

O | R | S Oxford Ritual Studies

Series Editors

Ronald Grimes, Wilfred Laurier University
Ute Hüsken, University of Oslo
Eric Venbrux, Radboud University Nijmegen

Ritual Efficacy

Edited by William S. Sax, Johannes Quack, and Jan Weinhold

The Problem of Ritual Efficacy

Edited by

WILLIAM S. SAX
JOHANNES QUACK
& JAN WEINHOLD

OXFORD
UNIVERSITY PRESS

2010

OXFORD
UNIVERSITY PRESS

Oxford University Press, Inc., publishes works that further
Oxford University's objective of excellence
in research, scholarship, and education.

Oxford New York
Auckland Cape Town Dar es Salaam Hong Kong Karachi
Kuala Lumpur Madrid Melbourne Mexico City Nairobi
New Delhi Shanghai Taipei Toronto

With offices in
Argentina Austria Brazil Chile Czech Republic France Greece
Guatemala Hungary Italy Japan Poland Portugal Singapore
South Korea Switzerland Thailand Turkey Ukraine Vietnam

Copyright © 2010 Oxford University Press, Inc.

Published by Oxford University Press, Inc.
198 Madison Avenue, New York, New York 10016

www.oup.com

Oxford is a registered trademark of Oxford University Press.

All rights reserved. No part of this publication may be reproduced,
stored in a retrieval system, or transmitted, in any form or by any means,
electronic, mechanical, photocopying, recording, or otherwise,
without the prior permission of Oxford University Press.

Library of Congress Cataloging-in-Publication Data

The problem of ritual efficacy / edited by William S. Sax, Johannes Quack, Jan Weinhold.
p. cm.

ISBN 978-0-19-539440-5; 978-0-19-539441-2 (pbk.)

I. Ritual. I. Sax, William Sturman, 1957- II. Quack, Johannes. III. Weinhold, Jan.
BL600.R5777 2010

390—dc22 2009012759

9 8 7 6 5 4 3 2 1

Printed in the United States of America
on acid-free paper

Contents

Contributors, vii

1. Ritual and the Problem of Efficacy, 3
William S. Sax
2. Ritual Healing and the Investiture of the Babylonian King, 17
Claus Ambos
3. Jesus and his Followers as Healers: Symbolic Healing
in Early Christianity, 45
Gerd Theissen
4. Healing Rituals in the Mediaeval West, 67
Peter Dinzelbacher
5. Excommunication in the Middle Ages: A Meta-Ritual
and the Many Faces of Its Efficacy, 93
Paul Töbelmann
6. The Work of Zār: Women and Spirit Possession in Northern Sudan, 113
Janice Boddy
7. Ritual Humility in Modern Laboratories: Or, Why Ecuadorian
IVF Practitioners Pray, 131
Elizabeth F. S. Roberts

- Rappaport, Roy A. 1993. The Obvious Aspects of Ritual. In *Ecology, Meaning and Religion*. Berkeley, Calif.: North Atlantic Books, pp. 173–222.
- Rosen, Lawrence. 1982. *Bargaining for Reality*. Chicago: University of Chicago Press.
- Scheper-Hughes, Nancy, and Margaret Lock. 1987. The Mindful Body. *Medical Anthropology Quarterly* 1 (1): 6–41.
- Solway, Jacqueline. 1990. Affines and Spouses, Friends and Lovers: The Passing of Polygyny in Botswana. *Journal of Anthropological Research* 46 (Spring): 41–66.
- Spaulding, Jay. 1985. *The Heroic Age in Sennar*. East Lansing, Mich.: African Studies Center, Michigan State University.
- Vantini, Giovanni. 1981. *Christianity in the Sudan*. Bologna, Italy: EMI Press.

7

Ritual Humility in Modern Laboratories: Or, Why Ecuadorean IVF Practitioners Pray

Elizabeth F. S. Roberts

Crucifixes and images of the Virgin Mary watch over the microscopes and gamete incubators in several of Ecuador's in vitro fertilization (IVF) laboratories. The majority of Ecuadorean IVF clinicians and laboratory biologists pray for God's aid when aspirating and transferring gametes, and most would agree with Dr. Molina, one of Ecuador's most prominent IVF specialists, when he exclaimed to me, "God is in the laboratory." How can we make sense of the use of these images? Why are these practitioners of modern biotechnology and medicine invoking God? What do these ritualized actions and declarations do? Are they efficacious?

Simply put, the answer to the last question is, "Yes." When IVF practitioners call on divine intervention in their clinics and labs, they are acting to secure and control an uncertain outcome—pregnancy. Ritual exchange relationships with God are central to IVF and important for making sense of clinical results. This chapter describes how calling the divine mitigates uncertainty, but it focuses more specifically on another form of ritual effectiveness. These rituals also work because by humbling themselves in front of the power of God and other Catholic intermediaries, Catholic Ecuadorean IVF practitioners effectively neutralize the official Catholic condemnation of IVF. This condemnation revolves around two primary issues. The Vatican argues that (1) the research, development, and practice of IVF involve the destruction of embryos, that is, the "destruction of human life," and (2) by engaging in assisted reproduction, humans are technologically interfering with a process that should remain under God's dominion (Ratzinger 1987). But if, as these practitioners claim,

God and the Virgin have a hand in determining IVF outcomes, then surely their clinics have God on their side.

