

The Chemical Pregnancy

Technology, Mothering and the Making of a Reproductive Experience

This paper examines the significance of the chemical pregnancy as a new reproductive experience in the United States today. Early pregnancy testing initially detects the presence of hCG, the so-called pregnancy hormone, but later testing then gives negative results or there are other signs that the pregnancy is not developing. What a woman might have described as a “late” period becomes recognized as an early miscarriage or a chemical pregnancy. Building on feminist scholarship in anthropology, sociology, and science and technology studies, the chemical pregnancy is discussed in terms of the contradictions and complications of technology, reproduction, and mothering. The chemical pregnancy initially comes into view as a natural, not-new experience that technology apparently has rendered knowable. Yet, on closer examination, it is evident that the chemical pregnancy is a cultural “fix” for the uncertainties that women face at an historical moment when there is little tolerance for the ambiguities and ambivalences that surround pregnancies. The chemical pregnancy is discussed as an experience of and metaphor for disrupted reproduction and disrupted mothering. The opportunities that reproductive technologies seem to offer are not always available or accessible; at the same time, they become new responsibilities for mothers.

Reproductive life histories can be complicated, and asking first-time mothers whether they have been pregnant before is a question for researchers to approach with respect and sensitivity. Yet, even with my training as a cultural anthropologist, I was unprepared for the response I received from a woman whom I call Nicole.¹ The aim of my study had been to consider how pregnancy as a cultural and social experience remakes women as mothers (Han). I had been interviewing women who were expecting a first child, including Nicole,

who had kept detailed notes on her current pregnancy. Then she mentioned that she also had notes on her previous “chemical pregnancy.” Because at that point I had never heard the term before, Nicole, who held a Master’s degree in biology, helpfully explained that a chemical pregnancy is a result of early pregnancy testing. A home pregnancy test initially detects the presence of human chorionic gonadotropin (hCG)—the “pregnancy hormone”—but then either the tests that a woman later takes give negative results or there are other signs, such as bleeding, indicating a pregnancy is not viable. In other words, a chemical pregnancy develops no further than its detection. Once upon a time, Nicole told me matter-of-factly, a woman would have described what had happened as just a late period, but now she could recognize it as an early miscarriage or a chemical pregnancy.

It has been more than ten years since I was introduced to the concept of the chemical pregnancy. Today, when I search the Web using the term “chemical pregnancy,” Google presents me with 28,800,000 results, which is less than the 966,000,000 results for “late period,” but more than the 13,800,000 for “early miscarriage.” This confirms that the chemical pregnancy is well documented, at least electronically, and suggests that it is no longer an unfamiliar idea. For women like Nicole, the chemical pregnancy is understood to be a common occurrence, historically misrecognized as a “late period,” and a natural, not-new experience that technology has rendered known, visible, and obvious.

In this paper, following the insights of feminist scholarship in anthropology, sociology, and science and technology studies, I suggest a reading of the chemical pregnancy as a new reproductive experience that reflects and responds to not-new concerns surrounding technology, reproduction, and mothering. I discuss each of these three themes in the sections that follow. This reading of the chemical pregnancy illustrates the need for critically reconsidering the triumphal narrative in which technology enlightens, enables, and even determines human progress. Here, I take the position that the chemical pregnancy is more or less a side effect of early pregnancy testing and an artifact of technology that itself represents the promises and problems of earlier and more information and earlier and more intervention. The acceptance of chemical pregnancy as an apparent fact of life points to the ambiguity and ambivalence that culturally and historically have surrounded reproduction—and the wish for clarity and certainty that characterize contemporary North American women’s reproductive experiences. From this vantage, we can ask not only what a chemical pregnancy is, but also what it does to and for women and particularly to and for mothers and mothering.

In the United States today, early pregnancy testing is believed to encourage pregnant women to seek prenatal care earlier and to begin “bonding” with their expected children, which in turn is assumed to affect the quality of their

mothering. It is unclear whether what has been created is a new hope or a new burden for women and mothers. The chemical pregnancy, experienced in women's lives as disrupted reproduction, also represents disrupted mothering at a time when women are expected to begin mothering during pregnancy. The theme of disruption will be considered in the concluding section of this paper as it suggests the ways that reproduction and mothering are made and remade.

