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Reproduction

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Abstract

Every human being in every society results from reproduction, and most American men and women will have a child at some point in their lives. Even those who do not want to have children must contend with strong cultural presumptions around parenthood and, if they are sexually active, take steps to ensure they do not reproduce. In this review I discuss recent research on pregnancy, birth, abortion, contraception, infertility, and assisted reproduction. I argue that social scientists have conceptualized reproduction as a series of events that occur primarily in women's bodies. To stimulate theoretical and empirical research in this area, I develop a new conceptualization of reproduction as a biological and social process. I conclude by pointing to areas in need of further research, including reproductive aging, men, and the integration of qualitative and quantitative research.

INTRODUCTION

Reproduction affects 100% of the population. Every human being in every society is a result of reproduction, and most American men and women will have a child at some point in their lives (Vespa et al. 2013). Even those who do not want to have children must contend with strong cultural presumptions around parenthood and, if they are sexually active, take steps to ensure they do not reproduce. Despite the ubiquity of this topic, sociological research on reproduction is considered a niche subfield located somewhere in the vicinity of gender and family. In fact, scholars who study reproduction do so from a wide variety of perspectives central to sociological inquiry. In addition to rigorous research on gender and kinship, social scientists use reproduction as a case to examine work and occupations, science and technology, health and medicine, markets and commodification, bodies and embodiment, aging and life course, crime and punishment, social movements and state policies, and inequalities associated with race, class, sexuality, disability, and nationality. Studies of reproduction encompass a broad range of topics, including pregnancy, birth, contraception, abortion, sterilization, infertility, adoption, and reproductive technologies such as in vitro fertilization (IVF), surrogacy, egg donation, and sperm donation.

This review aims to address two questions: What is the social scientific study of reproduction, and what might it become? The first part of the review provides a broad overview of social scientific approaches to reproduction before discussing recent research on pregnancy and birth, contraception and abortion, and infertility and assisted reproduction. The second part of the review examines how reproduction has been theorized by the sociologists, anthropologists, and historians who make up this interdisciplinary subfield. I argue that reproduction has been conceptualized as a series of events (e.g., pregnancy, birth, abortion) that occur primarily in women's bodies. I discuss two consequences that flow from this conceptualization. First, the social science of reproduction has developed more as a collection of related topics than as a cohesive theoretical endeavor. Second, men are almost completely absent in research on reproduction, reinforcing the notion that this is a "women's issue." Building on recent research, I offer a new theoretical framework for studying reproduction, conceptualizing it as a biological and social process that occurs on multiple levels, from individual embodiment to state policy. In the last part of the review, I use this framework to suggest new theoretical and empirical approaches to reproduction, and I identify several areas in need of further research.

The scope of this review is delimited by my decision to focus on qualitative research about the process of having children or not having children. First, I do not review the truly enormous demographic literature on fertility both because it has been the subject of recent reviews (e.g., Sweeney & Raley 2014) and because there is little cross-talk between quantitative and qualitative scholars of reproduction, an issue I discuss below. Second, in focusing on the biological and social processes through which children come to be, I do not review literature on parenting and child care, which addresses how children are cared for once they exist. Finally, I focus on sociological research in the United States so as not to duplicate recent reviews in anthropology (e.g., Browner & Sargent 2011, Inhorn & Birenbaum-Carmeli 2008), which discuss research on reproduction around the globe.

SOCIAL SCIENTIFIC APPROACHES TO REPRODUCTION

Throughout the twentieth century, social movements oriented to the rights of women placed reproduction at the top of the agenda. From Margaret Sanger's early twentieth-century efforts to enable women to "plan parenthood" (Gordon 1976), to the publication of the iconic *Our Bodies, Ourselves* in the 1970s (Boston Women's Health Book Collective 1973), to contemporary struggles

for “reproductive justice” (Luna & Luker 2013), scholars and activists have underscored the social and political significance of pregnancy occurring within women’s bodies. In particular, they were arguing against a long-standing view of reproduction as simply biological, lacking in any social content. Even Karl Marx, a founding thinker of sociology who was so careful in theorizing the dynamics of history, positions reproduction as a priori and naturalized, as demonstrated in an exegesis of his writings by Franklin (2013, chapter 1).

During the last six decades, gender scholars have challenged this view of reproduction as natural. Beginning with Simone de Beauvoir’s (1952, p. 267) famous statement, “One is not born, but rather becomes, a woman,” researchers have sought to disentangle just what was biological and what was social about women in general and reproduction in particular. Initially, social scientists conceptualized biology as a fixed substrate on top of which sociological processes occurred. Analytically, they sought to separate the biological from the social, demarcating pregnancy and birth as biological processes separate from their social, political, and economic consequences. Anthropologist Gayle Rubin (1975) provided the theoretical ballast for these investigations with the innovative concept of “sex/gender,” which assigned biology to the left side of the slash and culture to the right side. Distinguishing between sex and gender made it possible to ask new questions about the relationship between biological sex differences and gender inequalities, such as those in workplaces, schools, and homes.

Following on conceptual innovations such as sex/gender and the new focus on women’s studies in the academy, many of the now-classic social scientific studies of reproduction were published in the 1980s and early 1990s, among them Petchesky’s (1984) *Abortion and Woman’s Choice*, Luker’s (1985) *Abortion and the Politics of Motherhood*, Katz Rothman’s (1986) *The Tentative Pregnancy*, and Martin’s (1992) *The Woman in the Body*. The last review of reproduction published in the *Annual Review of Sociology* appeared during this same period. In “Gender and Social Reproduction,” Laslett & Brenner (1989) subsumed “procreation” under the broader category of “social reproduction,” which involved food preparation, caring for children and the elderly, as well as all the other work that goes into “the maintenance of life on a daily basis” (p. 382). Laslett & Brenner’s distinction between biological and social reproduction, like sex/gender, emphasized the biological aspects of procreation and the social aspects of daily, gendered care work.