I became aware of these enchanted laboratories in 2000 when I first began to observe Ecuadorian IVF clinics. In 2002–2003 I carried out a year of ethnographic research in seven of Ecuador's nine private IVF clinics (which is a relatively high number for an extremely poor rural nation of less than 12 million), all located in either Quito or Guayaquil.¹ While the mechanics of IVF are roughly the same country-by-country, there are key differences in the *practice* of IVF between nations.² For instance, the optimal number of eggs retrieved from a woman undergoing an IVF cycle varies with the policies of country and clinic, depending on costs, drug protocols, the local health care system, and the existence (or nonexistence) of regulatory institutions. IVF, which might be seen by some as an "immutable mobile," an entity that can be moved without a change of meaning (Latour 1988), turns out to be very mutable indeed. Comparing the problems, debates, and anxieties that may surface regarding new technological and scientific practices in different sites "provincializes" (Chakrabarty 2000) scientific and ethical norms, even though some of these norms, such as the separation of religious and scientific rationalities, remain globally dominant.

While most northern practitioners of science and biomedicine assert that their practice is disenchanting, this assertion is not so pressing to Ecuadorian IVF practitioners. Like other Ecuadorian elites and middle classes, these IVF clinicians and biologists are heirs to Enlightenment thought, and they experience themselves as modern in their participation in these high-tech endeavors. Nevertheless their spiritual approach to laboratory rationality does not trouble these IVF practitioners' experience of themselves as moderns. In contesting the position of the Catholic Church through routine prayer, Ecuadorian IVF practitioners demonstrate that they are comfortable combining the domains of spirit and matter in the realm of science. It would be easy enough for northern scientists to dismiss these claims of God's favor as another example of the inability of "third world" biologists to purify their labs of spirit. My task, however, is to explain how and why Ecuadorian IVF practitioners, who are fully enlisted in a modern project, proudly declare God's presence in their midst.

Modern Catholic Dilemmas

In detailing the spiritual actions of modern Ecuadorian laboratory practitioners, I am suggesting not an "alternative modernity" (Gaonkar 2001), but rather a local formulation of the predicament involved in achieving modernity

within a nation marginalized to that process. In Ecuador the urban middle- to upper-class IVF practitioners with whom I worked could be described as avid participants in what Talal Asad (1993) calls the "modern project," for which elite and professional classes strive. This project aims at institutionalizing civil equality, industry, consumerism, and freedom of the market, and in Ecuador it is most often understood as yet-to-be-achieved. In my daily encounters in Ecuador, there was a palpable sense of what has been termed Ecuador's "national inferiority complex" (Miles 2003: 123). As a representative of a northern nation that supposedly functions properly, I was frequently used by Ecuadorians of all classes to enact a standardized monologue: "What's wrong with this country? Why are we so backward?" Depending on the person speaking, the blame, I was told, rests with the dysfunctional state, corruption, or the superstitious and insular indigenous groups of Ecuador. To remedy this failure, politicians have been attempting to "modernize" the mentality of the nation, often by trying to create a shared sense of being Ecuadorian (Radcliffe and Westwood 1996).³

IVF has been held up as one symbol of pride in Ecuador's scientific progress, but Ecuadorian IVF practitioners have engaged in this same failure narrative, constantly lamenting the difficulties of "peripheral" bioscience due to what they saw as their country's failure to maintain the infrastructure of a "modern" nation-state. They had to go elsewhere for training and, on returning, faced an ongoing "crisis" that they narrated in economic, political, and social terms. Many of these Ecuadorian technical elites, who hold advanced degrees they attained elsewhere, are compelled to seek employment in three or four locations, as clinicians, teachers, or consultants. But even though IVF practitioners represented their need to travel elsewhere for training as a sign of Ecuador's distance from modernity, they were not anxious about how their enchanted laboratories deviated from modern secular science. While modernity was a key symbol of attainment for these middle-class Ecuadorians, they did not consider laboratory mixtures of spirit and matter to be worrisome signs of a premodern irrationality.

In North America and Europe, by contrast, the laboratory is most often seen as a modern secular realm that demands the purification of spirit so that the work of science may proceed (Latour 1993; Shapin and Schaffer 1989). Its daily operations are imagined to be "secular" in the extreme, with the full excision of religion from its domain (Hess 1993). It is sometimes easy to forget that the secular was initially constituted through the creation of religion as a bounded object constricted to the "private" sphere. Max Weber's famous thesis that linked forms of Protestantism to the rise of capitalism (2001) predicated the modern era on the emergence of a new type of religious subjectivity, not on the total banning of religion from modernity. But "the secular" has taken

on life of its own, so it is sometimes viewed as having brought about religion's demise. Historian Jonathan Sheehan argues that

[a]s an analytical category, secularization plagues the efforts to connect the Enlightenment and religion, not least because the term is so crucial to the self-imagination of the modern age, which has, from the eighteenth century onward, understood itself as surpassing its religious past. (2003)

However, in Ecuador it is perhaps easier to make the connection between Enlightenment and modern forms of religious subjectivity, because these moderns do not imagine themselves as "surpassing" a religious past but rather as living in a fully religious present.

In the past two decades, social scientists such as Bruno Latour (1993; Latour and Woolgar 1986), Donna Haraway (1991, 1997), and Talal Asad (1993, 2003) have begun to question this standard narrative of modern disenchantment. More recently the unabashed religiosity of the Bush administration and its supporters has made this narrative even easier to complicate. While the Bush administration has exhibited little interest in "surpassing" religion, its move to infuse science with religiosity has perhaps compelled beleaguered North American scientists to police the boundaries between scientific and religious epistemologies with renewed vigor. The overt banishing of religiosity from laboratory practice in the United States appears to conform to what Bruno Latour (1993) calls the "modern constitution." Latour contends that modernity is predicated on the belief that certain domains such as nature, culture, politics, and the economy can and should be separated from each other. Moderns are those people who make these separations and who distinguish themselves from those who do not. Modernity, then, constitutes itself in relation to this otherness. One of the most basic modern separations, especially within modern science, is that between animated spirit and inert matter.⁴ This separation established the natural material world, the domain of science as uninfluenced by spiritual forces, which are the domain of religion. In the infancy of European capitalism and colonial expansion, the meaning of the English word "science" shifted from "general knowledge" to the "theoretical and methodical study of nature," a nature that was newly mechanistic (Williams 1985: 278). Enlightenment thinkers posited a spiritual order in the universe, where God was no longer directly involved in the daily operations of the world, epitomized in Descartes' argument that "God has so established nature . . . and concluded His work by merely lending His concurrence to nature in the usual way, leaving her to act in accordance with the laws which He had established" (1996: 26). Mirroring the emerging modern order, the universe became differentiated

into the spiritual, natural, and social realms, parallel to the divisions of church, science, and the state (Hess 1995: 79). Protestantism, the new religion of a modern world (in which religion came into being as a separable entity), took to heart God's departure from the material world. To be modern was to deny the possibility of earthly enchantment.