Technology

Whether the chemical pregnancy is regarded as a fact of life that technology has introduced or as an unintended consequence of technological innovation reveals underlying assumptions about technology, reproduction, and gender. The birth of the world's first "test tube baby" in 1978 was hailed almost immediately as a revolutionary moment, not only in medicine, science, and technology, but also in culture and society. Almost 40 years later, in vitro fertilization (IVF) and what had been called the "new" reproductive technologies—from assisted conception to contraception to prenatal diagnosis—are no longer new. In fact, evidence abounds of the doubling-down on old ideas about kinship and gender, notably the primacy of biogenetic relatedness and the essentializing of women as mothers. Equally evident is that American women's expectations and experiences of reproduction have altered significantly, but not necessarily as had been predicted.

Is technology the friend or foe of women? This is what Deborah G. Johnson has described as the lurking question for feminism in her 2009 essay, "Sorting Out the Question of Feminist Technology." Foe is what an earlier generation of feminist scholars had concluded, observing that technologically derived information had begun to supplant the significance of women's own bodily experience. In her pioneering study, *Birth in Four Cultures*, Brigitte Jordan discussed the connection between technology and the construction of authoritative knowledge, noting that "professional medical knowledge... is displayed as based on privileged technical procedures, machine outputs, and test results interpreted by nurse and physician specialists. It is this kind of knowledge that provides legitimation for the management of labor and delivery" (72). With the emergence of amniocentesis, fetal ultrasound imaging, and other diagnostic technologies, feminist scholars warned that pregnancy would become increasingly "tentative." Barbara Katz Rothman described "the specific, heightened anxiety of the waiting period" (for the results of amniocentesis) and "the anxiety generated by the destruction of traditional means of reassurance, the anxiety that comes from not being able to take comfort in the baby's movements" (109). Robbie Davis-Floyd, drawing on fieldwork she had conducted during the 1980s, argued that prenatal diagnostic testing disrupted

pregnancy as a rite of passage because “women experience separation phases that are considerably longer than usual” (23).

In fact, the opposite seems to have marked American women’s expectations and experiences of reproduction during the last decade. Far from pregnancy becoming more tentative, there appears to be even less tolerance for ambiguity. Diagnostic tests have become not only routine practices, as feminist scholars had foreseen, but technologies like fetal ultrasound imaging have become embraced as experiences of ordinary pregnancy. In their quest for clarity and certainty, American women today are likely to regard reproductive technologies as their friends and allies.

A technology especially familiar to American women today is the home pregnancy test. This becomes clear when you teach a college course on the Anthropology of Reproduction, as I do, and you ask the roomful of undergraduates what they know or at least think they know about pregnancy testing. They admitted self-consciously that much of what they thought they knew had been learned from advertising on TV or from TV shows or movies, but also speculated on the likelihood that “everyone” knew someone who had used a pregnancy test. Despite their ordinariness to American women today, historian Sarah Leavitt notes that home pregnancy tests only became available widely in the United States in the late 1970s. The hormones associated with reproduction were not identified until the 1920s, and pregnancy tests were developed in the decades following.

The tests available for purchase today are known for their ease of use—not always true of technology—which entails a woman removing the test stick from its package, placing it in her urine stream, then laying the stick on a flat surface. The makers and marketers of home pregnancy tests emphasize that their products are both error-proof and accurate. Linguistic anthropologist Uta Papen reads the use of home pregnancy tests as a “literacy event”—that is, an occasion that is influenced and shaped by the reading and writing of text.² Papen argues that the test itself is a kind of text for which the manufacturers include instructions on how to “read” the results. For example, the First Response test instructs women to understand two pink lines as “pregnant” (or one pink line as “not pregnant”). On the Clearblue test, a blue + sign indicates pregnant (or a blue—sign for not pregnant). The use of highly structured instructions to guide a woman’s reading of highly specified symbols contribute to the perception that pregnancy testing offers clarity.

Every woman whom I came to know during my fieldwork had a story to tell about taking a pregnancy test. For the women whom I interviewed, the test marked the clear start of their stories even when they had been planning their pregnancies. Any hunch or hope of a pregnancy required confirmation with a test. Amanda, at the time a graduate student, described a dream in which she

discovered she was pregnant. “The next morning in my Spanish class, I had this sharp pain in my left side, and I remembered the dream,” she said. “So, on the way home from class, I stopped and got a couple of birth control tests and went home, and it was literally like—the test says, ‘Wait three minutes’—in three minutes, it was there.” While “it” literally refers to the line on the home pregnancy test indicating a positive result, in Amanda’s telling of the story, “it” clearly also referred to the fact of her pregnancy. For Amanda and women like her, the results of a home pregnancy test represent the authoritative knowledge associated with technology and the certainty of a pregnancy.

