Seeing Like a Family: Fetal Ultrasound Images and Imaginings of Kin

Sallie Han

in Imagining the Fetus: The Unborn in Myth, Religion, and Culture

Based on an anthropological study of the childbearing experiences in the United States, this chapter examines the importance and meaning of fetal ultrasound imaging, or sonograms, for the American middle class. Expectant parents in the United States consume fetal images as “baby pictures.” Sonographers compose fetal images using portraiture conventions. This chapter explores this seeing itself as a cultural and social practice that is shaped by expectations and experiences surrounding kinship and personhood.

Induced Abortion and the Fetus as Patient: A Continuing Paradox

Robert Woods

in Death before Birth: Fetal Health and Mortality in Historical Perspective

This chapter looks back from the perspective of the 21st century on the emergence of the fetus as a patient in its own right. It also considers issues surrounding the legalization of abortion, the definition of fetal viability, the continuing challenge of high mortality in less developed countries, and the new challenge to reduce stillbirths while ensuring the healthy lives of the very premature. It considers the impact of ultrasound techniques and developments in fetal surgery.
2D and 3D ultrasound imaging of the tongue in normal and disordered speech

Tim Bressmann

in Speech Motor Control: New developments in basic and applied research

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The chapter discusses the applicability and usefulness of ultrasound imaging for speech science. Basic technical aspects of acquiring two-dimensional brightness mode (B-mode) images of the tongue are explained together with techniques of image measurement. The use of static 3D ultrasound imaging for the analysis of tongue surfaces is described and current 4D ultrasound imaging tools are discussed. The applicability of ultrasound imaging in clinical speech research is demonstrated with summaries of two recent studies of partial glossectomy speakers. In the first study, B-mode ultrasound imaging was used to demonstrate compensatory post-operative increases of tongue velocity and height in ten patients with lateral partial glossectomies. In the second study, static 3D ultrasound imaging was used with twelve partial glossectomies to demonstrate that a lateral partial tongue resection leads to a reduction of the midsagittal groove of the tongue surface in sustained speech sounds. The chapter concludes with a case presentation of a patient with a hypoglossal nerve paralysis related to post-polio syndrome.

Tangled Diagnoses

Ilana Löwy

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From the early 1970s on, the development of new medical technologies made possible direct scrutiny of the living fetus, an approach named prenatal testing. Tangled Diagnoses examines the multilevel consequences of widespread diffusion of this biomedical innovation. Prenatal testing, Tangled Diagnosis argues, has become a risk management technology, the goal of which is to prevent severe inborn impairments, ideally through the development of efficient therapies but in practice mainly through the prevention of the birth of children with such impairments. The detection of a fetal anomaly is frequently the announcement of a risk. First, a risk for the health and wellbeing of the
future child. Second, a risk for the child’s family, since it is difficult to predict how a given family will react to problems generated by the child’s special needs. Third, professional and legal risks for experts who fail to accurately diagnose a fetal problem, including an indirect risk for their reputation and self-perception as competent specialists. Fourth, risks for the community and society at large - economic risks of additional expenses for care of impaired children and adults, and societal risks of pressures to ‘normalize’ human beings through the prevention of birth of those with ‘deviant’ bodies. Tangled Diagnoses uses scholarship, interviews, and direct observation in France and Brazil of two groups of professionals—fetopathologists and clinical geneticists—who play an especially important role in the production of knowledge about anomalies of fetal development, to investigate the real-life dilemmas created by prenatal testing.

Ultrasound as an ancillary investigation in the management of pregnancy
Amy B. Levine and Charles J. Lockwood

in Antenatal and Neonatal Screening

This chapter reviews the role of ultrasound as an ancillary technique in the establishment of gestational age; diagnosis of placenta previa; identification of intrauterine growth retardation; and detection and surveillance of multiple gestation. It is concluded that whether ultrasound is of benefit in these conditions is an open question.

