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When the state and your kidneys fail:

Political etiologies in an Egyptian dialysis ward

ABSTRACT

In this article, I describe how poor Egyptian kidney-disease patients understand and experience their illness in terms of Egypt's larger social, economic, and political ills. The suffering that patients in end-stage renal failure endure, as they articulate it, extends beyond the pathological kidney and implicates corrupt institutions, polluted water, the mismanagement of toxic waste, and unsafe food. End-stage kidney failure patients in Egypt depend on state-provided medical services, which they deeply mistrust. In this context, they understand the breakdown of their kidneys, their dialysis machines, and their bodies as a direct outcome of the breakdown of the welfare state. I argue that patients' perceptions of their disease and their mistrust of medical treatment and state service provision should make us reconsider how all etiologies are political. Further, the "political etiologies" in this case inform ethical decisions about kidney transplantation and maintaining life on dialysis. [*bioethics, the body, kidney disease, organ transplantation, state welfare, neoliberalism, Egypt*]

In a dark and dingy clinic in Tanta, Egypt, patients with chronic kidney failure at times wail in pain as the nurses connect them to their dialysis machines. These patients endure their hemodialysis sessions in four-hour shifts three days a week. In a long, narrow room, they lie listlessly on 12 beds lined up in rows. Flickering fluorescent ceiling lamps hang over the room. The dialysis unit smells strongly of disinfectant mixed with human blood. The rhythmic swishes of the machines rarely, if ever, synchronize with the intermittent moans of the patients.

Within Egyptian dialysis wards and at their peripheries—in hospital hallways and waiting areas—patients and family members challenge reductionist biomedical explanations of kidney disease. Dialysis patients in Egypt are hybrids of medical technology and human suffering, of state modernity and a newly articulated Islamic ethic, of local communities and the effects of global capital. In this biosocial space (Rabinow 1996), patients formulate potent critiques of disease etiology and state responsibility.

Over the course of two years (2002–04), I spent many hours in dialysis clinics in Egypt, sitting and talking with patients diagnosed as needing new kidneys. The majority of these patients were from middle- or lower-income provincial communities, and some were from poor rural areas in Egypt's northern Nile Delta.¹ On the basis of narratives from 50 kidney-failure patients; interviews with 30 nephrologists, urologists, and transplant surgeons; and analyses of Egyptian media reports on kidney disease and transplantation (1976–2004), I bring together in this article two important strands in the growing field of the anthropology of medicine and science: the subjective experience of illness and the ways in which social inequalities disproportionately distribute disease.

In a 1982 review essay, Allan Young argues that medical anthropology's role is not merely to contextualize understandings of illness but also to demonstrate how social relations produce the forms and distribution of sickness in a given society.² In this article, I try to do both but not via the conventional anthropological division of labor. That is to say, I do not take my informants' knowledge as "local" or "cultural" (subjective) understandings of illness and use my own analytical lens to describe the "real" or

“factual” (objective) ways in which power inequalities produce and distribute illness. Instead, I describe how poor Egyptian patients make both of these analytical moves when they make meaning out of illness and explain kidney disease in terms of the social, economic, and political ills afflicting Egypt as a whole. The patients themselves formulate what I came to understand as “political etiologies,” extending the pain of kidney failure beyond the pathological kidney to implicate corrupt institutions, polluted water, the mismanagement of toxic waste, and unsafe food.

To be clear, I do not read the body itself, in its illness, as an agent of resistance to power that is manifest in organ failure.³ Rather, I analyze the ways in which patients on dialysis explain their disease etiology and illness experience as outcomes of social and political failures. In this sense, my argument is what Douglas Holmes and George Marcus (2006) might call “paraethnographic,” a collaborative alliance with my informants, whose physical and political grievances allowed me to understand how kidney disease is disproportionately experienced by the poor because of particular social structures that foster unsafe labor conditions, environmental contamination, unsafe food, urban poverty, and inadequate medical treatment. These experiences inform the ethical decisions they make about treatment options—whether to consider renal transplantation or to remain on hemodialysis. The patterns I saw trouble the notion that one biomedical diagnosis of kidney pathology is universally experienced by individuals, each of whom may come to ethical decisions relating to that pathology on the basis of his or her own personal moral code. Instead, I argue that the unequal distribution of resources, health, and authoritative knowledge constitutes human experience and understanding of illness, which, in turn, informs ethical positions.

Patients’ experiences and perceptions of their disease

The majority of the patients that I discuss here are poor. Many of them are agricultural laborers who travel long distances from the countryside to reach Tanta dialysis centers; others labor in Tanta’s milling or cement factories. Arriving at the clinics on crowded transportation, their galabiyyas dusty from the road, poor rural patients, especially, exert tremendous effort to travel to and from the clinics.

Many proponents of kidney transplantation argue for its cost-effectiveness as compared to long-term care with hemodialysis. It is true that a single kidney transplant is far less expensive than years of hemodialysis treatment.⁴ Yet only a small number of patients (80–100 per year) can undergo transplantation and follow-up care at public hospital facilities such as the Mansura Urology and Nephrology Center at little or no cost.⁵ The majority of poor patients receive dialysis treatment via state medical insurance pro-

grams (*ala nafaqat al-dawla*). There are not enough public transplant facilities for the tens of thousands of dialysis patients in Egypt, and those patients who do receive a transplant at Mansura are meticulously screened against other health problems. The few who can attain a spot for a transplant operation at Mansura’s public facilities have family members able and willing to donate medically compatible kidneys to them, and both donor and recipient must pass through strict medical screening to ensure the highest success rates (Afifi 2000; Afifi and Abdel Karim 1996a, 1996b).

The majority of kidney transplants in Egypt are carried out in public and private hospitals in Cairo, and unrelated, paid donors are the major source of the organs. Thus, for the vast majority of end-stage renal patients, obtaining a kidney transplant requires a prohibitive sum of money for the related medical services, for the kidney itself, and for follow-up pharmaceuticals.⁶ Most of Egypt’s poor cannot afford to consider transplantation as a possibility. In any case, many patients are unconvinced that a transplant would result in more benefit than harm—considering the financial costs, the sacrifice of the kidney donor, and their own lives post-transplant. Thus, they continue to endure difficult and, at times, unreliable treatment and to manage the symptoms of chronic kidney failure and the side effects of medications and hemodialysis, including dietary restrictions and unpredictable episodes of sharp pain, dizziness, weakness, nausea, muscle cramps, and fatigue. Most dialysis patients are forced to discontinue work and experience emotional, financial, and family strains.

The Egyptian colloquial word for dialysis is *ghasil kalawi* (kidney washing) or *ghasil al-damm* (washing blood).⁷ *Ghasil*, in everyday parlance, means “laundry.”⁸ Patients referring to their dialysis sessions say that they come to “wash” or that the doctors “wash” them.⁹ As the patients are well aware, dialysis sessions do not treat their kidney disease or restore their kidney function. Dialysis is a life-sustaining treatment that keeps the diagnosis of end-stage kidney failure from being a death sentence by filtering toxins in the blood that the malfunctioning kidneys fail to remove. Dialysis emerged as an intermittent treatment in the United States and Europe for patients with acute kidney disease in the 1950s. A Dutch physician, Willem Kolff, first experimented with the procedure during the turmoil of WWII. In 1960, long-term hemodialysis was introduced in the United States for patients with chronic, end-stage renal disease. In Egypt, the first continuous hemodialysis treatment was offered by the Cairo University medical facility in 1963.¹⁰

Because their blood must flow into dialysis machines at a rate that the veins cannot support, patients must undergo surgery to acquire a graft or fistula that causes a vein to enlarge and to allow for the repeated entry of a long needle for extended periods of time. Plastic tubing carries a patient’s blood through a pump into the dialysis machine.