With a chemical pregnancy, the results of a test constitute its material existence almost entirely. As Nicole had told me, without the test, a woman might understand her bodily signs and symptoms as merely the discomforts of menstruation. When a pregnancy fails not only to develop further, but also to signify, it becomes negated. The pregnancy simply never happened. Nicole herself showed me the test strips that she had removed from her home pregnancy tests and preserved in a clear plastic sleeve. They were tangible proofs that “fixed” (in the sense that they preserved) her pregnancy. In this sense, the chemical pregnancy also apparently fixes the problems of ambiguity and ambivalence that women face in their reproductive experiences.

For American women, the results of a home pregnancy test imply the certainty of a pregnancy and its outcome. Yet, as the chemical pregnancy illustrates, a positive test result is no guarantee of a viable pregnancy—or even of a pregnancy. The tests, advertised as “99% accurate” and “reliable,” are not entirely foolproof, and can produce both false positive and false negative results. Home pregnancy tests, based on urine analysis, detect the presence of hCG, which is critical especially in the early stages of pregnancy. So-called molar pregnancies and cancerous tumors (including in men) also secrete hCG that can be detected in a home pregnancy test (Leavitt).

Home pregnancy tests reduce pregnancy to the simple detection of a single hormone. However, Linda Layne (2009) reminds us: “A woman’s becoming pregnant (the implantation of a fertilized egg in her womb) begins a series of complex physiological changes. These changes are multiple and incremental. Home pregnancy tests fragment, isolate, identify, and measure a single element of these changes” (66). In reducing pregnancy to the presence or absence of hCG, home pregnancy tests also “suggest that pregnancy is a single thing. But pregnancies are not equal, even physiologically” (ibid. 66). After all, pregnancy ought to be understood as more than the mere presence of a specific hormone and includes changes in women’s bodies and in women’s lives. Paradoxically, the chemical pregnancy at once confirms the reductionist and universalized pregnancy, but also introduces the possibility that not all pregnancies are the same.

Reproduction

It is striking that in the U.S. today, pregnancy and its “end” in the birth of a living child are treated as more or less known and given—a certainty—despite the evidence that American women themselves could present from their own lives. Almost half of all pregnancies in the U.S. are unintended (and half of these conceived while the women were using contraceptives), and for every four live births, there is one elective abortion and one miscarriage or pregnancy loss (Layne 2003: 11). Researchers have estimated that almost a third of all pregnancies end spontaneously in the first two to four weeks, even before a woman has “missed” her period or is aware that she might have conceived (Wilcox). In fact, most women in my study did not have their first prenatal visits until the twelfth week. Doctors and midwives explained to me that they did not schedule appointments earlier because miscarriages in the first few weeks are not uncommon. While 15 to 20 percent of known or recognized pregnancies end in miscarriage, it is estimated that the overall rate of pregnancy loss might be as high as 75 percent (Petrozza and Berlin).

Historically and cross-culturally, pregnancy has been marked with ambiguity and ambivalence, not certainty, much less the acceptance and attachment that now have become expected for pregnant women. For earlier generations of women, the cessation of the monthly period and other changes in the body (such as sensitivity in the breasts) were symptoms that *suggested* pregnancy, but confirmation came only with the birth of a living human child. “Well into the eighteenth century,” historian Barbara Duden tells us, “conception and pregnancy were an ambiguous stage in a woman’s somatic experience” (14). The first feelings of movement in the abdomen, called quickening, were accorded with special significance as a sign of pregnancy and, according to Christian tradition dating to the Middle Ages, the moment of ensoulment, in which a human spirit comes to animate a human body. Uncertainty has surrounded both the physiological condition of a pregnancy and the contents of a woman’s womb. Duden, inferring from German women’s accounts of childbearing in the eighteenth century, explains that it was possible for a woman to have a “true” pregnancy, which produced a child—or a “false” pregnancy, which did not. The eighteenth century physician Wilhelm Gottfried von Ploucquet contended: “Not everything that comes from the birth parts of a woman is a human” (ibid. 13). Anthropologist Roseanne Cecil observes that at other times and in other places, the loss of a pregnancy—which can include what we commonly call miscarriage in addition to elective abortion—has not necessarily signified the loss of a human child. Lynn Morgan (1997), conducting fieldwork in the Andean highlands of Ecuador during the 1980s, spoke with indigenous women who described not babies or fetuses in their bellies, but *criaturas* or creatures.