In contrast, Ginsburg & Rapp’s landmark article “The Politics of Reproduction” (1991) established procreation as a topic in and of itself. Seeking to link the biological and the social, the personal and the political, and the local and the global, Ginsburg & Rapp consolidated and organized the emerging research on pregnancy, birth, contraception, abortion, sterilization, infertility, adoption, and assisted reproduction. At a moment when the sex/gender distinction was beginning to collapse on itself (Butler 1993, Haraway 1991), Ginsburg & Rapp (1991, p. 330) emphasized that “no aspect of women’s reproduction is a universal or unified experience, nor can such phenomena be understood apart from the larger social context that frames them.” By social context, they referenced the power of states, markets, medicine, social movements, religions, cultural norms, and social inequalities in shaping individual bodily experiences.

RECENT RESEARCH ON REPRODUCTION

In the decades that followed the publication of Ginsburg & Rapp’s article, social scientists produced an avalanche of research on the “politics of reproduction.” In this section, I review a tiny fraction of the studies published in the last 15 years. I include research that is representative of the work being done in this area, as well as articles and books that have made significant contributions. Given that somewhat distinct literatures have developed around pregnancy, birth, abortion, contraception,

infertility, and assisted reproduction, I use these categories to organize the following review of recent research on reproduction.

Pregnancy and Birth

In the 1970s, the women's health movement launched a sustained critique of medical practices and medical knowledge around women's bodies in general and reproduction in particular (Murphy 2012). The effects of this activism can be seen in everyday clinical practice as well as new federal policies in the 1990s requiring the inclusion of women in medical studies (Epstein 2007). It also had a profound influence on the social scientific study of reproduction. Building on classics such as Jordan's (1983) comparative analysis of birth in four cultures and Davis-Floyd's (1992) research on birth in American hospitals, scholars have built an enormous literature examining the power of medicine and clinicians to control women's experiences of pregnancy and birth.

Throughout pregnancy, women's bodies are monitored in routine clinical appointments (Bessett 2010, Brubaker 2007), and women are encouraged to evaluate carefully what they eat and drink (Armstrong 2003, Markens et al. 1997) as well as their physical fitness (Dworkin & Wachs 2004). Public health officials have sought to extend these efforts to the period before conception, advising women to prepare their bodies for pregnancy in order to improve reproductive outcomes (Waggoner 2013). One result of efforts such as these is that responsibility for reproduction is lodged within women's physical bodies (Armstrong 2003). In some cases, women have even been punished by the state for violating these behavioral proscriptions, as in the prosecution of women who use drugs during pregnancy (Flavin 2009; see also Springer 2010).

At different points in pregnancy, women who have access to health care are offered various testing technologies, from ultrasound to amniocentesis, which provide information about the anatomical and genetic constitution of the fetus. Not only have these technologies contributed to the development of a "fetal subject" (Casper 1996, Layne 2002, Petchesky 1987), they have also placed women in the role of "moral pioneers" (Rapp 1999) who must decide whether to learn this information and how to respond to it. Following on Katz Rothman's (1986) insight that while one waits for the technological assurance provided by such tests, pregnancy becomes "tentative," there have been so many qualitative studies of women's decision making around prenatal screening that a meta-analysis was possible (Reid et al. 2009). Many people choose to abort fetuses with genetic conditions (e.g., Down syndrome), a trend that has raised concerns among disability scholars, who contend that such decisions are based on erroneous assumptions and will contribute to discrimination against people with disabilities (Parens & Asch 2000; see also Ettore 2002, Reagan 2010).

When it is time to give birth, 99% of women in the United States do so in hospitals (MacDorman et al. 2012). The shift from home births to hospital births in the first part of the twentieth century gave rise to long-standing debates about medical interventions such as anesthesia during labor (Wolf 2011) and Caesarean sections (Morris 2013, Roth & Henley 2012). Social scientists have also examined the differing orientations of physicians and midwives (Craven 2007, Simonds et al. 2006), including how they affect women's experiences of birth (Miller & Shriver 2012). Bridges's (2011) ethnographic study of a large public hospital in New York City demonstrates the extent to which the care of pregnant and birthing women is shaped by social processes around race and class, including the prenatal education women receive from hospital staff about how to comply with institutionalized processes of labor and delivery (Armstrong 2000). Gendered expectations are also internalized, as revealed in Martin's (2003, p. 54) interviews with middle-class White women who strive to be "nice, polite, kind, and selfless" even in the midst of labor.

Contraception and Abortion

In the United States, half of all pregnancies are unintended, and of those pregnancies approximately 40% end in abortion (Finer & Zolna 2013). Approximately one in three American women will have had an abortion by the age of 45 (Jones & Kavanaugh 2011), so this procedure is both extremely common and extremely politicized. Since the US Supreme Court's *Roe v. Wade* decision in 1973, battles have been fought at the local, state, and national levels to regulate and restrict women's access to abortion, including mandatory waiting periods, parental consent laws, restrictions on Medicaid funding for low-income women, and violence against abortion providers, such as clinic bombings and murders. Although contraception has been somewhat less controversial than abortion, it has recently moved to the center of legal and political debates about what kinds of health insurance employers are required to provide under the Affordable Care Act.