The pump turns in a circular motion, pushing the blood and a dialysate solution through the dialyzer, which filters out blood impurities. The blood is then returned to the body. Dialysis patients described being “washed” as exhausting and, at times, painful. Many with whom I spoke were convinced that they were receiving substandard treatment and constantly asked me what the “more modern” dialysis machines in the United States looked like. I would admit that I did not know, but I too would worry when technicians were periodically called in to fiddle with noncompliant machines.

Amin, a patient in his mid-forties who had both end-stage kidney failure and advanced liver disease, explained to me that the constant worry about his treatment was worse than the disease itself. Whether the machines were actually working, whether his medicines were being administered properly, whether he would contract a disease through his treatment and blood transfusions were constant sources of worry. He said, “I heard that in the U.S. and Europe dialysis patients go [to dialysis units] like they are going to a salon. They just drive there and it is a nice pleasant room, and they are done, and go on with their lives. If it were like that, it wouldn't be so bad. But here I have to worry all the time.”

Worry about the treatment seems to supplant the more positive notion of “hope” of recovery. Fathallah, an agricultural laborer in his fifties, remained vigilant during dialysis, watchful at the insertion of the needle, shouting at the nurses if they did not use the proper amount of solvents in his machine, protesting if the physician did not stop at his bed on his weekly rounds. Only those patients who feel empowered to demand better treatment worry about its negative effects. Others, particularly older patients, seem utterly resigned to remaining ill and on dialysis for the rest of their lives and have given up worrying. They lie in their beds,

their bodies heavy and still, periodically invoking God to foster within them steadfastness (*al-sabr*) and strong faith.

Amin told me that, because of the amount of time that he has spent in the ward, the other patients had, in effect, become his closest companions. The problem with befriending this group of people, he said, was having to bear news that someone had died: “Instead of hearing news like your friend just got a car or is getting married, you have to hear that he died. This is what it is like, being a kidney-failure patient.” He added that medical staff often isolated the most severely ill patients, because these patients needed dialysis more frequently and were on slightly different schedules than the less ill. Amin said that, to see his future, he just had to turn his head and look at the end of the room where nearly comatose, bedridden patients lay hooked to their machines.

As medical anthropologists have noted, there are no patient support groups in the Egyptian medical sphere (Inhorn 1994, 2003), and efforts at group therapy in Arab countries have generally resulted in failure, and even in negative outcomes, as patients express strong preference for sharing the burden of care within the extended family and not with “strangers” (al-Mutlaq and Chaleby 1995; Hamdy and Nasir 2008). Yet, by virtue of having to spend “half their lives,” as they put it, in a dialysis unit, patients serve as support for each other. There are generally no partitions between the beds, which are arranged around the room such that the patients receive dialysis as they lie side by side.¹¹ Many patients told me that having to go through the treatment alongside others somehow lessened the psychological burden of having to face their illness alone. (See Figure 1.)

The patients provide each other with information about managing and living with the disease. Their circle of exchange constitutes a network that operates alongside



Figure 1. A makeshift community—a dialysis clinic in Tanta, Egypt, June 2004. Photo by S. Hamdy.

the one connecting their bodies to the machines and to the hospital power supply, one that enables alternative etiologies and practices of self-care in the clinic. Like chronic patients elsewhere, they have become familiar with medical terms related to their illness, often responding to the question “How are you?” with numbers indicating their most recent creatinine levels.¹² While they get weighed, have their blood pressure checked, settle in their beds, and get hooked up to their tubes, patients greet one another and exchange news. Most significantly, in this makeshift community, patients identify with one another as the country’s vulnerable, and now ill, poor (*il-ghalaba*).¹³

The patients are keenly aware that the clinics’ dialysis machines can never completely substitute for a pair of working kidneys.¹⁴ “Good” solvents are too expensive to use in these second-rate machines, generations older than their counterparts in other countries. The patients, unable to afford expensive pharmaceuticals that increase blood protein, rely for this purpose on blood transfusions, which they fear are contaminated. Stories in the Egyptian press reveal scandalous mismanagement of blood storage and processing. In June 2007, Egyptian parliamentary member Hani Sorour was referred to criminal court after being accused of fraud and profiteering in marketing 300,000 blood transfusion bags in 2006 that violated Egyptian and international standards. Forensic studies reported that the bags caused bacterial poisoning and that they leaked anticoagulant liquid (Leila 2007a, 2007b).¹⁵

Regardless of whether they receive blood transfusions, dialysis patients are susceptible to infections, many cases of which are reported in the press. In 1990, medical practitioners recorded 82 HIV infections at three dialysis centers in Egypt (El Sayed et al. 2000; Hassan et al. 1994). In the clinics that I visited, 70–80 percent of dialysis patients eventually contract hepatitis C via infection from dialysis machines. Contracting hepatitis C makes them vulnerable to liver failure, in which case they become medically ineligible—if they are not already economically ineligible—candidates for kidney transplantation. As one Egyptian nephrologist cynically put it, “Dialysis is not a cure. . . . It is like being in an ambulance. It can either take you to a transplant operation or take you to the grave.” (See Figure 2.)

Medical (mis)treatment

Patients suffer not only from the disease itself but also from inferior treatment: Their intense ambivalence toward medicalization is evident in their utter dependence on the very state provision of services that they fear could further harm them. Dialysis patients are literally connected to machines that are themselves connected to state infrastructure and its not always reliable delivery of skills, labor, and power.

In a dark waiting room of a semiprivate makeshift dialysis center, I spoke with Sabri, the husband of a dialysis



Figure 2. Patient on dialysis, clinic in Tanta, Egypt, June 2004. Photo by S. Hamdy.

patient. He stopped in the middle of our conversation to help carry an elderly female patient sitting in a heavy, rusty metal chair from the dialysis center down two flights of stairs to street level. There, family members wailed as they were forced to hail a cab—a great expense for them—to take them to the bus station, as the elderly patient could barely take a step out of the chair.

Sabri returned, out of breath, and we resumed our conversation. While we talked in the waiting room, loud shrieks penetrated the entire building, coming from the dialysis center. Sabri struggled to take care of his wife, Khadra, and their young child. Khadra had had a “poisonous pregnancy” (eclampsia, *tasammum al-haml*), and right after giving birth she was in pain and immensely swollen. The obstetrician told the couple the swelling was caused by the pregnancy, but after Khadra delivered the baby, it got even worse. Her symptoms continued to worsen for years. After an arduous experience with the doctor in her town, then with doctors in Tanta, she was finally referred to the public kidney center in Mansura, where she was diagnosed with acute renal failure.

Sabri was orphaned at the age of ten, and he told me that his wife, also an orphan, and her mentally retarded brother were his only family. Although he had a technical diploma, Sabri worked as a construction worker whenever he could. He said that the first five years of Khadra’s treatment were enormously costly; before marriage, he had saved to be able to afford a place to live; now the couple spent all their savings on medical treatment. On the days that he felt compelled to find work to earn money, Khadra would plead with him, “Please, please stay with me. I feel sick, I feel like I might die,” and so he would stay with her and would not go to work. “But she could do this, maybe twice a week,” he told me in frustration.

Alhamdulillah [praise to God], we thank God every day, God has provided for me, because this is all for her, not me, whatever God provides me [*al-rizq*].

Sometime she gets this problem in her chest; she feels like she can't breathe, like it is in her heart. She feels like she's going to die. [A few nights ago it was very bad] and I took her to the hospital, and the hospital told us, "We have no room for her here." How am I supposed to just take her back home like this?

Then we went to a doctor, and she said: "This is from the [need for] dialysis, that she can't breathe." That's why, I don't know. The doctors, I don't know why they can't diagnose. . . . Then we came here [to the dialysis center] but the electricity was out.