Ultrasound scanning for congenital abnormalities
Nicholas Wald, Anne Kennard, Alan Donnenfeld, and Ian Leck

in Antenatal and Neonatal Screening

This chapter evaluates the value of ultrasound scanning both as a screening and a diagnostic test for fetal abnormalities, considering published evidence of ultrasound scanning performance, natural history, and birth prevalence of the disorders. The chapter includes a list of
abnormalities for which ultrasound scanning and subsequent action can lead to a benefit and others for which evidence is lacking.

**Fetal blood and tissue sampling**

Pauline A. Hurley and Charles H. Rodeck

in Antenatal and Neonatal Screening

This chapter examines the place of fetal blood and tissue sampling in the diagnosis of fetal disorders. Samples of fetal tissue or body fluids are needed for many of the diagnostic tests that are indicated when antenatal screening tests are positive. Sampling is most often prompted by the results of ultrasound scans. It may also be indicated when a familial or past obstetric history raises the possibility of a genetic disorder.

**Neural tube defects**

Nicholas Wald

in Antenatal and Neonatal Screening

Antenatal screening and diagnosis for neural tube defects involves the application of two methods — maternal serum alphafetoprotein (AFP) followed by amniotic fluid AFP measurement, and ultrasound examination of the fetus. The present challenge in screening is to integrate the two methods into a coherent screening strategy. This chapter quantifies the screening and diagnostic performance of the different methods, and offers a view on how they could be integrated.

**Fetal Growth: Measurement and Evaluation**

Mary L. Hediger and K.S. Joseph

in Reproductive and Perinatal Epidemiology
Fetal size and growth reflect critical dimensions of fetal health, and abnormal fetal growth is associated with perinatal death and neonatal morbidity. This chapter presents basic information on how to evaluate normal and abnormal fetal size and growth throughout gestation and at birth. This includes the use of ultrasound-based references for individual measurements and estimated fetal weight, more traditional birthweight-for-gestational age charts, individual segmental and/or planar measurements and ratios, such as femur length and abdominal circumference, and newer techniques for customizing the assessment of fetal growth and assessing fetal and neonatal body composition. Fetal size and growth are also discussed with regard to the main causes of poor or excessive fetal growth, the relationship between fetal growth and preterm delivery, and how fetal growth differs in twin pregnancies.

the Surrogate's Mission
Elly Teman

in Birthing a Mother: The Surrogate Body and the Pregnant Self
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Publisher: University of California Press DOI: 10.1525/california/9780520259638.003.0009
Item type: chapter

This chapter explores the surrogate's reframing of the challenges of surrogacy as an endurance test. The institutional management of surrogacy until the contract is approved by the state may be likened to a test; prospective surrogates undergo comprehensive institutional screening that is consistent across all cases. The surrogacy law specifies strict criteria governing who can become a surrogate; candidates must provide medical records showing they comply with a long checklist of selection criteria in terms of their physical, mental, and emotional health. They must pass a general medical exam and a gynecological exam, including a pelvic ultrasound, and undergo a battery of blood tests. In addition to being physically healthy and fertile, prospective surrogates must undergo comprehensive psychological screening, which lasts up to six hours.

The Myth of the Perfect Pregnancy
Lara Freidenfelds

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Publisher: Oxford University Press DOI: 10.1093/oso/9780190869816.001.0001
Item type: book
The Myth of the Perfect Pregnancy is a history of why Americans came to have the unrealistic expectation of perfect pregnancies and to mourn even very early miscarriages. The introduction explains that miscarriage is a common phenomenon and a natural part of healthy women’s childbearing: approximately 20 percent of confirmed pregnancies spontaneously miscarry, mostly in the first months of gestation. Eight topical chapters describe childbearing and pregnancy loss in colonial America; the rise of birth control from the late eighteenth century to the present; changes in parenting from the early nineteenth century to the present that increasingly focused attention on the emotional relationship between parent and child; the twentieth-century rise of prenatal care and maternal education about embryonic growth; the twentieth-century blossoming of a consumer culture that marketed baby items to pregnant women; the abortion debates from the mid-twentieth century to the present; the late twentieth-century introduction of obstetric ultrasound and its evolution into a pregnancy ritual of “meeting the baby” as early as eight weeks’ gestation; and the late twentieth-century introduction of home pregnancy testing and the identification of pregnancy as early as several days before a missed period. The conclusion offers suggestions for how women and their families, health-care providers, and the maternity care industry can better handle pregnancy and address miscarriage.