The Catholic response to the Protestant Reformation and its doctrine of God's earthly transcendence came in the form of the Council of Trent (1545–1563), which asserted the divine immanence of God on earth, but only to a point. Throughout the next several hundred years, this emphasis on God's earthly presence served as a means for Catholics to differentiate themselves from Protestants. Simultaneously, this earthly focus became somewhat problematic in the eyes of Church administration. The declaration of God's intervention in human affairs seemed to foster "the natural tendency" on the part of Catholic peasants "to blur the distinction between genuinely religious activity and superstition," causing Catholicism to appear "premodern," "backwards," and "uneducated" (O'Connell 1986). The quandary of how to maintain a clear distinction between the mainline Protestant separation of God from Earth, and the Catholic belief in the possibility of God's miraculous intervention on earth, while at the same time preventing the populist faithful from determining the public face of Catholicism, has been termed the "Tridentine dilemma" (O'Connell 1986). Since the early twentieth century, Catholicism has been at work crafting an image of itself as fully engaged with the enlightened, scientific ethos of the day, while retaining the possibility of divine immanence.

Materialist Catholicism

In Europe, modernity was birthed partially through a process of distinguishing between those who made separations between a transcendent (Protestant) and immanent (Catholic) God. But in Latin America this cosmological battle took a different form. There, many of these contestations took place among the Catholic faithful rather than against the non-Catholic outside world. Historian Pamela Voekel argues that the move toward Enlightenment and modern ideals came not from elite men who had moved away from the Church, but rather from elite reformers within the Catholic Church (2002). Referencing Foucault, Voekel portrays these men as "self" fashioned into a new form of Catholic subject heavily borrowed from the Protestant Reformation. These men, whom she terms "enlightened Catholics," proclaimed themselves sober, civic-minded, self-disciplined, and rationally bureaucratic. They objected to what they saw as the premodern displays of traditional Catholicism, with its outwardly focused,

baroque, and personalistic professions of devotion to God and saints in order to effect material change on earth.⁵ Voekel claims that, at least in the late eighteenth century, these men were fighting not for a separation of Church and state, but instead for a rationalized Catholic state; thus the purifications of modernity in Mexico and other Latin American nations took place within the framework of Catholicism.

Voekel's distinction between forms of Catholic subjectivity is key to my analysis of God's invocation in the clinics and laboratories of Ecuadorian IVF. While she distinguishes between "enlightened" and "baroque" Catholics, I find it more useful to make a distinction between spiritual and materialist Catholics. Both subject positions are modern in the sense that both participate in naturalizing the opposition between the spirit and the material, although it is spiritual Catholics who have come to be called "modern," and materialist Catholics who have come to be called "traditional." For spiritual Catholics, God is in effect a Cartesian God. He created the natural world and now as a spiritual presence has left its daily operations behind to be observed and managed by men. This spiritual God is bounded, rule oriented, and like Him, the spiritual Catholic is foremost an *individual* who is inwardly focused, temperate, and rule-oriented. Spiritual Catholics are similar to mainline Protestants in many ways, especially in their distrust of materiality, except that as Catholics they must allow for the occasional intervention of God on earth, albeit much less frequently than do materialist Catholics.⁶

The God of materialist Catholics can and does play an active role in the daily material affairs of earth and men. He subverts His own natural laws through these interventions (often known as miracles), because He and His intermediaries are deeply involved in personal (not individualistic) relationships with materialist Catholics. While spiritual Catholicism requires the cultivation of the self-disciplined individual, materialist religiosity might be most accurately described as the cultivation of exchange relationships. Many of the practitioners as well as the patients with whom I worked were enmeshed in personal exchanges with saints. A materialist Catholic might seem to be a contradiction in terms, since materialism is often portrayed (especially by Marx, its most ardent champion) as antithetical to enchantment. Thus, materialist Catholics could be seen as radically nonmodern because of their insistence that God and His intermediaries can and do transform the material world, but this reading ignores how the very distinction between modernity and nonmodernity is, as Latour argues, constituted through the purificatory practices of modernity itself.

Understanding the majority of IVF practitioners and patients in Ecuador as materialist Catholics explains their argument that their laboratories are God's

domain. Of the twenty laboratory biologists and clinicians with whom I spent the most time, fifteen could be categorized as embodying a materialist Catholic religious sensibility. Of the five remaining, two were atheists, and the other three I have come to think of as spiritual Catholics. These three denied God's influence on clinical outcomes with statements like, "God is not a puppet master," or "Faith does nothing." These practitioners told me that they have no dealings with individual saints but only Jesus Christ, mirroring longstanding Protestant and Evangelical sentiments about the idolatry involved in forming relationships with the graven (material) images of saints. But when working with patients, everyone—even the atheist practitioners—would invoke God at specific moments of the IVF process.