They gave her injections because her [blood] pressure was so high. It was horrible, she was as black as this chair here, may God make her better, because her blood pressure was so high, above 280. They said, "We don't have any room here [in the hospital]."

But why couldn't they make room?! They said she'd be better after dialysis, this was at 3:00 in the morning. So we came here, and the electricity was out in the whole region. So now [that the electricity came back] I'm waiting to see if this dialysis makes her better, but frankly, I'm not convinced, and I want to take her back to the hospital and do X-rays on her chest.

University and other public hospitals in Egypt are known to be bastions of mistreatment of the poor, who can receive services there free of charge, or at very low cost, in exchange for serving as teaching examples for attending physicians, residents, and medical students. The attending physicians receive very little financial compensation for their work at the public teaching hospitals and have little financial incentive to invest time in their patients there. Thus, many patients, even among the poor, prefer to scrape together whatever savings they have to pay out-of-pocket expenses at private clinics, where the same physicians who teach in the public university hospitals during the day also treat patients in the evening for fees.

These private clinics are often not well networked with one another, allowing patients to fall through the cracks that divide specialties. Therefore, patients use common sense to match their symptoms with the appropriate specialist—preferably one who holds private clinic hours in the evening after his or her work as a faculty-attending physician in the public hospitals. In Egyptian colloquial Arabic, medical jargon is rendered into nonspecialized, everyday language. Hemodialysis is referred to as "wash," organ transplantation is referred to as "plant" (*zara*, the same word one might use for planting a tree). Nephrology is referred to as "kidney," cardiology as "heart," and obstetrics as "birth."

Rather than considering diagnosis to be solely in the realm of inaccessible, specialized expertise, patients tend to diagnose themselves and to turn to the physician for (belated) treatment. Because Khadra had felt pain in her chest, Sabri wanted to take her to the cardiology unit in the hospital and have chest X-rays done. Patients are more likely to trust their own assessment of bodily symptoms to select the appropriate specialist than to trust the referral of the physician. This is particularly the case when they see that the physician has a clear financial incentive to diagnose the patient's symptoms such that they correspond to his or her own specialty. Sabri knew that the attending nephrologist would benefit financially from adding a dialysis patient to her ward, yet, given his wife's multiple symptoms, he was not convinced that this would help.¹⁶

However problematic this situation is for delivery of medical care in general, it is particularly problematic in the case of kidney failure, which is characterized by wide variation in etiology and experience. Patients with kidney failure often simultaneously suffer from other illnesses, such as diabetes, lupus, hypertension, and heart disease, all of which affect kidney functioning, thus "conflicting against the notion of a diagnostic category as a bounded entity" (Kierans 2005:345). Many of the Egyptian dialysis patients I met might have been able to prevent terminal life on dialysis if they had had proper preventative care. Instead, they suffered a vast array of symptoms before finally being diagnosed with kidney failure. In their profound mistrust of physicians, patients discount medical knowledge that might help them come to earlier diagnoses of kidney malfunction. Or, put another way, poor patients do not receive reliable care that could effectively intervene at early and, thus, more treatable, stages of disease.

Dialysis patients accept many—but not all—of the premises of state-provided biomedical intervention. They describe their kidneys as "failed." They come to evaluate their state of well-being by a numerical printout indicating their creatinine levels. They strategically utilize medical resources, some learning how to operate their own machines so that they do not have to wait for unreliable nurses. But they do all of this without adopting wholesale biomedical authority, and many feel that their suffering is, in fact, exacerbated by poor and unreliable medical treatment. Their inability to trust medical providers has clear consequences for their health outcomes.

Political etiologies

Poor patients are wary of more than medical institutions. They fear the very air they breathe, the water they drink, and the food they eat. "Do you see all of these sick people?" one patient in a dialysis-ward waiting room gesticulated toward me in frustration. Imagining that I had come to Egypt to study kidney failure because it did not exist in "Amrika,"

he continued, "Did you see the filthy water in [Tanta's] irrigation canal? This is the water we drink from! And you want to know why there is so much kidney failure in Egypt? We get the bad genetically engineered food from other countries. They dump food on us that they would never let their own citizens eat. Our food is covered with pesticides, the water is bad, and now we are ill."

Patients link their diseases and suffering to toxic air, dangerous pesticides and food, unsafe labor conditions, and medical mismanagement. Although they are eminently grateful for their survival and for the treatment they receive, they are also frustrated with greedy physicians, negligent nurses, and uncaring bureaucrats.¹⁷ Many of the patients had been misdiagnosed and mistreated prior to complete loss of kidney function. Some patients were prescribed the wrong medication, leading to acute kidney failure; others lost kidney function after botched operations for removal of kidney stones.¹⁸ Unable to afford expensive, five-star hospital treatment in Cairo or treatment abroad, poor dialysis patients in Tanta clinics know that they are both critically reliant on and subject to local medical (mis)treatment. They form communities out of a shared sense of vulnerability to a "failed state" and to corrupt and inadequate medical practice.

I spoke with Mahdi, a 58-year-old man who received dialysis at a public hospital in Tanta, accompanied by one of his six sons. Mahdi nodded and let his son do the talking while he fingered the painful bandages around the tube that linked his flesh to the machine. His son explained,

Kidney failure has really spread in the last period. This could be because we are getting everything now from the outside—hormones in the food, pesticides in the fruits, these things are not natural; they are all poisons.

They talk about advances in science but [transplantation] is really not a solution to the problem, because there aren't kidneys available for all these people affected, and there are patients who have other problems. Like my father, he also has liver disease. And it could be that all his liver medicines are what caused his kidney failure. We are from the countryside. This is all [liver and kidney diseases] from bilharzias [schistosomiasis] too—it gets into the organs and into the liver and affects the whole body. So getting a new kidney is not going to lengthen your life.¹⁹

Egyptian dialysis patients and their family members, like Mahdi's son, often appeal to a notion of a "local biology" (Lock 1993a, 1993b, 2001) in which their specific vulnerability—to poisonous food, a contaminated environment, parasitic infections, poverty, pharmaceuticals, and medical mistreatment—renders organ transplantation inefficacious. Most of the dialysis patients' charts record cause of kidney failure as "idiopathic," and the Egyptian

Nephrological Society reports that at least one-third of kidney-failure cases nationwide are of "unknown" etiology. This lack of a clear etiological explanation from medical experts is ripe cause for patients to develop their own ideas about their diseased bodies.²⁰ Even in the majority of cases in which kidney failure is diagnosed as secondary to hypertension or diabetes, patients still link the original cause of their kidney disease to the consumption of contaminated food and water. They dismiss the biological reductionism in medical diagnoses that indicate that the disease is specific to the individual patient and located discretely in the kidneys. The patients in the dialysis ward, their families, and even their doctors link their suffering to much wider political, social, and environmental causes.

As many patients conceive of it, "Food makes blood, and then kidneys clean the blood." Now that their kidneys have failed, machines "wash" their blood instead. Dialysis patients wash the toxins from their blood, which, they believe, are high not only because of their failed kidneys but also because of their toxic environment. No matter how much "washing" occurs, their vitality can never be fully restored, because the food and water that remake their blood, they say, are polluted, just as the blood transfusions they need might be contaminated.²¹ Further, many patients know that the more time they spend on dialysis, the sicker they are getting, and the less they will benefit from a kidney transplant. As one patient put it, "You wash and wash [undergo dialysis], and just like when you wash your galabiyya and it gets frayed and threadbare, the same with the body, it gets worn out from so much washing."