Research on contraception and abortion usually appears in public health journals such as *Contraception* and *Perspectives on Sexual and Reproductive Health*, which focus on questions of access, use, effectiveness, and public opinion. Social scientific studies of the history and politics of contraception have focused on the social changes accompanying the development of birth control (e.g., Gordon 1976, Roberts 1997). Appearing on the market in 1960, the birth control pill has been hailed as revolutionary for how it allowed women to control their fertility and thus increase their educational attainment and participation in the labor force (Goldin & Katz 2002, May 2010, Watkins 2001). In light of the long history of pharmaceutical interventions in reproduction (Bell 2009), scholars have also focused on side effects, including gendered risk assessments by companies evaluating contraceptives for women and men (Van Kammen & Oudshoorn 2002), as well as on how gendered cultural norms around weight and emotions influence the embodied experience of side effects from the pill (Littlejohn 2013). In addition, many studies of contraception address interactions between romantic partners, family, and friends, such as how heterosexual partners navigate contraceptive decisions (Fennell 2011) and how parents influence their daughters' use of contraception (Frisco 2005).

Whereas social scientific studies of contraception tend to focus at the level of the individual, the controversy associated with abortion has resulted in more research on health care providers and state politics. Interview studies with physicians reveal how the tense political climate and the marginalization of abortion care within medicine shape their decisions about whether to provide abortions (Freedman 2010, Joffe 1995). Contestations around abortion trickle into discussions about the provision of emergency contraception (Simonds & Ellertson 2004), the disposition of embryos leftover from IVF treatments at fertility clinics (Ehrich et al. 2008), and the handling of fetal tissue in stem cell research (Kent 2008). Abortion politics even militated against profit incentives in the pharmaceutical marketplace, where it was difficult to find a company willing to distribute mifepristone (a.k.a. the abortion pill RU-486) in the United States after FDA approval in 2000 (Joffe & Weitz 2003). At the level of the state, social movement scholars and political sociologists have conducted analyses of public discourse around abortion in different countries (Evans 2010, Ferree et al. 2002) and have examined the role of political institutions in shaping abortion laws (Halfmann 2011). Scholars have also examined states with extreme policies on contraception and abortion, such as China's one-child policy (Greenhalgh 2008) and Romania's ban on abortion (Kligman 1998).

Infertility and Assisted Reproduction

Approximately 10% of women and men in the United States are infertile, and this condition is more likely to affect African American women than White women (Chandra et al. 2013). To address impaired fertility, clinicians developed various technologies over the course of the twentieth

century to assist reproduction, including insemination, IVF, gestational surrogacy, and egg and sperm donation. First successful with the birth of Louise Brown in 1978, IVF is now commonplace, with more than 175,000 cycles happening every year in more than 450 fertility clinics around the country (CDC 2012). Today, an IVF cycle involves a woman self-injecting fertility medications for several weeks, which stimulates the ovaries to produce multiple eggs that are then removed in outpatient surgery. Eggs and sperm (also called gametes) are mixed together in the laboratory, and if viable embryos result, a few are placed inside the woman's uterus. Most women and men prefer to use their own eggs and sperm, but some must turn to egg donors, sperm donors, or both. Those who cannot sustain a pregnancy may opt for the gestational services of a surrogate mother, who typically is not genetically related to the fetus she carries. Thus, multiple individuals, including the woman who provides the egg, the man who provides the sperm, and the woman who carries the pregnancy to term, can contribute biologically to the birth of a single child. These roles may or may not overlap with those of the social parents, the people who care for the child once it is born.

Scholars and the public alike have been fascinated with the kinship permutations made possible by assisted reproduction, which splits motherhood and fatherhood into genetic, gestational, and social components (Freeman et al. 2014). Building on the work of anthropologist Marilyn Strathern (1992), scholars have used studies of reproductive technologies to investigate the social processes through which biological ties are given meaning. In an ethnographic examination of the constellation of people and technologies involved in assisted reproduction, Thompson (2005) developed the concept of "ontological choreography" to describe the process of "making parents" in fertility clinics. Franklin (1997, 2013) has followed IVF from the fertility clinic to stem cell science and beyond in a series of important books theorizing the relationship between biology, kinship, and technology. In examining kinship, scholars have been particularly attuned to the intersection of gender and sexuality in studying how people create families, with intensive studies of heterosexual women and men (Becker 2000, McQuillan et al. 2003), lesbian couples (Mamo 2007, Sullivan 2004), gay men (Lewin 2009), and single women (Hertz 2006). Just a handful of studies consider transgender parents (Biblarz & Savci 2010, Hines 2006), an area in need of further research.

In contrast to many other countries where reproductive technologies are highly regulated, the United States has adopted a *laissez-faire* approach, which has allowed for a flourishing, multibillion dollar market in reproductive services (Spar 2006). My research (Almeling 2011) examines how the value of reproductive cells is shaped by the gender of the donor, with egg donation framed as a gift and sperm donation as a job. Other scholars working in this area have analyzed how national political and economic contexts shape markets for reproductive services, including legislative debates about surrogate motherhood in the United States (Markens 2007), limits on compensation for gamete donors in the United Kingdom (Konrad 2005), pronatalist policies around surrogacy in Israel (Teman 2010), and international travel in search of inexpensive eggs (Nahman 2008) and surrogacy services (Pande 2010). Even as scholars have followed reproductive technologies as they are taken up around the world (Inhorn 2003, Roberts 2012), there remains a large gap in research on the intersection of race and class in the United States (Bell 2014 is an exception), where access to assisted reproduction remains difficult due to high costs and uneven insurance coverage.