Changing Conceptions
Rachel Bowlby

in A Child of One's Own: Parental Stories
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Item type: chapter

This chapter considers how the typical story of the process leading to a baby's birth has changed in the wake of in vitro fertilization and related technologies, and how it has always been subject to variations according to popular and medical understanding. Since the 1990s, the embryo, capable of an indefinite existence when it has been created outside the body, has been a problematic new ethical entity, modifying the view of any pregnancy by its seeming separability. With ultrasound technology, the foetus routinely has another kind of external and visible presence outside the womb. The chapter also looks at what is now the practicable separation of two maternal functions of egg provision and gestation, and notes the new expectation and offer of what is defined as a ‘biological’ child when the prospective parents or parent could never—because they are gay or too old or just one—have had a baby by themselves.
Chapter 3 examines recent state-level informed consent laws, with a focus on laws that mandate ultrasounds before abortion. Beginning with an exploration of gender, neoliberalism, and biomedicalization, it shows that current debates over reproductive health and services are entangled with and informed by neoliberal and postfeminist perspectives, which emphasize the freedom and independence of agents and obscure power relations and social context. Feminist ideas of rights and empowerment are thereby perverted and employed to justify calls for individual responsibility and heightened surveillance of women. The chapter argues that in recent reproductive law, neoliberal and postfeminist perspectives converge with the tradition of autonomy as proper self-management to produce a new understanding of autonomy as risk avoidance. Moreover, the biomedicalization of reproduction, which frames reproductive health as a matter of individual moral responsibility, has facilitated and converged with these frameworks. The frameworks of postfeminism, neoliberalism, and biomedicalization provide context for the examination of recent state-level abortion restrictions and the role of ultrasound within them. The chapter shows that sonograms play a key role in shaping and representing cultural and political understandings of pregnancy and fetuses.

Robert Barry
Douglas Kahn

in Earth Sound Earth Signal: Energies and Earth Magnitude in the Arts

Robert Barry’s works for the January 5-31, 1969 exhibition, one of the key moments in the history of conceptual art, are described in terms of electromagnetism, from radio carrier waves to radioactivity, and ultrasound. Barry’s notion that there is nothing that is not energy is related to the axiomatic positions of John Cage (there is no such thing
as silence) and James Turrell (there never is no light). His interest in electromagnetism as a physical force and raw material for art is attributed to the influence of his father, who was an electrical engineer working in the telephone industry. His ideas about electromagnetism are compared with concurrent concerns of Lucy Lippard and the dematerialization of the art object, Art & Language, Buckminster Fuller, and Susan Sontag.

“To See What Is about to Be Born”
Ilana Löwy

in Tangled Diagnoses: Prenatal Testing, Women, and Risk
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The introduction starts with a description of the author’s initial hope that research on prenatal diagnosis will be less stressful than her previous research on cancer. She had rapidly discovered that this is not the case. Prenatal diagnosis is decidedly not a stress-free topic: it deals with conditions which often cannot be treated and with complex ethical dilemmas. The introduction provides then a short history of the prenatal diagnosis 'dispositif' - a heterogeneous array of techniques and approaches which, together, make possible the scrutiny of living fetuses. When a woman who lives in a country in which abortion is legal receives a diagnosis of a severe fetal anomaly, she can elect to terminate the pregnancy. By consequence, debates on prenatal diagnosis are often dominated by the difficult issue of selective abortion, and neglect other key aspects-material, professional, organizational, institutional, juridical and economic-linked with the widespread diffusion of this diagnostic approach.