Kidney-failure patients struggle with the stress (*al-daght*) of life in Egypt's cities today, caused by crowding, cramped living quarters, pollution, noise, rising costs, and falling salaries (Tabishat 2000). *Al-daght* is the term also used to describe the medical condition of hypertension, which is both a cause of kidney failure and an outcome of kidney failure and dialysis (Tabishat 2000). One physician from Tanta University Hospital even suggested to me that, unlike nephrological ailments of the past, which involved primarily treating rural patients with schistosomiasis (parasitic) infections, kidney diseases today are more aggressive, more complicated, and more persistent. He attributed this to an increasingly "unnatural" environment and diet.²²

News media, particularly letters to the editor of the state-owned newspaper *al-Ahram* and articles in opposition-party newspapers, often report on broken sewage systems and contaminated food and water unfit for human consumption as resulting in high rates of kidney failure.²³ In the summer of 2007, residents of villages across Egypt staged protests over water shortages despite their high monthly water bills. The print news media quickly dubbed the crisis the "water wars" (*fitnat il-miyah*). In the village of Bishbish in Mahalla, residents faced a complete lack of water and sent appeals to the prime minister

asserting that 500 villagers suffered from kidney failure as a consequence of poor water maintenance. The villagers staged protests, and, in response to government threats to detain them, they dared the government to arrest them, saying that perhaps they would find clean water to drink in prison ('Abd al-Hafiz et al. 2007; 'Arafa 2007; Durrah 2007; *al-Misri al-Yawm* 2007b; al-Shadhili et al. 2007).

One nephrologist told me sadly that one-third of the patients in his private dialysis center came from the same rural area and that in one family he treated, five members were in end-stage kidney failure. This proved to him that toxic mismanagement in that rural area was a major factor in causing the kidney disease: "This isn't something that I like to announce, and let's not get into all of the conspiracy theories. . . . But there is some truth to them. The load of pesticides in the human body lasts around seventy years, even when buried in the grave, it will affect the next generation. I won't be around to see what the next generation is going to suffer." Shaking his head gravely, he told me, "Don't these Kafr-el-Zayat [name of a village in Gharbiyya and Egypt's major pesticide and chemical company, located in that village] workers know that the water they drink is the same as the toxic wastage? And when everyone finally realized this, what did the Ministry of Health do? Nothing!"²⁴

Another physician from Tanta explained to me the link between adulterated food and the increasing number of diseases that he saw in clinic. We were sitting at his family's home, eating lunch. Pointing to the food that he was eating, he told me that formaldehydes are being used to preserve milk, leading to childhood blindness, that imported wheat and corn are now genetically modified and not stored properly, that pesticides declared too dangerous for use in other countries are dumped on Egyptian agricultural land. The imported variety of "white chicken," as opposed to the Egyptian country *baladi* (local) chicken, is pumped with hormones, he said, and fed all kinds of "unnatural" foods. Having just come back from a day at the dialysis ward, I found myself having a more and more difficult time swallowing my food, as I began to imagine the inevitable end to be suffering on a bed in a row among dialysis patients.

Following the lead of mass-mediated discussions of corruption, pollution, and medical mismanagement, kidney-failure patients trace the etiology of their disease and their inadequate medical treatment to failures in state services and resources. Significantly, most dialysis patients are well versed in the toxic effects of pollutants that are mismanaged throughout the Egyptian countryside. This informs their understanding of their illness as the outcome of a general weakening of the body attributable to a "toxic" (*musammam*) environment. They also feel weakened by what they describe as their "corrupt" (*fasid*) surroundings. The greed for profit and a lack of values, they say, have led to the mismanagement of resources, pesticides, and toxic waste and to a situation in which medical care is substan-



Figure 3. Cement factory on agricultural land, Nile Delta, agricultural road between Tanta and Cairo, May 2004. Photo by S. Hamdy.

dard and state service provision detrimental. Thus, they do not completely accept the biomedical ontology of the body as an assemblage of parts, some of which function better than others; rather, they conceive of their bodies as tired and weak, stricken by a toxicity to which everyone close to them is also vulnerable at any moment. (See Figure 3.)

Failed bodies in a failed state

Many dialysis patients have vivid memories of the ideals, if not the realities, of social welfare and of promises of medical access made to the poor during the 1950s and 1960s. Patients in their mid-forties and mid-fifties deride today's physicians as "merchants and butchers."²⁵ Many patients are particularly suspicious of kidney specialists because of the vibrant black market in kidneys, in which doctors are known to participate, and reports of kidney theft in opposition newspapers since the 1980s. In a popular Egyptian film, *Save Us! (Ilhaquna!* ['Abd al-Khaliq and Mas'ud 1989]), the hero's kidney is stolen and shipped overseas by the rich owner of a "tourist"-hospital business. The film ends with a dramatic courtroom scene in which the hero demands the return of his kidney, filing complaints against the state for

its inadequacy in protecting the integrity of his body and for its complicity in perpetuating stark global inequalities. Such examples of expressive popular culture reinforce patients' belief that, at any moment, anyone is susceptible to mistreatment as gross as organ theft in a polity that does not protect its citizens (Tabishat 2003).

Several doctors cautiously pointed out to me that one toxic vector is the consumption of bread made from imported wheat. Instead of being grown and milled locally, more than one-third of Egyptian wheat is now bought from the United States. This wheat, some doctors contend, sits in large barges in the Alexandrian port in hot and humid weather, a perfect environment for the growth of aflatoxins and ochratoxins.²⁶ Aflatoxins and ochratoxins also grow rampantly in local storage facilities in poor areas. These toxins constitute one of the many factors that have led to a large increase in renal and liver toxicity and carcinomas throughout the Egyptian countryside. Meanwhile, some public health researchers continue to labor over the toxic etiology of liver and renal carcinomas in Egypt, revealing the links to aflatoxins and ochratoxins;²⁷ opposition newspapers periodically report on the problem, and letters to the editor in state-aligned newspapers decry the ubiquity of "cancerous wheat" (*al-qamh al-musartan*). Carcinogenic wheat became a political rallying cry for oppositional political parties. In May 2007, the government, fearing political unrest, agreed to an investigation of 6,000 tons of wheat in the province of Daqahliyya (in the eastern Nile Delta).²⁸ The investigation determined that the wheat contained dangerous levels of toxin and pesticide residue and was unfit for human consumption.²⁹

With extensive subsidies from the United States, Egypt has become the world's third biggest importer of grain.³⁰ The increase in imported wheat reflects the diversion of locally produced coarse grains from humans to animals, whose meat products are chiefly consumed by tourists and other non-Egyptians as well as by middle- and upper-class urban residents (Mitchell 2002). Egyptian farmland that once grew barley, sorghum, and corn to feed the rural population is now used to grow grains to fatten cows consumed by the better-off. The idea that land is seized from the poor to grow food that will fatten the rich echoes the scene in *Save Us!* in which the hero is fed rich, nutritious foods in the days before his kidney is to be stolen—the plan was to fatten and nourish him before having his kidney extracted and shipped off to a wealthy businessman. Patients with kidney failure, in their own self-representations and in much of the rhetoric around the new "unsafe food," epitomize the vulnerabilities of detrimental state policies.

The link between "bad food" and the dramatic shift in Egypt's foreign and domestic policies remains vivid in the living memory of Egypt's poor. After the 1978 Camp David Accords, in which Anwar Sadat removed Egypt from the pan-Arab alliance against the Israeli occupation of

Palestine, the United States rewarded Egypt with a steep increase in aid, including food aid. Egypt became the second largest recipient of U.S. military and economic aid after Israel. In 1992, under the pretext that Egypt had become a wealthier nation, U.S. food-assistance programs ended, and Egypt became the largest foreign market for U.S. wheat, with sales averaging \$1 billion annually (Mitchell 2002; *New York Times* 1981).