CONCEPTUALIZING REPRODUCTION

In reviewing research published in the last two decades, I was surprised to see that few scholars offer an explicit definition of what they mean by "reproduction." Perhaps this is because it appears to be a rather straightforward term referring to biological events associated with pregnancy and birth. However, mapping the constellation of topics that constitute this field reveals that scholars are

studying both the process of having children, from conception through pregnancy and birth, and the obverse: the process of not having children. This occurs when individuals use contraception, have an abortion, undergo sterilization, experience infertility, decide to remain childfree, and/or go through menopause. Moreover, reproduction researchers hardly limit themselves to analyses of biology. To the contrary, many of the scholars working in this field are at the forefront of theorizing the relationship between biological and social processes.

This leads to a simple yet crucial question: What exactly is reproduction? More specifically, how do social scientists who study reproduction understand this term? In this section, I analyze the few definitions that have been offered and build upon them to develop a conceptual framework for studying reproduction as a biological and social process.

Defining Reproduction

Historians point to the eighteenth century as the source of the term “reproduction,” which had a more biological tint than the religious word “generation” that it eventually replaced (Jordanova 1995). Duden (1991, p. 28) argues that prior to the emergence of this new word, “there was simply no term in which insemination, conception, pregnancy, and birth could have been subsumed.” Throughout the nineteenth century, reproduction became increasingly associated with political economy and demography (Franklin 2013). For its use in contemporary social science research, we return to Ginsburg & Rapp’s (1991) influential article “The Politics of Reproduction,” which offers one of the few explicit definitions in the literature. While noting the “complexity” of the term reproduction, Ginsburg & Rapp (1991) define their “working focus” as

the specific subject of human reproduction, which encompasses events throughout the human and especially female life-cycle related to ideas and practices surrounding fertility, birth, and childcare, including the ways these figure into understandings of social and cultural renewal. (p. 311)

To evaluate how this definition was taken up by subsequent researchers, I offer the following observations drawn from the brief reviews in the previous section, as well as my experiences as an active researcher in this field for the past 15 years. First, even though Ginsburg & Rapp reference both “events” and ongoing processes (e.g., the “life-cycle”), the social scientific literature on reproduction has developed around particular reproductive events, such as pregnancy, birth, abortion, contraception, infertility, and assisted reproduction. There has been relatively little attention to reproduction as a process that spans the life course and can involve both having children and not having children at different points. Second, the focus on particular reproductive events is exacerbated by a lack of comparative research; most studies focus on one reproductive event or another. One result is that the literature on pregnancy and birth is somewhat distinct from the literature on abortion and contraception, which is somewhat distinct from the literature on infertility and assisted reproduction. Although scholars who study these various reproductive events certainly recognize one another as engaged in research on related topics, the topics are studied separately. Third, Ginsburg & Rapp’s definition references the “human” life cycle but emphasizes the “female” life cycle. As discussed in more detail below, they are not alone in focusing on women’s bodies and women’s experiences in the realm of reproduction. In the hundreds of social scientific studies on pregnancy, birth, abortion, contraception, infertility, and assisted reproduction that have been published, a tiny fraction focus on men’s reproductive bodies and experiences. Taking these three points together, one can construct the dominant, if somewhat implicit, definition operating in the social scientific literature: Reproduction is a series of events that occur primarily within women’s bodies.

Murphy is one of the few other scholars to offer an explicit definition of the term reproduction, and it both echoes and challenges what has come before. In a recent and important analysis of 1970s feminist attempts to “seize the means of reproduction,” Murphy (2012, p. 10) historicizes the women’s health movement as a “biopolitical project.” She (2012) defines reproduction in terms of what it is and is not:

Reproduction was not a biological thing with clear bounds, but a multifaceted and distributed effect in time and space, a problem both material and political to which questions of state, race, freedom, individuality, and economic prosperity were bound in ways that connected the micrological with the transnational via embodiment. (p. 6)

Like Ginsburg & Rapp, Murphy is focused on women’s experiences of reproduction in that she studies how women’s groups used medical implements like the speculum to learn about their bodies. She also echoes Ginsburg & Rapp in defining reproduction as both material and political (a.k.a. biological and social) and as an issue that can be studied on multiple levels, from individual embodiment to state policy. However, there is one crucial distinction: Whereas Ginsburg & Rapp (1991) emphasize reproductive “events” (p. 311) and “phenomena” (p. 330), Murphy instead defines reproduction as a “process.” She writes, “Reproduction is not so much a ‘thing’ as an overdetermined and distributed process that divergently brings individual lives, kinship, laboratories, race, nations, biotechnologies, time, and affects into confluence” (Murphy 2012, p. 8).

In my view, conceptualizing reproduction as a process offers a new way of thinking about the object of study in this subfield. In contrast to the implicit understanding of reproduction as a series of events inside women’s bodies, theorizing reproduction as a process requires that scholars define just what that process is and specify what is (and is not) common to such disparate events as conception and contraception, pregnancy and abortion, and birth and infertility. Moreover, conceptualizing reproduction as a process broadens the scope beyond women, making it possible to explicitly include men’s bodies and men’s experiences, as well as the wide array of biological and social processes that have been of great interest to reproduction scholars, from bodies and kinship to laws and markets. Thus, building on previous research, I suggest the following provisional definition as a guide for future research in this area: Reproduction is the biological and social process of having or not having children.