Ritual Expression: Clinic and Lab

My presuppositions about modern medical professionals were challenged in my first days of observation in Ecuadorian IVF clinics. Initially I assumed that the Catholic religious imagery hanging on the clinic walls was on display for the patients, the majority of whom I knew to be religious. My assumption proved to be wrong when I first entered clinic laboratories and operating rooms and observed that these images, as well as religious rituals, occupied an integral position in the practice of many embryologists and clinicians. God, it seemed, had not been banished from the premises. His will was invoked in two main areas of clinic life: first, in prayer, during procedures and treatments, and second, in practitioners' reflections on the general state of clinical affairs.

A cycle of IVF consists of many steps or phases, some more dramatic than others. First the patient is given hormones to stimulate her follicles so that more than one egg will be released at ovulation. The clinician checks the patient's follicles with a sonogram every other day to measure their growth. When the follicles are large enough (usually around days 12–15), they are vaginally aspirated or harvested in an operating room. Follicular fluid containing the eggs is suctioned out of the patient's uterus and deposited into test tubes, which are delivered to the waiting biologist in the darkened laboratory next door. From there the biologist empties the contents of these tubes into petri dishes and examines the fluid for eggs under a microscope.

The next drama, although more solitary, is one of the two most fraught moments of the process. The laboratory biologist, now alone, prepares the eggs for insemination. Once she places the sperm in the petri dish, there is nothing else she can do but hope, until she checks for fertilization 18 to 20 hours later. It is at this time that she reflects on the quality of the eggs and sperm and prays

for an outcome. At Dr. Padilla's clinic, the laboratory biologist Linda kissed and caressed the incubator as she intoned her desire for God to fertilize the eggs. She would often say a short prayer, addressing God familiarly: "*Que Diosito quiera que los ovulitos fertilicen*. [May God want the eggs to fertilize.]" At another lab, the biologist Dr. Escobar made the sign of the cross before he placed the petri dish with the ovum and sperm in the incubator. With the gametes safely inside, he patted the incubator, saying, "Go with God." In Dr. Leon's laboratory, when she finished combining ovum and sperm, she would touch the image of the Virgin Mary hanging over the principal microscope and then make the sign of the cross. As she closed the door to the incubator after placing the petri dish inside, Dr. Leon would touch an attached crucifix, which was hanging in a sterile plastic bag, and again make the sign of the cross. In addition to these visible acts of devotion, some biologists told me that they make silent prayers throughout the cycle as well. Dr. Larea explained that at every aspiration she says "a prayer to God asking Him to let us get the number of eggs we need and that we get good results. I say this before I enter the lab before each aspiration so that it goes well. God help us." She continued, "I have Christ in the laboratory. Whenever I go to do a procedure, I ask that he enlighten me to do things well." The next day, before checking the eggs for fertilization, the biologist might make the sign of the cross. If the resulting embryos are *bonito* (beautiful) instead of *feo* (ugly) or not fertilized at all, she might give thanks and make another sign of the cross. After this crucial check the new embryos are monitored daily for cell division and regularity until the transfer. Finally, before the transfer, the right embryos must be selected and another prayer might be offered at this moment: "God permit me to choose good embryos."

The transfer of embryos to the patient is also a moment of great consequence. It occurs from 48 to 72 hours after the aspiration. During transfers, God's intervention is called for in several ways. At Dr. Padilla's clinic, the biologist, Linda, would enter the operating room from the laboratory holding a tube containing the embryos that were to be inserted into the catheter already positioned in the patient's cervix. Dr. Padilla would then say out loud, mostly for the benefit of the supine woman and her husband, "This is the serious part." When he placed the embryo-filled catheter inside the patient's uterus for a timed minute, he would twice intone, "God help us, may these implant" as a nurse guided the patient's right hand in the sign of the cross. With the transfer complete, the patient's legs would be taken out of the stirrups and laid on the table. She would be covered in blankets and the table was cranked up so that her legs were higher than her head. When Linda returned to the lab after checking the catheter, she would often announce to everyone, "This all depends on God. It's in the hands of God if they [the embryos] will stick." She

would then turn to the now inverted patient and say, "There is a high chance you'll get pregnant. But you don't know. If God helps us, all will go well." As each practitioner exited the room, he or she kissed the patient on the cheek and told her and her husband, "God willing, you will be pregnant," or "We need to have faith."

One morning, at another clinic, while holding a catheter in the supine patient's cervix, Dr. Quiroga turned to a visiting biologist and remarked, "Wouldn't it be great if everyone got pregnant?" Then he mentioned a recent American study of the hormone selectin, which in the future might allow for better control of implantation. The biologist replied, "But for now only God can help us." Dr. Quiroga nodded in agreement. When he removed the catheter, he said to the patient, *Felicitaciones. Que Dios nos ayude. No podemos hacer mas hasta la prueba*. [Congratulations. May God help us. We can't do anything more until the test.]

Throughout my observations, God was evoked at all of these stages but was summoned most frequently at the moments surrounding the fertilization and the transfer. These two moments were pivotal in the IVF process. They signaled times when the clinicians, after preparing as best they could, ceded control of the gametes to the unknown. Using Victor Turner's language—the sperm and eggs, which hopefully will combine into embryos while in the incubator, are quintessential "entities in transition" (Turner 1969). They are liminal—an especially apt term, given that liminality frequently involves womb-like spaces, darkness, and invisibility, all attributes of the incubator where the gametes are placed for their metamorphosis. They sit in dark, unseeable places and cannot be manipulated while there. The eggs and sperm are put in a sealed incubator, where they are not examined for a day. Then the embryos are placed in a uterus, unseen for two weeks of waiting, a period punctuated by frequent hormone injections and testing. This stage stands in contrast, to other, more controllable stages, such as the stimulation, when follicles can be monitored by ultrasound through the patient's body every day.⁷

As Malinowski documented seventy-five years ago, calling for "spiritual assistance" is a common means of managing uncertain outcomes (Malinowski 1984). Trobriand islanders who venture into deeper waters do so, as do Mexican potters, Masai warriors, and American baseball players. Ecuadorian embryologists do it as well, and these embryologists' calling on the Virgin Mary, or God, serves as a means to control an unknown future, similar to checking temperature gauges on the incubators, or sterilizing pipettes. This case is singular, however, because the weight of a presumed scientific modernity makes the evocation of God in the laboratory different from these other routine and "material" laboratory procedures. According to the "modern constitution,"

these invocations should not occur because they contradict the basic materialist tenets of science and biomedicine. However, while controlling an indefinite outcome is certainly part of what these rituals do, I believe that they also serve to manage the Church's disapproval of these practitioners' livelihoods. Invoking God does more than manage the future and tilt the odds toward pregnancy. By disavowing their own agency and humbling themselves before God, these practitioners effectively counter the Churches' claim that IVF is a godless practice.