Aside from the usual outbursts about contaminated food, most nephrologists and liver surgeons, in response to my questions, would nervously eye my pen and notebook and claim that they did not want to "talk politics" or engage in "conspiracy theories" about state mismanagement or covert foreign interests. Physicians avoid "talking politics," given that the current regime continues to operate under a "state of emergency," routinely arresting and detaining political opponents without trial.³¹ The medical syndicate and the faculties of medicine at Egyptian public universities are politicized arenas, in which members of the Muslim Brotherhood and other opposition political groups, known for critiquing Egypt's heavy economic reliance on the United States, are closely monitored and are excluded from university faculty positions.

The mistrust of medical and state authorities is linked, in the minds of many poor Egyptians, with the demise of commitments to state welfare and with the unfulfilled promises to provide all citizens with access to subsidized medical treatment and food staples. Sadat's (1970–81) pursuit of neoliberal economic policies and the concomitant normalization of relations with the United States and Israel left Egyptian citizens, in the view of many patients, defenseless in a weak state, one that is both exploited and exploitative, one that leaves its people feeble and diseased.³²

Clearly conscious that they are reliant on dialysis machines for their very survival, patients are also keenly aware of their vulnerability to the machines' shortcomings. In a dialysis unit in Tanta, patients link power outages with failures of state provision of resources, and they understand these failures within the context of Egypt's weak position in international relations. With each blackout, patients wail about their misfortunes and unreliable state services. In 2004, in response to the power outages, people mentioned Israeli aggression against Palestinians and the U.S.-led war in Iraq, imagining themselves to be part of a broader besieged Arab community, with Egypt as the next target. Patients would lament that Egypt has failed to maintain a leading role in international relations, that the government has failed to protect its citizens from foreign interests whose actions lead to the mismanagement of toxic waste and to the impoverishment of Egyptian land and resources.

The proliferation of dialysis clinics in the 1990s, for most patients, has not been read as progress in medical treatment or as the benefit of greater access to science and technology. Rather, many patients interpret the rise in

diagnoses of kidney failure as an indication of increased vulnerability to toxicity and exploitation. Many editorials in the state-owned newspapers (*al-Ahram* and *al-Akhbar*) as well as in opposition newspapers consistently assert the links between pollution and disease. Patients argue that, rather than provide protection, the Egyptian state has left its citizens exposed to toxins and vulnerable to medical malpractice.

The connection that patients make between their illness and failed state policies is not merely abstract or cerebral; it is a connection that they experience in material and bodily forms as well. That is to say, poor Egyptian patients suffering on dialysis are physically connected to machines that, in turn, connect them to state infrastructure. These patients do not need to read science-in-practice theorists (Haraway 1985; Latour 1987, 2005) to appreciate the degree to which their cyborgian existence requires an extraordinary assemblage of human and nonhuman actors to link them to larger political structures. Indeed, these assemblages are made evident every time a link in the chain is susceptible to breaking down. The machine–patient assemblage consists of biotech corporations, the state, nurses, doctors, engineers, electricity, machines, and the human body itself, each doing its share to fight against physical demise. Patients experience their own vulnerability at every step, hitting the bumps of broken and missing links in the sequence. Surgeons (many of whom, patients would say, are untrustworthy) rearrange the patients' blood vessels to allow the dialysis tubes easier access to their bodies. Attached to these tubes, their bodies are connected to the (erratic) machines that filter their blood in place of their "failed" kidneys. Dialysis patients are hooked to machines produced by foreign, profit-oriented corporations (suspected to have corrupt ties with Egyptian parliamentary members). The machines are imported and transported to Egyptian clinics (for use by those physicians with political connections). They are paid for by local state subsidies, approved for government reimbursement by parliamentary members (favoring, this time, patients with connections). The machines are inserted into (ailing) human bodies, and the resulting machine–patient hybrids are monitored by (negligent) nurses, supervised by (undependable) physicians, and tinkered with by (largely absent) engineers.

The dialysis sessions require human labor—underpaid and often unreliable—to check, carry, transport, clean, and operate the machines. Patients are connected to dialysis machines that rely on hospital and state infrastructure for electric power. Thus, in the Egyptian delta province of Gharbiyya (of which Tanta is the capital city) and elsewhere, patients are vulnerable to the state's irregular power supply and to regular blackouts. Even more frustrating are the more frequent brownouts, periods when the voltage drops low, threatening the operation of the machines' microprocessing units.

In one of the Tanta clinics that I observed, the dialysis machines let out sharp beeps in response to the drops in voltage. The patients lifted their heavy heads in alarm; the fuzzy picture on a black-and-white television set, which at times emanated melodious Qur'anic recitation and at other times depicted images of war in Iraq, switched to static. The nurses ran to the dialysis machines and punched buttons until the beeping stopped.

Nowhere in the world is there a holistic, organic, purely human dialysis patient unattached to the regimes of medical treatment and state infrastructure (Kierans 2005). And no nation-state is autonomous within the global political economy. The Egyptian state, like the dialysis patients, is also hooked up to "tubes" and "machines" of U.S. liberal economic-development projects that have ultimately led to the exacerbation of socioeconomic inequalities (Mitchell 2002).

Despite the mandate of universal health coverage, the Egyptian government contributes only 38 percent of the country's total health expenditure; the rest comes from private sources, including out-of-pocket expenses paid by the poor (Fouad 2005; World Health Organization 2007). The general government expenditure on health amounts to two percent of total GDP. The percentage of cost borne by patients out of pocket has increased dramatically in recent years, with most Egyptians scraping together what little they have to pay for outpatient care at private clinics.³³ As opposition-party leaders complain, government resources are spent on paying off foreign debts and interest on the financing of imports, including U.S. grain.³⁴

Poor patients make claims to state welfare and about how the state should care for their ailing bodies. One columnist for the opposition-party paper *al-Misri al-Yawm* encapsulated comments that I often heard among poor patients:

The state does not pay a penny from its pocket to treat an Egyptian citizen. This is our money, the taxpayers' money. It is the right of the people, whose faith God Almighty is testing by thrusting on them a number of successive corrupt governments.

More than half the population is afflicted with deadly diseases: 12 million are infected with liver and kidney related diseases, millions of others have suffered cancer, seven million are disabled, and, above all, there is the horrendous number of diabetic and hypertensive patients, as well as 40 million suffering from depression. These figures are based on statistics published in the daily newspapers, and not hearsay.

Can anyone claim that God created these people sick, or deny that our corrupt government has neglected, ruined and even destroyed people's health? Is it not the

right of the citizen to be treated by the state? [Ramadan 2007]³⁵

Given their palpable experiences of Egypt's structural realignments and the country's adoption of neoliberal models of health care since the 1970s and 1980s, patients also know that the state is not likely to live up to its earlier promises of universal welfare (Abu-Lughod 2005; Ghannam 2002; Kamal 2004; Sholkamy and Ghannam 2004; Winegar 2006). In this context, they understand the breakdown of their kidneys, their dialysis machines, and their bodies as a direct outcome of the breakdown of the welfare state. Poor dialysis patients are generally wary of the idea of transplantation. Most refuse to see their family members as potential kidney donors.³⁶ Linking their illness to the devastating consequences of local corruption and international neocolonialism, they feel that they must protect their family members at all costs, refusing the premises of bodily interchangeability and commensurability implicit in organ transplantation.³⁷

Where only one kidney will not do: How experience constitutes ethics

In Egypt, less than three percent of dialysis patients receive a kidney transplant.³⁸ Although approximately seven to eight hundred kidney transplants are performed each year in Egypt from living donors (fewer than one-fourth of them from related donors),³⁹ over 30,000 patients with end-stage kidney failure receive hemodialysis, and the number is steadily growing.

