal contribution to fetal health is considerably less emphasized in Israel. Whereas Japanese women are encouraged by authoritative medical voices to maximize the health of their future babies through mindful nutritional intake and physical activities, controlled levels of stress, and so on, Israeli women are actually encouraged to use technologies—a range of prenatal diagnostic techniques subsidized by the state in combination with postdiagnostic terminations—in order to rule out the possibility that a child with a genetic or chromosomal anomaly might be born. It might not come as a surprise that these women tend to render their own somatic agency as residual. The geneticization of fetal health correlates with women’s tendency to understand themselves as receptacles of ‘ready-made’ homunculus-like fetuses. That women who never carried a pregnancy to term also echo notions of the pregnant body as receptacle suggests the potency of geneticized individualism beyond the specific social spheres of pregnancy. It seems that pregnancy is considered ‘uninteresting’ by these students primarily because the contribution of the gestational process to ‘who’ the fetus might turn out to be is considered marginal.

My previous work allows me to see a connection between the procreation stories told in class and Israeli politics of reproduction: Israel with its technophile reproductive policies might be a powerful case of nullification of women’s reproductive labor in many kinds of social spheres (Ivry 2010a). I suspect, however, that Israel might not be the only case where procreation can be conveniently deflated in people’s minds into fertilization in the petri dish, as Franklin’s work suggests. Discounting the role of gestational labor in bringing fetuses/babies into being underlies much of anti-abortion advocacies in North America.

My ethnography of medicalized pregnancy in Japan at the turn of the century reminds us of the pitfalls of acknowledging the pregnant body as a potent eco-system that determines fetal health. The Japanese context demonstrates a social order where acknowledging the potency of gestation goes together with greater attempts at policing of women’s everyday lives, and with a heightened sense of maternal guilt (Ivry 2010a).

The burgeoning new genomic sciences—offering revision of the nature-nurture divide (Lock 2013)—may in fact work, under specific sociocultural-political circumstances, to intensify notions of maternal guilt. Ethnographic explorations of the uses and abuses of genomics in the praxis of prenatal and postnatal nutrition seems an urgent and timely topic for feminist anthropologists. Notably, anthropologists of reproduction are well positioned to remind the professional and wider publics involved in the conversation about maternal and fetal health about the procreative labor invested by women, the stratified dimensions of this work (Colen 1995), and, importantly, its embedding in broader ecosystems of local and global order that are socially and politically manipulated and are in constant interrelations; these interrelations configure in the physical body, infiltrating the intrauterine environment. Such a complex eco–socio–systemic apparatus can be thought of as ‘the political ecology of procreative labor.’ Thinking about processes of coming into being with political ecology in mind introduces ‘environmental’ issues of micro- and macro-orders into explorations of procreative labor. Many political ecologies around the globe, some of them as dramatic as the aftermath of Chernoby (Petryna 2002) and ‘agent orange’ (Gammeltoft 2014), await explorations of the procreative labor carried out within their domains.

That anthropologists have been reluctant to take up pregnancy as a unit of social analysis invites further reflection beyond the scope of this article. But with the growing interest in the effects of ‘imprints’ of material and social ecosystems on human health and illness, I look forward
to the possible consequences of alternately zooming in and out of the powerful imagery of the egg and sperm to re-emboby pregnancy within the political ecology of procreative labor.

EPILOGUE

Sometimes one is thrilled on discovering a beautiful gem on one’s routine path, and one stops to admire the meticulous patterns engraved on it—only to notice the enormous rock in which the gem is embedded. In this article, I have described how Martin’s gem of an essay can be used to illuminate the huge gray rock of gestation embedded in its consecutive environments.

ACKNOWLEDGMENTS

The author is deeply grateful to Elly Teman, Eyal Ben-Ari, Don Seeman, Yuval Bdolah and the four anonymous reviewers of Medical Anthropology for their illuminating comments and suggestions.

NOTES

1. The challenge of waking sleeping metaphors of egg and sperm has been taken up from the male side of conception (Moore 2007).
2. The expression ‘follicular stigma’ refers, in biomedical literature, to the exit point of the mature egg on the ovary. The choice of a word that signifies a range of meanings, beginning with bodily mark or a wound, as well as negative social marking, is yet another term that calls for reconsideration.
3. Class discussions were conducted in Hebrew. In 2012 I hired a native Arabic-speaking assistant. Counting on her help I suggested that Arab students write their narratives in Arabic. Only one student indeed did so.

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