About Belief

An understanding of why and how Ecuadorian IVF practitioner's ritual contestation with the Church is efficacious requires both a consideration of the category of belief and a genealogy of ritual itself. When I present this material to North American scholars they frequently ask, "Just how meaningful are these evocations of God?" Maybe, they suggest, we should think of these practices as rote and unconscious actions, like crossing oneself while walking by a church or regularly exclaiming *Dios Mio!* to signal dismay—acts that in these scholars' minds do not signify internalized conviction or belief. For heirs to Enlightenment thought, belief is supposed to signal a deeply held conviction of the essential self.

This understanding of belief is also part of a common refrain heard in Ecuadorian scholarly and religious literature, and in daily life, which concerns the shallowness of Ecuadorian Catholic piety. "Look how the churches are empty." "Look how hypocritical they are to use birth control." These "facts" are repeated not only by those who, like priests, are not satisfied by the level of institutional and popular support and power that the Church maintains in Ecuador, but also by the atheist practitioners with whom I worked. Scholars from Weston Le Barre (Le Barre and Mason 1948) to Michael Taussig (1980) have used these same "facts" to indicate the Church's failure to effect internalized piety among Andean peoples. But none of these denigrations or celebrations of the lack of "true" religiosity in Ecuador describes the palpable devotion of urban Ecuadorians, who commonly make pilgrimages to Catholic shrines but rarely attend Sunday mass. In Ecuador, mass attendance is not a significant marker of Catholicism (although it might be a useful marker of spiritual versus materialist Catholicism). Indeed, when I asked doctors and patients in Ecuador, or anyone for that matter, if they were religious, the most common response was, "I'm Catholic. I'm not a fanatic, though. I don't go to Mass." But avoiding mass does not preclude a Catholic identity. One of

the very few studies of urban religiosity in Ecuador, conducted in the early 1980s, found that Ecuadorians, at least in the Northern Sierra, identified as *Cristianos* (Catholics) first, before race or class groupings. Religious belief was employed as the sign of a true person (Stutzman 1981). And as anthropologists have demonstrated, belief can be experienced in a variety of local and historically specific ways.

Thomas Kirsch argues that for contemporary Zambian forms of Christianity, belief is better understood as "the practice of cyclically regenerating a condition of internalized believing" than as "a stable and perpetual interior state" (2004: 699). As with Zambian Christians who are constantly "restaging the will to believe," materialist Catholic Ecuadorians' understandings of faith are not determined by a permanent and internal state of doctrinal belief. Thus Ecuadorian IVF practitioners' prayers to God and the Virgin do not appear shallow or hypocritical to themselves or those around them. Their "beliefs" and the effectiveness of their rituals are constituted through the performance of humility and do not necessarily reflect the desire for an internal and permanent state of being. As Bourdieu puts it, "[p]ractical belief is not a 'state of mind,' still less a kind of arbitrary adherence to a set of instituted dogmas and doctrines ('beliefs'), but rather a state of the body" (1990: 68).

Variability in belief experience is directly linked to variability in ritual acts, as is demonstrated through Talal Asad's careful parsing of the genealogy of ritual. Asad distinguishes between premodern Christian, modern Christian, and secular understandings of ritual. The earlier view of rite in premodern Christian monasteries had to do with actively learned skills and instrumental behaviors that formulated a connection between "outer behavior and inner motive" (Asad 1993: 58). This view changed in the modern period as ritual came to be seen as signifying behavior, "classified separately from practical, that is technically effective behavior" (*ibid.*). In premodern monasteries the liturgy, or the routine ritual of mass, was not separated out as a symbolic enactment of Christian faith, but, like copying manuscripts, was for monks a practical means to develop virtue (*ibid.*: 64).

Obviously modern Ecuadorian IVF practitioners are not premodern European monks, but nevertheless Asad's genealogy of ritual allows us to see that the commonplace anthropological analysis of ritual as "symbolic of" something else, or as signifying a deeply held belief, might not adequately match the experience of those we study. For materialist Catholics, the external presentation of one's belief is linked to an emphasis on outward signs rather than on the internal cultivation of belief. Asad's work on secular modernity demonstrates that "belief" has come to describe an internally "genuine" and deeply felt state. Permanency and consistency, in addition to internality, became two more

hallmarks of belief, all of which emphasize "the priority of belief as a state of mind, rather than as a constituting activity in the world" (Asad 1993: 47).

From the point of view of contemporary spiritual Catholics (or anyone who connects belief with genuine conviction), materialist belief looks suspect, self-serving, shallow, hypocritical, and erratic. In the case of materialist Catholic Ecuadorians, prayers to the Virgin can be understood more as a "constituting activity in the world," like the disciplinary and external ritual of self-oblation that IVF practitioners use to make clear to those present—patients, other practitioners, themselves, and God—that the power of life rests in His hands. Thus, instead of questioning the depth of Ecuadorian IVF practitioners' conviction or belief, we might imagine them as engaging in an integral and technical ritual. In this case the discipline of the ritual instills the virtue of self-oblation—the constant enactment of humility before God, which differs greatly from the ego-enhancing presentation of self that I have encountered in my research with IVF doctors in the United States (Roberts 1998a, 1998b). During the most fraught moments of an IVF cycle, when the potential for life's creation hangs in the balance, these clinicians perform a "divine service" by reminding themselves, and others, that they are not responsible for the creation of life.