Sabri, whom I described above, took his wife from one place to another in an attempt to bring her suffering to an end. He was too overwhelmed to engage in the patients' and families' discussions in the waiting rooms about the possible toxic etiology of kidney disease. As he put it, Khadra's disease simply came from God. However, he had strong feelings about the state's failure to provide adequate care for his wife. That is why Khadra could never imagine the idea of Sabri serving as a kidney donor, that is, of submitting Sabri, the one pillar of health and strength in her life, to a medical operation that would extract a vital organ. Sabri said, "When we first heard about this possibility of transplant, we thought about it. But then we said, 'If I get sick [from the operation], well it's from God, but who will take care of Khadra and her brother who is sick, and our little son?' " Overwhelmed by conflicting diagnoses, Khadra's illness, and medical mismanagement, Sabri had little faith in the medical system to restore his wife's health.

Many poor patients actively resist the medical supposition that they should be making attempts toward receiving a transplant. Patients who are decidedly not taking steps toward receiving a kidney transplant formulate ethical dispo-

sitions toward the idea of transplantation that substantiate their own struggles to remain and, more pointedly, to survive on dialysis.⁴⁰

Most patients do not see their illnesses as isolated in their kidneys. Neither do they conceive of their body parts as interchangeable. They also articulate suspicions as to whether a transplant could really offer a solution to kidney failure, one whose benefits would outweigh the great cost of the procedure, the sacrifice of a healthy living donor, the invasiveness of the surgery, and a lifelong regimen of immunosuppressants. In this context, patients extol the virtues of cultivating steadfastness during God's trials (*al-ibtilla'*).

Further, patients do not accept what medical expertise has defined as a "tolerable risk," that is, the opening up of a healthy human donor and extracting a vital organ. In a "poisonous" environment, in which the medical solutions offered do not appear beneficial, patients often resist the idea of turning to family members as potential kidney donors. The particular "corrupt" and "polluted" environment of Egypt profoundly influences patients' ethical dispositions toward their treatment options, particularly because they see themselves as the most damaged cases in a detrimental atmosphere in which all are vulnerable.

Doctors who advocate transplantation constantly reiterate the biomedical claim that a person can live well with one-fourth of a kidney. In saying so, they mean to assure people that a living donor will not be harmed by having a kidney removed. Proponents of transplantation continuously reiterate this statement of "medical expertise," which has also found its way into several *fatawa*, or religious opinions, that condone transplantation as an altruistic and commendable act.⁴¹ Many patients can cite this "fact," yet they often cast it in a more cynical tone because it has little to do with their lived realities. The patients describe their disease as the outcome of a generally "bad environment" that makes their bodies weak and ill. This generally detrimental environment makes patients reluctant to "take" organs from their healthy family members—and, thus, leave loved ones to fend for themselves in a polluted environment with only one kidney, half of what they themselves had when they got sick. As one hospital worker put it to me in response to the medical "truth" that a person could live with one-fourth of a kidney, "That is what they say. But where are they? All these people living well with one-fourth a kidney?! All I see around me is people with *two* kidneys and look at how sick they are getting!"

Anthropologists have long critiqued reductive medicalization, particularly the ways in which it deflects attention "away from the social arrangements and political forces that contribute to the incidence of distress and disease . . . the focus of attention is on the bodies of individuals, who are essentially made responsible for their own condition" (Lock 2001:481). Organ transplantation is an extreme example of

this individualization. Doctors who advocate transplants might consider as a potential kidney donor a close family member with a similar genetic makeup to, and living in the same environment as, the patient—as if the two people involved are separate entities, the essential difference being that one is marked by disease and the other is healthy. Yet poor patients feel strongly that they should protect their healthy family members from a destructive environment to which all are susceptible. Patients' own perceptions of their disease etiology and progress, thus, render the reasoning surrounding organ transplantation suspect: How could they leave a brother, for example, with an excised kidney in a toxic environment that makes “whole” bodies ill? The perceived moral and physical corruption of the environment informs their ethical decisions. Many patients ultimately resist entrusting their family members' healthy bodies to a system that they believe has made them vulnerable to disease in the first place.⁴²

The dialysis patients I interviewed, even those who needed to embark on painful and onerous travel from the countryside to reach a clinic, accept the burdensome regime of treatments. Aware of the reported scandals in medical malpractice and their particular vulnerability in terms of their dependence on surgery, dialysis, blood transfusion, and pharmaceuticals, they accept the risks as well. Many describe themselves as undergoing a trial from God, during which they will remain steadfast in faith. They try to accept God's decisions, and they submit themselves to whatever resources are available.

But they reject the extension of their suffering into the lives of healthy family members. Dismissing the notion that there could be such a thing as a “spare part”—for, surely, God has created humans in perfect divine wisdom—many kidney-failure patients in Egypt cannot bear the idea of seeing their loved ones as bodily sources of medical intervention, even if a donated kidney will alleviate their own suffering. This is particularly the case when would-be recipients are older than would-be donors: siblings who are offered kidneys by younger siblings or parents who receive offers from their adult children. Families marshal material and bodily resources, which they believe should flow from old to young, as from parent to child, but not the other way around.⁴³ Submitting a healthy person to a major operation contradicts the common sense of people who, from a combination of mistrust of medical institutions, scarce resources, and a commitment to steadfastness in suffering, turn to biomedical intervention only as a last resort in serious illness. Suffering dialysis patients muster faithful steadfastness and bonds of kinship to protect those who remain healthy in the family. Steadfastness in faith and family are what they fall back on but also what they need to safeguard, within the bounds of a state that has failed to protect its citizens.

Conclusions

Hooked to state-provided dialysis machines, poor kidney-failure patients in Egypt are beholden to state resources whose inadequacies they partly blame for making them ill. In this paradoxical relationship, patients at the margins of the polity survive on state provision of medical care and simultaneously experience their illness as the outcome of state irresponsibility and social injustice. In linking the affliction of their bodies with that of the body politic, these patients' views are congruent with anthropological calls to reframe affliction as the embodiment of social hierarchy (Farmer 1997, 1999; Fassin 2007; Lock 1993a; Young 1982). Taking their cues from news reports, popular films, and other forms of mass media, the patients eloquently articulate adverse health effects of contaminants, pollutants, and toxins to which the poor are disproportionately exposed.

In this article, I resist the division of labor in which patients make meaning of illness and anthropologists analyze, from the outside, the social and political structures that shape their worlds. Poor dialysis patients in Egypt are keenly aware of the larger social and political processes that contribute to their ill health. As Petryna (2002), João Biehl (2007), and Nikolas Rose (2007) all eloquently argue, political claims are increasingly made in biological terms; I argue here that poor patients in Egypt recognize disease processes that might be called “biological” as already political, and in terms of their kidney failure and survival, contest the very opposition between the biological and the political.

In describing how patients and physicians engage in what I call “political etiologies,” I draw attention to the ways in which all disease etiologies are political. That is to say, the ways in which people make sense of illness are inevitably political moves that either ignore or speak to power. Whether structural violence is overlooked in the reductionist biomedical focus on organ pathology or whether social inequalities are directly addressed and linked to disease onset and experience, our views of our bodies and our views of sociopolitical distribution of resources are mutually constitutive. Social and political transformations both change our views of our bodies and shape our experiences in our bodies (Biehl 2007; Martin 1987, 1994, 2007; Petryna 2002).

Understanding disease in terms of social inequality has particular salience in the realm of organ transplantation, a practice that presumes illness to be located discretely in particular body parts that can be isolated, exchanged, and replaced. Anthropologists have demonstrated that biotechnological approaches to health more often exacerbate than erase social divisions, disproportionately intervening in diseases that are often themselves the end result of gross social inequalities (Briggs 2003; Farmer 1999, 2003; Fassin 2007; Kleinman et al. 1997; Nguyen and Preschard 2003; Scheper-Hughes 2000). As I argue throughout this article,

this point is all too obvious for poor Egyptian dialysis patients, whose political etiologies reject biomedical reductionism and form the basis of claims against the state for irresponsible care of its citizens.