Genetics, Morphology, and Difficult Diagnoses
Ilana Löwy

in Tangled Diagnoses: Prenatal Testing, Women, and Risk
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Chapter 2 examines efforts to limit the uncertainties of prenatal diagnosis through the juxtaposition of results obtained with three approaches: obstetrical ultrasound, analysis of the fetal genome, and
dissection of dead fetuses. Improvement of resolution of ultrasound images and of operators' skills, and the possibility of studying fetuses in three dimensions has greatly extended the possibility of scrutinizing the unborn. On the other hand, changes observed on the ultrasound screen are often insufficient to provide a definitive diagnosis of a fetal impairment. Women diagnosed with structural fetal anomalies during an ultrasound examination are frequently advised to undergo genetic testing. The results of genetic/genomic tests can clarify the nature of the observed structural anomalies. They can also increase diagnostic and prognostic uncertainty. Dissection data provided by fetopathologists help to clarify the meaning of "suspicious" ultrasound images and abnormal genetic findings.

Visible Disasters: Fetopathology in Brazil
Ilana Löwy

in Tangled Diagnoses: Prenatal Testing, Women, and Risk
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Chapter 4 is grounded in observations made in the fetopathology service of a major Brazilian research and teaching hospital. In many countries prenatal diagnosis is controversial because it is linked with selective abortion. In Brazil such a link does not exist, officially at least, because abortion for a fetal indication is criminalized, with the sole exception of anencephaly. Since nothing can be legally done until a child is born, an accurate diagnosis of a fetal anomaly is less important in Brazil than in countries where such a diagnosis leads to difficult decisions about the pregnancy’s future. Affluent Brazilian women diagnosed with a severe fetal impairment can often elect a safe abortion in a clandestine clinic. However, illegally aborted fetuses are not studied by fetopathologists. The latter perform only autopsies on miscarried fetuses and stillborn children, and work in a relative isolation. Brazilian fetopathologists strive to produce an accurate knowledge about fetal anomalies but, at the same time, are aware of the limits of their intervention, and know that they are often dealing with the fallout of a system which is unjust to many women.
Growing a Free to Be Family
Nancy Gruver and Joe Kelly

in When We Were Free to Be: Looking Back at a Children's Classic and the Difference It Made

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Item type: chapter

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DOI: 10.5149/9780807837559_rotskoff.24

This chapter tells the story of a couple talking in bed the night before their first child was born. They broached a subject that had not come up before: “Maybe one is enough.” They had always agreed about having two children, but with the due date only three weeks away, they were suddenly worried about whether they would be up to the challenge of juggling two careers and two children. They felt overwhelmed by the mountain of unknowns that lay ahead. As it turned out, they did not have to decide about one or two in the end. In those days before ultrasounds were performed during pregnancy, Mavis and Nia surprised the both of them by being twins.

1960–1975
James Nye

in A Long Time in Making: The History of Smiths

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Item type: chapter

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DOI: 10.1093/acprof:oso/9780198717256.003.0007

There is a transition back to strong leadership—tough decisions are taken to address market conditions, despite unpalatable results. A weak Ralph Gordon-Smith allows two broad factions to emerge in management. One group champions centralization of management control; the other, led by Dick Cave, champions decentralization and delegation. With backing from the retiring Frank Hurn (of the motor division), Cave emerges victorious as managing director, leading to a group focus on motors, while clocks languishes unprofitably, suffering increasingly from Asian and Eastern European competition. The medical plastics business grows to some significance. Cave exerts strong and gifted leadership—at the same time assembling a team that will survive for many years, including the young Roger Hurn, who later emerges as CEO.
Psychiatric neurosurgery is defined as neurosurgery for treating psychiatric disorders that do not have identified structural brain anomalies. Early psychiatric neurosurgery procedures such as lobotomy became discredited in the 1970s because of severe complications. After a nearly 30-year hiatus until the late 1990s, psychiatric neurosurgery experienced a revival. Today, modern psychiatric neurosurgery is more precise and safer than its historical predecessors. Deep brain stimulation has become an established treatment for treatment-refractory Parkinson’s disease, and has been tested in several hundreds of patients with different psychiatric disorders. Reports about its successful application have also stimulated the development and application of ablative psychiatric neurosurgery such as thermal or radiofrequency ablation, as well as Gamma Knife® radiosurgery and magnetic resonance-guided focused ultrasound. This chapter analyzes the pros and cons of a range of different existing and emerging psychiatric neurosurgical procedures and evaluates them ethically.