Boundary Disputes

Throughout my fieldwork, practitioners, especially laboratory biologists, shared with me a litany of reasons for the rate of pregnancy success and failure in their particular clinics. Laboratory equipment (e.g., the quality of cultivation media, pipettes, incubators), types of patients (e.g., spates of older or younger patients), and natural disasters (after a nearby volcanic eruption, the ash covering Quito infiltrated the labs and was blamed for a month of bad results at several clinics) are commonly invoked to explain good or bad outcomes. For most practitioners, God was also part of this scenario. While I would imagine many of these causal explanations to be common to IVF labs around the world, it was the unabashed but unreflexive insertion of a divine causality that struck me as noteworthy for moderns.

One morning the laboratory biologist Linda lamented the fact that most recent patients had not gotten pregnant. She reminded me of an embryo transfer that I had observed three weeks before. When Dr. Padilla pulled the catheter out from the patient's uterus, it was covered with blood. My stomach lurched as I saw Dr. Padilla and Linda exchange a look. I knew well that clinicians carefully maneuver the catheter precisely in order to avoid uterine bleeding. Linda

reflected that in that particular case the blood might have ruined the woman's chances, since

blood is invasive and damaging for embryos. For that case it's the only explanation we have because we are doing nothing different. Nothing! God is not giving me a hand. Lately He has forgotten me. When we transfer the embryos and I see that the embryos I transferred to this patient were good quality and could give a pregnancy, and nevertheless it is not given, it's because unexpectedly God didn't want it.

Linda's invocation of God relates to an implicit boundary debate with the Catholic Church. Clinical practitioners are keenly aware that the Church finds IVF objectionable, and this is something with which they as Catholics have to grapple. Their rebuttals took two basic forms: (1) We are not playing God; we are only God's helpers; and (2) God gave us the ability to do this, so it must be okay. They do not directly respond to the charge that IVF exterminates life, an objection that both practitioners and patients and even many priests in Ecuador often overlooked. Rather, they focused their rebuttals on the Church's objections to the artificiality of IVF.

Many practitioners had practiced responses to Church condemnation of IVF's artificiality. Dr. Molina's comment that "God is in the laboratory" was part of a larger statement that he made to reporters when they asked if he was not "playing God":

Many times in interviews in radio and television they have asked me if in the laboratory you are not playing with life, playing God. And I have answered, "God is in the laboratory." We are nothing more than assistants. We are only putting our small grain of sand in to get results.

With declarations like this, IVF practitioners countered Church claims that IVF distorts the proper relationship between God and humanity. They positioned themselves in agreement with the Church: according to them the ultimate authority over life rests in God's hands, not their own. Through ritual enactments and declarations of faith they offer a countertheological discourse about God's interventions. The practitioners themselves are only assistants. Their scientific workspace becomes God's space, His laboratory.

This contrast between IVF practitioners' claiming God's intervention and priestly denial of this possibility enacts the centuries-old Tridentine dilemma, a debate that usually took place between priests and peasants rather than between

priests and scientists. And like peasants, these practitioners also employed stories of official Catholic hypocrisy to discount the Church's position on IVF. When I brought up the Church position directly with clinic directors, they inevitably told me how the directors of Catholic hospitals were against IVF—that is, until their daughters could not have children. On another occasion, when I asked Dr. Molina if he knew about the miraculous seventeenth-century bench in the local Convent of Santa Catalina, reputed to help infertile women who sit on it and pray to get pregnant, he said, "No." But then, winking at me, he wanted to know "if the nuns get pregnant too." He explained that "[t]here are tunnels under the churches in the old town where the priests and nuns meet, and they have found the remains of fetuses there." This was not the first time I had heard this story, but never from a doctor who might have a specific interest in portraying the Church in a less than flattering light, given his own role in facilitating a condemned form of virgin birth. Dr. Molina's jokes about the sex lives of priests and nuns were similar to the anticlerical humor circulated among Southern European peasants, which was used to challenge the authority of the priests and the Church hierarchy without rejecting Catholicism as a whole (Badone 1990). Like Southern European peasants, who object to what they see as rigid, Church-created boundaries, Ecuadorian IVF practitioners are not preoccupied with dividing the world into the oppositional spheres of sacred and profane, spiritual and material. What differs in this case, however, is that the Church officially vilifies these practitioners' livelihood, and that the practitioners are not operating from a position of social or educational inferiority to the priesthood.

Throughout my fieldwork I also spoke with priests in Ecuador about why the Church is against IVF. Evident in most of these discussions was the tight-rope walked by institutionalized Catholicism, which diminishes, but cannot completely extirpate, miraculous displays of personal favors bestowed by God. When I explained how IVF practitioners called on God in their clinics and laboratories, the priests denied that God's miraculous intervention could occur within territory reviled by the Church. These priests, as spiritual Catholics, emphasized God's primary role as the creator of natural laws, not an entity with a material presence on earth. When I told one priest that IVF practitioners saw God's handiwork in IVF clinics, he countered by identifying psychological forces, such as relaxation, as the "real" causes of "miraculous" clinic results. Such priests did allow that God does very occasionally intervene on earth. One priest told me, "God doesn't break His own natural laws." Nevertheless, he had known one infertile woman who had become pregnant from praying on the miraculous bench at the convent of Santa Catalina. Another priest told me dismissively that praying to God in an IVF clinic is like Colombian assassins

praying before killing someone, or like doctors praying before performing an abortion. These comments frame the stakes of this moral contest between IVF practitioners and the Catholic Church. Are IVF practitioners acting as false gods and killers, or are they God's helpers, as they themselves claim? In their response to Ecuadorian IVF, priests must reign in signs of personalistic Catholic devotion and adamantly critique claims of God's favor within the context of an activity the Church condemns.