A Conceptual Framework for Studying Reproduction as a Biological and Social Process

Reproduction is more than a series of discrete events that happen inside women’s bodies, and it is my hope that conceptualizing reproduction as a process stimulates both theoretical and empirical developments in this field. I intend the phrase “biological and social process” to include the full spectrum of analytical levels identified by social scientists, ranging from bodily processes to interactional processes and historical, structural, and cultural processes. To generate a conceptual framework for studying reproduction as a process, I draw inspiration from Fausto-Sterling’s (2000, p. 254) metaphor of the Russian nesting dolls. **Figure 1** offers a visual representation of reproduction as a multilayered biological and social process. Fausto-Sterling uses the nesting dolls to underscore the indissoluble links between different analytical levels, from the cellular to the institutional. A change in the shape or, in this case, the biological and social process within any one layer necessarily affects all the other layers. Although it is not explicitly referenced in **Figure 1**, a focus on process incorporates an emphasis on time, in terms of both an individual’s life course and longer-range historical processes.

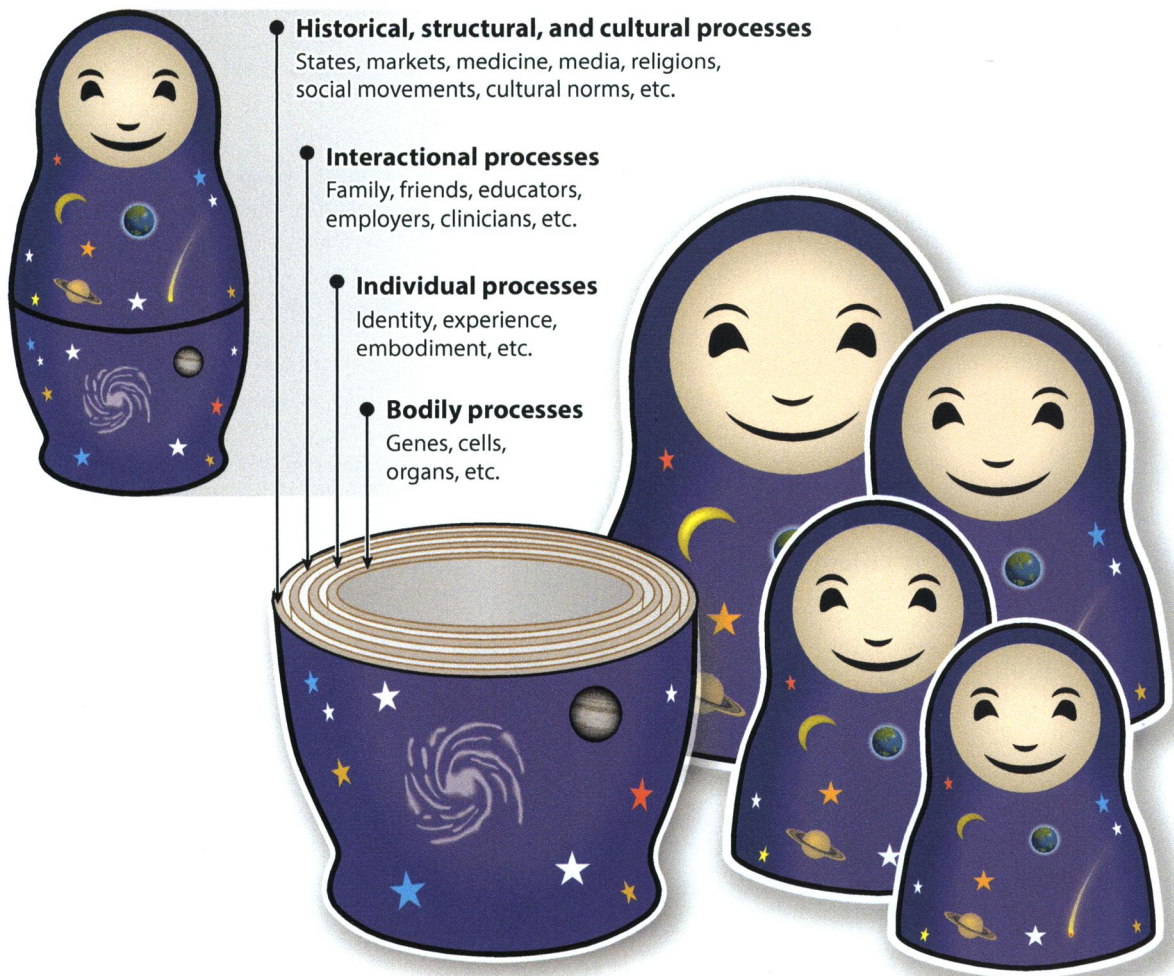


Figure 1

Conceptual diagram of reproduction as a multilayered biological and social process.

At the level of bodies, scholars can attend to biological and social processes associated with genes, cells, organs, and entire organisms. At the level of the individual, analyses might involve the biological and social processes associated with identities and experiences. In terms of interactions, scholars could study those within and between family, friends, educators, employers, clinicians, and any others relevant to the biological and social process of reproduction. Finally, in terms of historical, structural, and cultural processes, researchers may study the biological and social processes associated with states, markets, medicine, media, religions, social movements, and cultural norms. There is an “etc.” at the end of every list in **Figure 1** to highlight their incompleteness.

In advocating for a conceptualization of reproduction as a process, I do not wish to suggest that we stop studying particular events. Understanding social life involves attention to both major events and long-term, often-subtle processes. A careful analysis would no more ignore significant

events in the pursuit of studying process than it would disregard the importance of process in analyzing events. As a result, approaching reproduction as a biological and social process requires a balancing act in that scholars will need to specify and examine both events and processes.

Putting the Conceptual Framework into Practice

How might the study of reproduction look different if it were conceptualized less as a series of related events and more as a biological and social process that spans individual lives and historical time? In this section, I use the conceptual framework outlined above to identify gaps in the literature and to pose new research questions.