In the Brazilian shantytown where Nancy Scheper-Hughes studied, “a high expectancy of child death is a powerful shaper of maternal thinking and practice as evidenced, in particular, in delayed attachment to infants sometimes thought of as temporary household ‘visitors’” (340).

“When does life begin” has been regarded as a question of philosophy, religion, and sciences, but as Lynn Morgan (2006) demonstrates, it is also a question of cultural and social practice that anthropologists are well positioned to answer. The expectation in the U.S. today that pregnant women ought to feel acceptance and attachment—that is, love as mothers should—is based on the assumed certainty that they are pregnant with babies or fetuses. Yet, the beginning of life—at conception, at birth, or at another point in between—remains a point of contention not only in American discourse on reproduction, but also in the everyday lives of pregnant women themselves. Across cultures and societies, biological birth has been distinguished from social birth. One, a physiological event, brings human animals into the world. The other, a cultural and social process involving both ritual and the experiences of everyday life, brings human persons into a community. The chemical pregnancy, as a new reproductive experience, calls to our attention that pregnancy, like birth, is also both biological and social, and the result of our cultural and historical making.

Mothering

Layne (2009) raises the question of whether or not the home pregnancy test can be called a feminist technology, asking if it indeed serves the interests of the women who take them. The question I ask here is if the detection of a chemical pregnancy serves the interests of mothering. While home pregnancy tests have been promoted as tools providing women with certainty and clarity, the results of testing do not necessarily constitute unambiguous—not to mention un-ambivalent—knowledge. Just as the makers and marketers of home pregnancy tests acknowledge the possibility of false results, so is the possibility that the chemical pregnancy itself is a false certainty with real potential to help or harm women.

With “early” pregnancy tests available, it is possible now for American women to talk about being pregnant as soon as the first day of a missed period. Women in my study who had been planning much-wanted pregnancies reasoned that the early results allowed them to be more aware and “take better care” of themselves, foregoing the cup of coffee or glass of wine and not mistaking the fatigue and nausea of early pregnancy as the symptoms of flu. However, Layne questions whether or not the earlier diagnosis has benefits for women. Earlier detection of pregnancy makes possible more and safer options to end an unwanted pregnancy during the first nine to twelve weeks. Yet, in the de-

ades since home pregnancy tests went on sale, there has been no evidence of improved prenatal care, especially for black women and poor women in the U.S. The Office of Minority Health notes that black women were 2.3 times more likely than white women not to receive prenatal care until their third trimester or not at all.

Nor is it even certain that prenatal itself care improves maternal and infant outcomes. It has *not* for African Americans. Not only is the overall rate of infant mortality 2.4 times higher for black women than white women, but the rate also was three times higher for African-American mothers with more than thirteen years of education than for white mothers with the same level of educational attainment (Office of Minority Health). Overall, researchers note that “the evidence for the effectiveness of prenatal care remains equivocal, and health care and public health professionals are not in single accord regarding its primary purpose and effects” (Alexander and Kotelchuck 307). “Almost one hundred years after its advent, it’s still a mystery as to what actually constitutes prenatal care,” obstetrician Thomas H. Strong contends, “nor do we know which aspects of prenatal care really confer benefit to our mothers” (6). What becomes created is not real opportunity, but the illusion of it. Because some women might be able to adopt different patterns of behavior based on the results of early pregnancy testing, all women become expected to do so. In short, pregnant women become charged with new responsibility for earlier and earlier mothering despite the fact that it remains unclear what good or ill results from it.

Layne (2000) has described the effects on American middle-class women, who now “begin to actively construct the personhood of their wished-for child from the moment they do a home pregnancy test” (112). As Nicole noted, what would have been experienced as a late period can be understood now to have been an early miscarriage. The earlier certainty of a pregnancy and the accelerated acceptance and attachment to it *create* experiences of miscarriage and pregnancy loss. The results of an early pregnancy test cannot prevent the loss of a much-wanted pregnancy, but they can and do cause women worry and suffering and make them vulnerable to blame.