The Tridentine dilemma is modern in that its tensions enact a boundary dispute between spiritual and material explanations (e.g., Is it God or is it psychology?), a quintessentially modern preoccupation. To North American scientists and medical professionals, this debate between priests and practitioners of scientific medicine might appear as what Asad (2003: 10) has described as the "failure to embrace secularism and enter modernity," given that the terms do not presuppose a solely material and disenchanting scientific universe. In this enactment of the dilemma, however, the modern struggle is about religious legitimacy in what many have imagined to be a wholly material sphere.

Claims of God's favor make these practitioners somewhat unusual moderns in yet another way. One of the key facets of modernity as described by Weber (1991) is the creation of a rationalized, impersonal bureaucracy. The God of both mainstream Protestants and enlightened Catholics is bureaucratic. He does not break His own laws, at least almost never. Materialist proclamations of God's presence in the laboratory, God's direct effect on clinical pregnancy rates, and claims of personal exceptionalism are not bureaucratic or rationalized. These miracles are signs of personal exchanges with God, which provide certainty and, more important, undermine Church claims that IVF is against God's will.

Conclusion

As these Ecuadorian elite proponents of technomedicine demonstrate, modernity is not always about the "formation of the secular" or the banishment of enchantment from the realm of natural law. In Ecuador, a nation-state fully engaged in a modern project, religion has not been relegated to the private sphere. Modern Ecuadorians are disinterested in the full embrace of secularity even in settings that are avowedly secular elsewhere. Even though Ecuador is one of the most officially secular nations in Latin America (Aguilar-Monslave 1984), public spaces, schools, and government offices are filled with Catholic religious imagery. Although Ecuadorian IVF practitioners are by no accounts pious, everyday life, even everyday scientific life, is suffused with religiosity.

The examination of bioscience around the world can destabilize conventional assumptions of secularity, prompting us to ask: In what other sites or nations does religiosity play a role in the laboratories of modern science and biomedicine? Even scholars such as Bruno Latour (1993), who have done much to disrupt our received notions of disenchanting science, characterize scientists as being cleaved to the image of science as rational, disciplined, and, above all, purified of the spiritual. To be clear, this is not an attempt to expose the "irrational, religious underbelly" of science and biomedicine; instead, it is a call to explore how the northern proclamation of God's banishment from the laboratory is not the only way that bioscientific workers can understand and arrange their material and spiritual worlds. Modern Ecuadorians have their own specific moral landscape where religious evocation does not have to be separated from scientific medical practice. This example can aid scholars working elsewhere to reexamine longstanding assumptions about the automatic separation of religious and material rationalities in scientific settings. The need to explain why God resides in Ecuadorian IVF laboratories should prompt a parallel need to defamiliarize the avowed disenchantment of North American or European labs.

For many Ecuadorian IVF practitioners, there is nothing remarkable about the evocation of the divine in a high-tech biomedical setting. This possibility suggests a different construction of the relationship between science and religion than is often supposed in theories of modernity. When practitioners of Ecuadorian IVF make appeals to God and the Virgin for the fertilization of eggs retrieved during IVF, they are operating within a modern project where God's intervention does not contradict their identity as Catholics or as practitioners of modern scientific medicine. These clinicians assert God's presence in the laboratory to neutralize Church disapproval, but they see no need to cordon off the material from the spiritual. Modern boundary tensions are at work in Ecuador, not necessarily over the primacy of science or religion, but over the proper boundaries of enchantment. Humbly giving over one's laboratory to God effectively allows these practitioners to stake a claim to legitimate Catholic practice. These rituals of humility work. In Ecuadorian IVF, God has been appointed the director of laboratory life.

NOTES

1. My research took place in IVF clinics, where I observed and talked with practitioners and patients in waiting rooms, laboratories, operating rooms, and patients' recovery rooms. In addition I conducted over 130 formal interviews for the project, the majority with female infertility patients, and sometimes their male partners and other family members. I also conducted interviews with IVF

practitioners, physicians, technicians, laboratory biologists, or staff at IVF clinics, as well as egg and sperm donors, surrogate mothers, priests, lawyers and bio-ethicists. For an extended discussion of my findings see Roberts (forthcoming).

2. IVF practitioners vaginally remove a woman's eggs from her hormonally stimulated ovarian follicles. Laboratory technicians combine these eggs in a petri dish with sperm. The resulting fertilized eggs, or embryos, are transferred back into a woman's uterus in the hopes of implantation and pregnancy.

3. Business groups were behind a recent modernizing campaign. In fall of 2003 these groups organized a ceremony where the nation gathered to synchronize its watches in order to increase worker productivity.

4. In Latour's modern constitution, the flip side of purification is the proliferation of hybrids. This is the logical outcome of the modern belief that entities like nature or culture exist and thus can be separated. When these supposedly separate realms are brought together, they are called hybrids (Latour 1993).

5. Coastal liberal reformers have been battling against what they see as the entrenched patron client relations endemic to Sierran agrarian society that they understood as preventing the development of free trade.

6. See Webb Keane (2002) for a discussion of Protestant distrust of materiality. He paraphrases Marx concerning the links between Christianity and capitalism where the "the concrete comes to be subordinated to the abstract" (Keane 2002).

Ironically, the separation of the material world from the spiritual world is what, according to Weber, allowed Protestants, who made that separation, a means to achieve an unimaginable level of material accumulation (Weber 2001).