First, in reviewing the somewhat discrete literatures that have developed around different reproductive events, it becomes clear that particular topics have become associated with particular levels of analysis. Scholars studying pregnancy and birth tend to focus on embodiment, those studying contraception and abortion tend to focus on social movements and state policy, and those studying assisted reproduction tend to focus on kinship. Simply flipping these standard approaches produces fascinating new questions about, say, the comparative politics of pregnancy (see Ivry 2010), the embodiment of abortion (see Rocca et al. 2013), and kinship in contraception (e.g., Who do people not want to reproduce with and why)?

Second, scholars could construct analyses that explicitly link different analytical levels. One example of this approach is Kligman's (1998) ethnography of the state, in which she examines the Romanian policy that banned abortion in terms of how it affected the production of demographic knowledge, doctor–patient interactions, and women's embodied experiences of illegal abortion. Another example of spanning analytical levels can be found in Bell's (2009) conceptualization of "embodied social movements," which is based on her decades-long study of DES (diethylstilbestrol) daughters, women who suffered the effects of drugs their mothers were given during pregnancy in the mid-twentieth century. Put abstractly, one goal of these kinds of analyses is to examine how biological and social processes come together at the level of the individual, the family, the clinic, the market, and the state.

Third, comparative research can be useful for specifying the elements of a process and how that process unfolds. Because there are already many, many studies that can be summarized as "women's experiences of X reproductive event," scholars who are beginning new research projects on reproduction may wish to construct comparative research designs. Of the many possible comparisons in this area, I mention just a few here:

- Comparing across reproductive events (pregnancy, abortion, etc.)
- Comparing across the life course (adolescence, adulthood, old age, etc.)
- Comparing across analytical levels (bodily, interactional, cultural, political, etc.)
- Comparing across social locations (clinic, home, school, work, legislature, etc.)
- Comparing across social groups (gender, race, class, sexuality, religion, etc.)
- Comparing across historical periods

To offer just a few examples of such comparisons, scholars could analyze what is common to and what diverges in the biological and social process of pregnancy versus abortion, conception versus contraception, and infertility versus sterilization. Researchers could compare stages in the life course, examining the ebb and flow of reproduction as a process over an individual's life and how one's prior reproductive experiences affect those in the present. At different points, women and men may be actively contracepting or actively conceiving or neither, all of which should be legible in a conceptualization of reproduction. In terms of comparisons by social location, what is the relationship between embodiment and medical knowledge in the abortion clinic versus the fertility clinic versus the delivery room? Moving beyond the realm of the medical, scholars

have also begun to examine reproduction in locations other than the clinic, including women's experiences of pregnancy at work (Byron & Roscigno 2014, Gatrell 2011) and even reproduction in zoos, where endangered animals are being cloned (Frieze 2013). Turning to comparisons by social group, the emphasis on women in research on reproduction has meant that scholars have paid more attention to comparisons by race, class, and sexuality than to comparisons by gender. What are men's experiences of reproduction, and how do they differ by stage in the life course, social location, and across historical periods?

Throughout the life course and at all analytical levels, reproductive events cannot be isolated from one another. Conceptualizing reproduction as a process focuses attention not on the particularities of X or Y reproductive event, but instead on the commonalities and differences across events, stages in the life course, analytical levels, social locations, social groups, and historical periods, contributing to a fuller understanding and theorization of reproduction as a multilayered biological and social process that occurs over time.

Themes and Concepts for Studying Reproduction as a Process

Conceptualizing reproduction as a process does not mean starting from scratch. By drawing on the rich, vast literature developed by the interdisciplinary mix of sociologists, anthropologists, and historians working in this area, many important themes and concepts can be integrated within this new theoretical approach to reproduction. However, perhaps because scholars are situated in different disciplines, this subfield has been marked more by conceptual proliferation than by conceptual development. Open any book or read any journal article, and one is likely to see multiple italicized *nouveau* concepts sprinkled throughout the pages. Some of these are revolutionary and could reshape how we study reproduction, but many are not. Often, the new concepts wholly or partially replicate those that have come before. Rather than continually generate neologisms, I encourage my fellow scholars of reproduction to invest in conceptual development: Examine the concepts that exist already, identify their scope and limits, place them in dialogue with one another, build upon them, challenge them, and, when necessary, replace them. To illustrate this point, I offer two examples in this section. My goal is not to impose conceptual uniformity but to identify points of possible connection across disciplines to further theoretically oriented, empirically driven research on reproduction.

"Disciplining reproduction" and "reproductive governance." Many scholars of reproduction have found theoretical inspiration in the writings of Foucault (e.g., 1980), who conceptualized biopolitics as occurring at both the level of the population and the level of the individual. In a foundational history of the reproductive sciences, Clarke (1998) builds on Foucault to examine the process of "disciplining reproduction." This phrase encompasses the idea of reproduction as a discipline (an area of study) and discipline in the sense of exercising power. Clarke analyzes the various social worlds, including biology, medicine, and agriculture, in which reproduction became disciplined over the course of the twentieth century. Likewise, Morgan & Roberts (2012) draw on Foucault to conceptualize "reproductive governance," which involves state, religious, and international institutions using legislative controls, economic inducements, moral injunctions, and direct coercion "to produce, monitor, and control reproductive behaviours and practices" (p. 243). Thus, "disciplining reproduction" and "reproductive governance" share a theoretical lineage, a focus on control over reproductive bodies, and an emphasis on institutional processes, either in science and medicine or in states, religions, and markets. However, Morgan & Roberts do not engage Clarke's earlier formulation, raising interesting comparative questions about how the process of disciplining or governing reproduction varies across social realms, from medicine to the state or the family and beyond.