In their forbearance, many patients strive to limit their suffering to their own bodies, by refusing to see loved ones and family members as potential kidney donors. Their experience as the country's poor and marginalized is clear testament to the larger social and political distribution of suffering. Their survival is, perhaps, testament to the strength of the human spirit.

Notes

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1. This fieldwork was part of a larger project aimed at understanding why organ transplantation was the focus of a heated national debate in Egypt (Hamdy 2006). The media, religious scholars, patients, and physicians all passionately argued about the ethics of excising body parts from healthy people to insert into the bodies of the seriously ill. The result of this prolonged debate is that Egyptian transplant operations—of the kidney and liver lobe from living patients—are carried out in both public and private hospitals in Egypt without the oversight of a national program and without legal regulations in place.

2. Indeed, Young (1982:269) suggests that medical anthropologists who content themselves with taking on the individual's explanatory model of disease-illness without giving an account of how social relations shape and distribute sickness, in effect, hold views not so different from those of the biomedical model.

3. In a review essay on medical anthropology, Margaret Lock discusses the ways in which the body "becomes not only a signifier of belonging and order, but also an active forum for the expression of dissent and loss, thus ascribing it individual agency" (1993a:141). I agree with Talal Asad's (2003:70) critique of attempts to "read" the sick body's behavior in terms of resistance; the body cannot be easily equated with a form of discourse, especially as there is no agreement on how exactly this bodily "text" should be decoded.

4. The cost of a lifelong regimen of expensive immunosuppressants, however, is prohibitive for many patients.

5. I omit the definite article (*al-*) in proper names (e.g., al-Mansura, al-Daqahliyya, and al-Mahalla) but otherwise follow standard Arabic transliteration systems. Note that the urology and nephrology center's publications often use the English spellings *Mansoura*, *al-Mansoura*, or *El Mansoura*.

6. In 2005, the going rate for a kidney was 20,000 to 30,000 Egyptian pounds, approximately \$3,500–\$5,000.

7. Egyptian society is diglossic; that is, formal and written communications are rendered in Modern Standard Arabic, whereas spontaneous verbal communication is in Egyptian colloquial Arabic. The Egyptian medical sphere might be described as triglossic, with the third dominant language being English. All medical schools in Egypt provide instruction in English (lectures, notes, exams, and all text materials are in English), yet the clinical encounter takes place in Egyptian colloquial Arabic. Egyptian physicians are largely unfamiliar with medical terminology in standard or classical Arabic.

8. *Ghasil kalawi*, or "kidney washing," refers to the kidney doing the washing (or, in the case of dialysis, the machine doing kidney-like washing), but it is the blood that is washed.

9. Note that patients do not associate this type of washing with washing the body, or ritual ablutions (*wudu'*). The painful washing of the dialysis sessions is understood as an internal "wash" to purify the blood of toxins.

10. The first Egyptian hemodialysis treatment took place in 1958 in Ain Shams University in Cairo; five years later, facilities were available for continuous treatment (Magdi Soliman, personal communication June 2007, relaying data gathered by the Egyptian Nephrology Society).

11. A few dialysis clinics, including those in military hospitals, attempted to provide separate spaces for women and men to ensure more privacy, but most dialysis wards did not do this, as the patient group continually changed and men generally far outnumbered women.

12. Creatinine is a waste product formed by muscle contractions that is passed through the kidneys. It is also found in protein foods, mostly muscle meats. When the kidneys do not get rid of creatinine, it remains in the bloodstream. Elevated levels of creatinine signal that the kidneys are not eliminating this waste from the body.

13. *Il-ghalaba* is a colloquial expression referring to those who are downtrodden. I render it in the colloquial transliteration because this term rarely appears in print media. I transliterate another colloquialism, *ghasil id-damm* (blood washing, i.e., dialysis), as *ghasil al-damm* to mark its entry into the standard Arabic (and clinical) lexicon.

14. The dialysis machine performs three major functions: (1) it pumps blood and monitors blood flow; (2) it cleans wastes and toxins from the blood; and (3) it monitors blood pressure and fluid removal.

15. In an article in *al-Misri al-Yawm*, an opposition-party newspaper, Sabir Mashhur (2007) reveals the contents of a report done by the British Quality First Institute, which inspected Sorour's private company, the Hidelina Company, in 2002 to determine whether it should be granted an international standardization (ISO) certificate. The report found that the dialysis filters and solutions manufactured by the company were stored improperly such that they were exposed to the sun, which altered their effect and was dangerous for patients. The report also found that the water at the manufacturing plant was unclean, the water pipes were rusty, and there were cracks in the ceiling, making it a breeding ground for bacteria. The *al-Misri al-Yawm* article goes on to say that Sorour's response to the report was to attempt to export his company's dialysis filters to China. A Chinese delegation inspected Sorour's factory, objected to the proportion of urea in the kidney dialysis filters, and noted that the company should have used a machine to

run tests on the filters at zero degrees. Sorour then bought a machine from a company in a neighboring building; the machine's gauge did not read less than zero, so Sorour fabricated one with the right numbers and stuck it on the machine. The Chinese apparently discovered this attempted forgery and rejected claims that the company's technicians had made the necessary changes (Mashhur 2007).

16. Although patients widely perceive public hospitals as bastions of corruption and mistreatment, there is even less oversight and surveillance of private clinics by the Ministry of Health. Two years after I met Sabri and Khadra, I found out that prosecutorial authorities shut down the makeshift private dialysis clinic where Khadra was being treated after numerous complaints from patients and family members. The attending physician was arrested for fraud and malpractice. It was under criminal law, not under regular surveillance by the Ministry of Health, that this action was taken.

17. Reporters from *al-Misri al-Yawm*, in exposé style, "toured a number of big university and public hospitals" on the night of a much-awaited soccer match between Egypt's two best teams, which were playing in the final game of the Egypt Cup Competition. They found that "some kidney dialysis patients had to wait for two hours—the duration of the match—until the doctors and the nurses finished watching the game which went into overtime" (*al-Misri al-Yawm* 2007a). This newspaper's English-language website (<http://www.almasry-alyoum.com>) transliterates the Arabic "Today's Egyptian" as "Al Masry Al Youm." In discussing the paper's stories, I generally use my own translations from the Arabic, but in some cases I have benefited from the English translations available on the website.

18. The nephrologist currently in charge of the dialysis ward confirmed these particular patients' claims that botched operations and misuse of pharmaceuticals play a large part in precipitating kidney failure.

19. Schistosomiasis (also known as bilharzia) is a parasitic infection transmitted by a snail and is endemic to the Nile region. Many Egyptian state media campaigns have been aimed at raising awareness among people of the danger of contracting schistosomiasis from swimming in or drinking directly from Nile canals.

20. In my ethnographic work, I found that patients put uncertainty to productive use, that is, as a space from which to formulate critiques of social inequalities and state irresponsibility. See Adriana Petryna's (2002) fascinating ethnography of survivors of the Chernobyl nuclear disaster in the Ukraine and how they navigate uncertainty. Also see Ian Whitmarsh and colleagues' (2007) examination of how uncertainty over the penetrance of genetic traits preserves hope for parents whose children are diagnosed with chromosomal disorders. These examples contradict the standard claim in U.S. biomedicine that uncertainty acts only negatively, upsetting patients who need to know the diagnosis and its cause. Thanks to David Jones for pointing out this connection.

21. Vulnerability to blood contamination is especially high among patients whose insurance does not cover the expensive (imported) erythropoietin injections that help reduce the need for blood transfusions.