However, women themselves also actively participate in the making of meaning. When I asked Rebecca, another woman in my study, whether or not she had had previous pregnancies, she told me that she had “only” had a chemical pregnancy. “If I hadn’t known to check, it would have been a late period,” she said. Although she explained that it was “technically a miscarriage,” Rebecca said that she had not experienced it as a loss. “We’d only known that we were pregnant for like a week,” she said. “It wasn’t especially traumatic.” Undoubtedly, the response would have been rather different for a woman who had experienced multiple chemical pregnancies. Layne (2003) has written movingly of

the grief that women suffer (including her own), too often unspoken, around miscarriages and pregnancy losses. Multiple chemical pregnancies also could indicate other health problems that affect fertility. Yet, Rebecca, at age 35, interpreted the chemical pregnancy as a positive sign of her ability to become pregnant at all. In fact, I heard similar sentiments from other women who, having taken the pill since their teens or twenties, felt they were testing their fertility for the first time.

Initially, I had understood the response of Rebecca and other women like her to stand on the opposite side of the spectrum from that of Nicole, who had so carefully preserved her test results as her proof of a pregnancy. In Nicole's telling, the advancement of technology, in particular early pregnancy testing, enables women today to recognize an early miscarriage, which they previously might have understood as a late period. She emphasized her experience of pregnancy, albeit one that was "chemical." In contrast, Rebecca described her experience in terms that reflect its minimal significance for her, remarking that it was "only" a chemical pregnancy and "technically" a miscarriage. One so clearly attached meaning to the chemical pregnancy and the other dismissed it as unimportant. Yet, it now seems to me that the chemical pregnancy enabled both women to talk and think about their reproductive life histories in terms that normalized and naturalized events that otherwise could be cast as disruptions.

It is worth noting also that both women discussed their experiences of the chemical pregnancy in the context of an anthropological study with pregnant women expecting a first child. Although both women acknowledged that they had previous experiences of pregnancy, it is unlikely that either woman would have identified herself as a mother on the basis of a chemical pregnancy alone. Indeed, they and the other women in my study initially did not identify themselves as mothers, but over time came to see themselves as mothering during their pregnancies. It was not the "fact" of their pregnancies alone that made mothers of these women, but rather it also required their engagement in the practices of mothering—such as talking to their bellies to giving and receiving gifts on behalf of an expected child—that remade them (Han).

Conclusion

In this paper, I discuss the chemical pregnancy as a new reproductive experience that underscores the promises and problems presented to women by reproductive technologies such as early pregnancy testing. These new technologies and new experiences emerge in the cultural and historical context of the United States today where there is little tolerance for the ambiguity and ambivalence that surround reproduction. As the responses of Nicole and Rebecca illustrate, if technology has enabled the earlier detection of pregnancy, then it is the

cultural and social invention of the chemical pregnancy that enables women to acknowledge a pregnancy and its loss as both real and not-real. The term “chemical pregnancy” legitimates a pregnancy, but also marks its “chemical” difference.

Experienced in women’s lives as disrupted reproduction, the chemical pregnancy disrupts our thinking about reproduction and mothering. Marcia Inhorn observes that “normal reproduction” is “always a discursive product of a hegemonic cultural system” and that disrupted reproduction, too, is not only “produced and reproduced within particular historical and cultural settings,” but also “continually being produced, challenged, and then reproduced in new forms” (ii). The chemical pregnancy is invented as a new reproductive experience in a place and time when women are expected to begin mothering during pregnancy. Whether women experience this new mothering mandate as a welcome opportunity or as an unmet responsibility for earlier and more information and intervention depends significantly on the material conditions in which they become mothers. Seen in this light, the chemical pregnancy is culturally and socially required as an invention that continues to acknowledge the uncertainties of reproduction and mothering.

Endnotes

¹This is not her real name, which I will not use in order to protect her anonymity and respect her privacy.

²Brian V. Street and Niko Besnier observe that literacy “has been viewed alternatively as a technology and as a social phenomenon” (52). Critical of this perspective, they argue that “both aspects are heavily constrained, even probably determined, by culturally constructed ideologies” (ibid.) They note that “many agents of proselytization have legitimized their existence by invoking their literacy-promoting campaigns, in tune with Western middle-class ideology which views literacy, and in particular essayist literacy, as an essential tool for ‘progress,’ ‘happiness,’ and integration into the post-modern world” (ibid. 57).