“Stratified reproduction” and “reproductive justice.” In line with a broader trend toward examining the intersections of gender, race, class, sexuality, and nationality (e.g., Collins 2000), scholars have analyzed the reproductive experiences of women of color, impoverished women, immigrant women, and women in developing countries. Exemplary of this tradition is Roberts’s (1997) *Killing the Black Body*, an instant classic upon its publication. Pointing to the marginalization of reproductive issues in the Civil Rights movement and of African American women in the reproductive rights movement, Roberts (1997) analyzes the “systematic, institutionalized denial of reproductive freedom” to Black women throughout American history (p. 4), from the forcible bearing of children during slavery to modern-day coercive welfare policies intended to limit their fertility. More recently, historians and ethnographers have analyzed the racial politics of sterilization (Gutiérrez 2008, Stern 2005) and medical care during pregnancy and birth (Bridges 2011), as well as nineteenth-century abortion debates (Beisel & Kay 2004) and twentieth-century adoption practices (Solinger 2001).

Scholars conducting intersectional analyses of reproduction have produced several influential concepts, including “stratified reproduction” and “reproductive justice.” In an ethnographic analysis of West Indian child care workers in New York City, Colen (1995) developed the concept of stratified reproduction to examine how “physical and social reproductive tasks are accomplished differentially” based on inequalities associated with gender, race, class, and migration status (p. 78). Ginsburg & Rapp (1995) included Colen’s essay in their landmark volume, *Conceiving the New World Order*, and they elevated “stratified reproduction” to the title of one subsection of the book. In the introduction to the volume, they also broadened the definition of stratified reproduction to “the power relations by which some categories of people are empowered to nurture and reproduce, while others are disempowered” (Ginsburg & Rapp 1995, p. 3). The concept has been used widely by social scientists conducting intersectional analyses of reproduction.

Meanwhile, during the same period in the 1990s, activists associated with SisterSong, a collective of women of color working within the abortion rights movement, began to formulate the concept of “reproductive justice.” Frustrated by the limited framing of reproductive rights as access to abortion, Ross and colleagues argued that women of color and poor women needed access not just to abortion, but to the full spectrum of reproductive health care. Moreover, for these groups of women, it was not just the right to abortion that was precarious, but the right to continue their pregnancies and to parent the children they already had. Thus, Ross (2006) defines reproductive justice as placing “abortion and reproductive health issues in the larger context of the well-being and health of women, families and communities. We believe that the ability of any woman to determine her own reproductive destiny is directly linked to the conditions in her community and these conditions are not just a matter of individual choice and access.” The concept of reproductive justice has traveled widely in activist and academic circles (Luna & Luker 2013), appearing most recently as a hashtag on Twitter.

Both stratified reproduction and reproductive justice are similar in that they focus on intersecting inequalities in the realm of reproduction. Yet they have slightly different emphases, which might be phrased as “how things are” versus “how things could be,” a distinction in keeping with their respective roots in anthropology and activism. For scholars working in this area, it may be useful to clarify the relationship between stratified reproduction and reproductive justice. What does one concept capture that the other does not, and vice versa? Can the two be integrated to provide a fuller conceptualization of intersectionality in reproduction?

Concepts emerge from the interplay of creative theoretical approaches and careful empirical studies. Influential concepts can generate coherence within a subfield and influence research in neighboring subfields. As examples, one might think of framing (Benford & Snow 2000) or medicalization (Conrad 1992), concepts that scholars developed to examine key processes in

politics and medicine, and that provide a sound basis for the elaboration of who, what, where, when, and why with empirical research. Along these same lines, I believe that the social science of reproduction would benefit from the concerted development of theoretical concepts that apply not just to one reproductive event or another, but more broadly to the social and biological process of reproduction.

AREAS IN NEED OF FURTHER RESEARCH

Integrating Qualitative and Quantitative Research on Reproduction

In this review, I have focused almost entirely on qualitative research, and the reader should note that running parallel to this work is an enormous demographic literature on fertility. Unfortunately, the quantitative literature on fertility and the qualitative literature on reproduction are almost entirely distinct; researchers tend to publish in different journals, present in different sessions at professional meetings, and seldom cite each other's work. Both literatures would certainly benefit from the insights of the other, but a full discussion of strategies for integrating qualitative and quantitative research on reproduction is not possible in the limited space provided here. Instead, I would simply suggest that a good place to start would be to read this review alongside Sweeney & Raley's (2014) review of research on childbearing. In it, they discuss the "proximate determinants" framework that demographers use to examine whether a birth occurs to a particular woman at a particular time, looking to mechanisms such as sexual activity, contraception, and abortion. Bongaarts & Potter (1983) define proximate determinants as "the biological and behavioral factors through which social, economic, and environmental variables affect fertility" (p. 1), making this framework completely compatible with a conceptualization of reproduction as a multilayered biological and social process.

Network analysis provides another promising entry point for integrating quantitative and qualitative research on reproduction. Qualitative studies of interactions among family and friends are common in research on reproduction (e.g., Chakrabarti 2010), but the use of quantitative network analysis to study these same dynamics is in its infancy. In a recent article, Balbo & Barban (2014) draw on data from the National Longitudinal Study of Adolescent Health (Add Health) to examine whether fertility behavior spreads among friends. They find that a friend's childbearing is associated with an increased likelihood that one will become a parent, which raises fascinating questions about the interactional processes through which family and friends affect reproduction, from contraception and abortion to pregnancy, birth, infertility, and assisted reproduction.