7. The moments where the lack of control is heightened are linked to God in a way that other moments of the process that we might expect to be sacred are not. For example, after the quality of embryos was checked, prayers or thanks to God were frequently offered. The embryos themselves, though, do not necessarily provoke such sentiment: after a transfer, when there are "extra" embryos, they are often dumped unceremoniously into the trash. For further discussion see (Roberts 2007).

REFERENCES

- Aguilar-Monslave, L. A. (1984) The Separation of Church and State: The Ecuadorian Case. *Thought* 59, 205-219.
- Asad, T. (1993) *Genealogies of Religion: Discipline and Reasons of Power in Christianity and Islam*, Baltimore: Johns Hopkins University Press.
- . (2003) *Formations of the Secular: Christianity, Islam, Modernity*, Stanford, Calif.: Stanford University Press.
- Badone, E. (1990) *Religious Orthodoxy and Popular Faith in European Society*, Princeton, N.J.: Princeton University Press.
- Bourdieu, P. (1990) *The Logic of Practice*, Cambridge: Polity.
- Chakrabarty, D. (2000) *Provincializing Europe: Postcolonial Thought and Historical Difference*, Princeton, N.J.: Princeton University Press.
- Descartes, R. (1996) *Discourse on the Method; and, Meditations on First Philosophy*, New Haven, Conn.: Yale University Press.

- Gaonkar, D. P. (2007) *Alternative Modernities*, Durham N.C.: Duke University Press.
- Haraway, D. J. (1991) *Simians, Cyborgs and Women: The Reinvention of Nature*, London: Free Association.
- . (1997) *Modest*Witness @ Second*Millennium. FemaleMan *Meets* Onco Mouse: Feminism and Technoscience*, New York: Routledge.
- Hess, D. J. (1993) *Science in the New Age: The Paranormal, Its Defenders and Debunkers, and American Culture*, Madison, Wis.: University of Wisconsin Press.
- . (1995) *Science and Technology in a Multicultural World: The Cultural Politics of Facts and Artifacts*, New York: Columbia University Press.
- Keane, W. (2002) Sincerity, "Modernity," and the Protestants. *Cultural Anthropology* 17, 65–92.
- Kirsch, T. (2004) Restaging the Will to Believe: Religious Pluralism, Anti-Syncretism, and the Problem of Belief. *American Anthropologist* 106, 699–709.
- Latour, B. (1988) *The Pasteurization of France*, Cambridge, Mass.: Harvard University Press.
- . (1993) *We Have Never Been Modern*, New York: Harvester Wheatsheaf.
- , and S. Woolgar. (1986) *Laboratory Life: the Construction of Scientific Facts*, Princeton, N.J.: Princeton University Press.
- Le Barre, W., and J. A. Mason. (1948) *The Aymara Indians of the Lake Titicaca Plateau, Bolivia*, Menasha, Wis.: American Anthropological Assn.
- Malinowski, B. (1984) *Magic, Science, and Religion, and Other Essays*, Westport, Conn.: Greenwood Press.
- Miles, A. (2003) Healers As Entrepreneurs: Constructing an Image of Legitimized Potency in Urban Ecuador. In J., Koss-Chioino, T. L. Leatherman, and C. Greenway (Eds.), *Medical Pluralism in the Andes*, London: Routledge.
- O'Connell, M. (1986) The Roman Catholic Tradition Since 1545. In R. L. Numbers and D. W. Amundsen (Eds.), *Caring and Curing: Health and Medicine in the Western Religious Traditions*, New York: Macmillan.
- Radcliffe, S., and S. Westwood. (1996) *Remaking the Nation: Place, Identity and Politics in Latin America*, London: Routledge.
- Ratzinger, C. J. (1987) Instruction on Respect for Human Life in Its Origin and on the Dignity of Procreation. *Congregation for the Doctrine of the Faith, the Feast of the Chair of St. Peter, the Apostle. February 22, Rome.*
- Roberts, E. (1998a) Examining Surrogacy Discourses: Between Feminine Power and Exploitation. In N. Scheper-Hughes and C. Sargent (Eds.), *Small Wars: The Cultural Politics of Childhood*, Berkeley: University of California Press.
- . (1998b) "Native" Narratives of Connectedness Surrogate Motherhood and Technology. In J. Dumit and R. Davis-Floyd (Eds.), *Cyborg Babies: From Techno-Sex to Techno-Tots*, New York: Routledge.
- . (2007) Extra Embryos: Ethics, Cryopreservation and IVF in Ecuador and Elsewhere. *American Ethnologist* 34, 188–199.
- . (forthcoming) *God's Laboratory: Mixed Relations in Andean IVF Clinics.*
- Shapin, S., and S. Schaffer. (1989) *Leviathan and the Air-pump: Hobbes, Boyle, and the Experimental Life*, Princeton, N.J.: Princeton University Press.

- Sheehan, J. (2003) Enlightenment, Religion, and the Enigma of Secularization: A Review Essay. *The American Historical Review* 108, 1061–1080.
- Stutzman, R. (1981) El Mestizaje. An All Inclusive Ideology. In N. Whitten (Ed.) *Cultural Transformations and Ethnicity in Modern Ecuador*, Urbana: University of Illinois.
- Taussig, M. (1980) *The Devil and Commodity Fetishism in South America*, Chapel Hill: University of North Carolina Press.
- Turner, V. W. (1969) *The Ritual Process: Structure and Anti-Structure*, Chicago: Aldine.
- Voekel, P. (2002) *Alone Before God: The Religious Origins of Modernity in Mexico*, Durham, N.C.: Duke University Press.
- Weber, M. (1991) *From Max Weber: Essays in Sociology*, London: Routledge.
- . (2001) *The Protestant Ethic and the Spirit of Capitalism*, London: Routledge.
- Williams, R. (1985) *Keywords: A Vocabulary of Culture and Society*, New York: Oxford University Press.