References

- Alexander, Greg, and Milton Kotelchuck. “Assessing the Role and Effectiveness of Prenatal Care: History, Challenges, and Directions for Future Research.” *Public Health Reports* 116 (2001): 306-16. Print.
- Cecil, Rosanne, ed. *The Anthropology of Pregnancy Loss: Comparative Studies in Miscarriage, Stillbirth, and Neonatal Death*. New York: Berg, 1996. Print.
- Davis-Floyd, Robbie. *Birth as an American Rite of Passage*. Berkeley: University

- of California Press, 1992. Print.
- Duden, Barbara. "The Fetus on the 'Farther Shore': Toward a History of the Unborn." *Fetal Subjects, Feminist Positions*. Eds. Lynn Morgan and Meredith Michaels. Philadelphia: University of Pennsylvania Press, 1999. 13-25. Print.
- Han, Sallie. *Pregnancy in Practice: Expectation and Experience in the Contemporary United States*. Oxford and New York: Berghahn Books, 2013. Print.
- Inhorn, Marcia. "Preface." *Reproductive Disruptions: Gender, Technology, and Biopolitics in the New Millennium*. Ed. Marcia Inhorn. New York: Berghahn Books, 2007. i-v. Print.
- Johnson, Deborah G. "Sorting Out the Question of Feminist Technology." In *Feminist Technology*. Eds. Linda L. Layne, Sharra Louise Vostral, and Kate Boyer. Champaign: University of Illinois Press, 2010. 36-54. Print.
- Jordan, Brigitte. *Birth in Four Cultures: A Crosscultural Investigation of Child-birth in Yucatan, Holland, Sweden, and the United States*. Prospect Heights, IL: Waveland, 1993. Print.
- Layne, Linda L. "'He Was a Real Baby with Baby Things': A Material Culture Analysis of Personhood, Parenthood, and Pregnancy Loss." *Journal of Material Culture* 5.3 (2000): 321-45. Print.
- Layne, Linda L. *Motherhood Lost: A Feminist Account of Pregnancy Loss in America*. New York: Routledge, 2003. Print.
- Layne, Linda L. "The Home Pregnancy Test: A Feminist Technology?" *Women's Studies Quarterly* 37.1-2 (2009): 61-79. Print.
- Leavitt, Sarah. "'A Private Little Revolution': The Home Pregnancy Test in American Culture." *Bulletin of the History of Medicine* 80.2 (2006): 317-45. Print.
- Morgan, Lynn. "Imagining the Unborn in the Ecuadorian Andes." *Feminist Studies* 23.2 (1997): 323-50. Print.
- Morgan, Lynn. "When Does Life Begin? A Cross-Cultural Perspective on the Personhood of Fetuses and Young Children." *Talking About People: Readings in Cultural Anthropology*. Ed. William Haviland, Robert Gordon, and Luis Vivianco. New York: McGraw Hill, 2006. 35-46. Print.
- Office of Minority Health. "Infant Morality and African Americans." United States Department of Health and Human Services. Web. Accessed June 26, 2012).
- Papen, Uta. "Pregnancy Starts with a Literacy Event: Pregnancy and Antenatal Care as Textually Mediated Experiences." *Ethnography* 9.3 (2008): 377-402. Print.
- Petrozza, John C. and Inna Berlin. "Early Recurrent Pregnancy Loss." Medscape Reference, 2011. Web. Accessed 29 May 2012.
- Rothman, Barbara Katz. *The Tentative Pregnancy*. New York: Viking, 1987. Print.
- Scheper-Hughes, Nancy. *Death Without Weeping: The Violence of Everyday Life*

- in Brazil*. Berkeley: University of California Press, 1992. Print.
- Street, Brian V. and Niko Besnier. "Aspects of Literacy." *Making Sense of Language: Readings in Culture and Communication*. Ed. Susan D. Blum. New York: Oxford University Press, 2009. 52-69. Print.
- Strong, Thomas H. *Expecting Trouble: What Expectant Parents Should Know about Prenatal Care in America*. New York: New York University Press, 2000. Print.
- Wilcox, Allen J. 1988. "Incidence of Early Loss of Pregnancy." *New England Journal of Medicine* 319.4 (1988): 189-94. Print.