Reproductive Age and the Life Course

One of the defining elements of research on reproduction has been the focus on people of reproductive age. The beginning and end points of reproductive age have become a little more malleable with the development of reproductive technologies such as IVF, but the range is usually given as 15 to 44. Cultural norms about the appropriate age at which to have children have led to increased scrutiny of teen pregnancy (Furstenberg 2007, Nathanson 1991), but less is known about the latter parts of the life course (Joyce & Mamo 2006). Research on reproductive aging has centered on menopause, and Lock's (1993) classic *Encounters with Aging* finds significant variation in women's bodily experiences in Japan and North America. More recently, scholars have used interviews with women to disrupt the assumption that menopause is perceived as the loss of youth or reproductive potential (Winterich 2003). Dillaway (2005) points to the long-term use of contraceptives in explaining how menopause can be experienced as inconsequential and even desirable,

given that many women have long since finished having children. There is also some research on reproductive aging in the context of assisted reproduction, including interview studies with women who freeze their eggs for “fertility preservation” (Martin 2010) or use donated eggs to become pregnant (Frieze et al. 2006). Scholars have yet to devote much attention to men’s experiences of reproductive aging (Wentzell 2013 is a notable exception), an issue that is gaining prominence as biomedical research reveals that men too have a “biological clock” (Paul & Robaire 2013).

Of the many potential avenues for future research in this area, particularly crucial are comparative studies of women’s and men’s experiences of reproductive aging, as well as how this aspect of aging is shaped by the intersecting inequalities associated with race, class, and sexuality. It may also be useful to directly compare stages in the life course. At present, the emerging literature on menstruation (Bobel 2010, Freidenfelds 2009, Hasson 2012, Mamo & Fosket 2009) is distinct from the literature on menopause, but one could imagine putting these studies into conversation and generating comparative research about menstrual bleeding throughout the life span, including its onset (menarche), its presence in daily life (menses), and its cessation (menopause). And finally, studies of reproductive aging (and menstruation for that matter) have focused primarily on embodied experiences and medical knowledge, leaving open a range of questions that emerge from examining other analytical levels in **Figure 1**, such as kinship, employment, and the state.

Men

The vast majority of social scientific research on reproduction is about women. Demographers studying fertility rarely collect data from men; according to Greene & Biddlecom (2000), the predominant approach has been that “men might be interesting to study but are not inherently important for understanding reproductive behavior” (p. 81). Likewise, qualitative researchers focus primarily on women’s bodies and experiences, rarely interviewing men and thus positioning them as “the second sex” when it comes to reproduction (Inhorn et al. 2009). Only recently has this gap attracted sustained attention, with in-depth historical and qualitative studies on men’s experiences of conception (Edin & Nelson 2013, chapters 1–2), pregnancy (Han 2013, Weber 2012), prenatal screening (Reed 2009), birth (Leavitt 2010, Reed 2005), contraception (Fennell 2011), abortion (Reich 2008), infertility (Barnes 2014, Becker 2000), sperm (Almeling 2011, Moore 2007), and reproductive aging (Wentzell 2013).

Scholars have also begun to generate useful theoretical approaches to men and reproduction. To explain why men have received so little attention from biomedical and social scientists alike, Gutmann (2007) points to the framing of men as being driven by “biological urges.” Daniels (2006) developed the concept of “reproductive masculinity,” which encompasses the associated cultural beliefs that men are secondary to reproduction, their bodies are invulnerable to reproductive harm, and they are far removed from the health problems of their children (pp. 6–7). However, the tenets of reproductive masculinity do not always hold if one attends more closely to particular aspects of reproduction, as Almeling & Waggoner (2013) demonstrate in an analysis of the “reproductive equations” that clinicians use to describe men’s contributions to conception, genetics, gestation, and birth. Rather than focusing solely on biological difference in the reproductive realm, Almeling & Waggoner (2013, p. 836) suggest that it may be analytically productive to focus on points of similarity—such as the preconception period or genetic contributions to the fetus—to generate comparative studies of women and men.

Much work remains to be done. In Sweeney & Raley’s (2014) review of quantitative research on childbearing, a discussion of men was omitted because of “limitations in the data” (p. 540). Balbo & Barban’s (2014) network analysis excludes men due to “substantial data limitations” in the Add Health Study (p. 416). In this review, I place men in a separate section because of the scant

qualitative research. The studies of men that do exist tend to focus solely on masculinity, leaving open many questions about other aspects of men's reproduction, such as embodiment, kinship, employment, biomedical knowledge, cultural norms, and laws. It is crucial that social scientists incorporate men into research on reproduction. As long as we fail to do so, reproduction will continue to appear as though it is something that happens only to women, matters only to women, and affects only women.

CONCLUSION

Over the course of the past century, activists have worked to place reproduction at the center of political debates, and social scientists have delved into its complexities. Today, scholars who study reproduction constitute a vibrant and interdisciplinary subfield, producing excellent research on a wide range of issues that are central to sociological inquiry. There are active listserves (e.g., ReproNetwork, <http://www.repronetwork.org/>), a new reader designed specifically for teaching undergraduate courses (Joffe & Reich 2014), and, as of 2015, the Adele E. Clarke Book Award to honor groundbreaking research on reproduction.

To spur theoretical and empirical developments in this area, I encourage scholars to begin conceptualizing reproduction as a biological and social process that extends through the life course and occurs on multiple levels, from individual embodiment to cultural norms and institutional processes. My hope is that this new framework will allow researchers to specify what we mean by "reproduction" and generate innovative comparisons that take into account the myriad people, places, and things that shape the process of having children or not having children. Conceptualizing reproduction as a process trains one's attention not just on a singular event (conception or abortion or birth), but on what came before and what follows, tracing the multiple effects of bodies, experiences, and interactions in particular social, political, and historical contexts. No aspect of reproduction is reducible to the individual, and conceptualizing it as a process that occurs on multiple levels over time emphasizes its sociality.

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