22. Medical researchers from the Cairo University Department of Nephrology studied etiologies of serious renal disease in Egypt by registering all patients ($n = 155$) who came to the nephrology service at the university during a period of 62 days in 1993. They reported

that the most common specific etiology for chronic end-stage renal failure was diabetes mellitus type II in the older patients; second most common was Schistosoma in the younger ones. Most diabetic patients came from the city. All but one

Schistosoma patient came from rural Egypt. In the 22 patients who underwent renal biopsy the most common diagnosis was mesangio capillary glomerulonephritis. The prevalence of acute renal failure, particular iatrogenic-toxic, is increasing. [Essamie et al. 1995:254]

This last sentence about increasing acute nephrotoxicity corresponds to the suggestions of the nephrologists I interviewed that a change is occurring in the etiology of kidney disease.

23. Columnist 'Adil Ibrahim, of *al-Ahram*, often writes of "economic dangers." See, for example, Ibrahim 2007. For a typical example of a news report in an opposition party newspaper linking pollution to kidney disease, see *al-Wafd* 2004.

24. The El Kafr al Zayat Pesticides and Chemicals Company (KZPC) was established in 1955 as a state-owned entity and held a monopoly over the pesticides market in Egypt until liberalization policies began in the early 1990s. The company was privatized in 1996 (Privatization Coordination Support Unit 2000). An alarming report on health status in the impact zone of the El Kafr El-Zayat Chemical Plant was published in March 2006 by a global NGO project called the International POPs Elimination Project (IPEN; POPs is shorthand for *persistent organic pollutants*) in partnership with the UN Industrial Development Organization (UNIDO) and the UN Environmental Program (UNEP; see IPEN 2006).

25. See Winegar 2006 (esp. ch. 4) for an explication of generational differences in views of the state and its social responsibilities in Egypt.

26. Aflatoxin is produced by fungal action during production, harvest, storage, and processing of food. The U.S. Food and Drug Administration (FDA) considers aflatoxins to be unavoidable contaminants in foods, and its strategy has been to minimize consumer risk by controlling their levels. In a comprehensive review article on aflatoxins in developing countries, Jonathan H. Williams and colleagues argue that methods used by the FDA to manage the problem

cannot realistically be used in developing countries, because of the characteristics of the food systems and the technological infrastructure in those countries; therefore, aflatoxins are uncontrolled in these situations. The result is a "divide" in the prevalence of aflatoxicosis exposure between people living in developed and developing countries. [2004:1106]

Williams and colleagues (2004) advocate pharmacoprotection: use of a food additive that acts as a binding agent to prevent absorption of toxins by the digestive tract.

27. Most noteworthy in this regard is the overview by Dr. Rashad Barsum (2002), a leading Egyptian nephrologist. A recent study found that babies who were exclusively breastfed were vulnerable to renal toxicity because of elevated levels of ochratoxins that were passed via breast milk; see Hassan et al. 2005.

28. Many Egyptian publications use the English spellings *Dakahliya* or *El Dakahliya*.

29. The issue of "cancerous wheat" precipitated mass demonstrations and political movement among members of opposition parties, students, and youths, especially in Daqahliya province. Many reports expressed surprise that members of parliament acknowledged the situation and demanded action to correct it, including the government's guarantee that the toxic wheat would be destroyed and not sold for consumption. For print journal reports, see *al-Ahali* 2007, *al-Misri al-Yawm* 2007c, and *al-'Arabi* 2007. Information was also disseminated, organized, and historicized on websites of active political parties in the region. The Kifayya political party initiated demands for quick government and legal action

on May 19–20, 2007. The Muslim Brotherhood followed suit, with online articles informing people about the wheat and demanding clean and safe food and water. These online sites continuously change as government agents work to dismantle them.

30. U.S. development reports consistently attribute Egypt's need to import food to the country's desert geography and "population explosion" and, therefore, its "natural" inability to feed itself. But political scientist Timothy Mitchell (2002) has convincingly demonstrated that, in fact, the restructuring policies of the USAID and IMF increased inequalities by removing price subsidies and by altering what Egyptian farmers grew. These policies led Egyptians to shift their diet from legumes to wheat and animal products and to divert food staples from humans to animals.

31. Ever since the assassination of President Sadat in 1981, Egypt has been under a continuous state of emergency. See El-Ghobashy 2006 for a discussion of its effect on the Egyptian polity and potential for political change.

32. Patients' complaints about the erosion of state welfare and their expectations of better state-provided medical care are not necessarily articulated in pro-Nasserist terms or in terms of a condemnation of Sadat's Open Policy. Although my analysis in this article links the demise of state welfare with Sadat's policies, the poor patients with whom I spoke often did not talk in overtly political terms that referenced particular regimes. Rather, they spoke of their frustrations with poor state provision of services, the increasing difficulty of making ends meet in Egypt today, and their feeling of vulnerability to U.S. imperialism and U.S.–Israeli aggression.

33. An estimated one-third of the total health expenditure is for imported pharmaceuticals (Fouad 2005). About one percent of total health expenditure comes from private donors. The Millennium Development Goals Report on Egypt (Public Administration Research and Consultation Centre, Cairo University 2004) reports that Egypt received about \$1.6 billion in total official development assistance in 2001, but only three percent (\$48 million) was allocated for health.

34. As Mitchell demonstrates, "USAID supported the shift to meat consumption among the better off by financing at reduced interest rates more than three billion dollars worth of Egyptian grain purchases from the United States between 1975 and 1988, making Egypt the world's largest importer of subsidized grains" (2002:216). These subsidized U.S. loans only partly financed grain imports; covering the cost required further borrowing, "contributing to a total external debt that in 1989 reached \$51.5 billion, a figure surpassed that year by only five other countries" (Mitchell 2002:216).

35. Columnist Khayri Ramadan (2007) goes on to make a plea for the state to intervene in the treatment of intellectual and academic scholar 'Abd al-Wahhab al-Massiri, who has been afflicted with leukemia since 2001 and has submitted requests to the presidency to be treated at the expense of the state. Ramadan argues that the state is quick to pay for treatment when a famous actor is ill.

36. The exception to this is in Mansura, where the unique and high-quality services provided to poor kidney-failure patients encourage family donation.

37. Organ transplantation presumes the commensurability of body parts that are, in reality, never equal to begin with. In North America, the powerful metaphor of "recycling life" and the media's enchantment with the "medical miracle" of transplantation have obscured the commodification of body parts and the lucrative processes of their procurement (Sharp 1995, 2001).

38. In contrast, dialysis patients living in Europe and North America describe dialysis as time standing still, during which they wait in limbo for a kidney transplant, which they see as a new chance at life (Fox and Swazey 1974; Gordon 2000, 2001; Joralemon

1995; Kaufman et al. 2006; Kierans 2005; Russ et al. 2005). In the United States, the question often asked is when a kidney-failure patient will receive a transplant (how much time will be spent on the waiting list), not whether he or she will receive a transplant. As of 2005, most candidates for kidney transplantation in the United States received a kidney within five years (Scientific Registry of Transplant Recipients 2005).

39. The general assumption within the Egyptian medical community is that donors who are unrelated are paid for their organs. An exception to this is spouses, who are often labeled "unrelated" (biologically) if not specifically labeled "emotionally" related.

40. Elderly U.S. dialysis patients (older than 70 years) are generally excluded from renal transplantation, like their younger Egyptian counterparts. Dialysis in the case of the elderly is just a palliative, prolonging life and, ironically, consuming it as well: "Dialysis is both a time-creating and a time-consuming process, one that in a way cannibalizes the quality of the time it creates" (Russ et al. 2005).

41. For a discussion of the different *fatawa* on organ transplantation in Egypt, see Hamdy in press. The majority of religious scholars in official state positions regarded organ transplantation to be permissible, under the conditions that (1) there is dire necessity; (2) the consenting donor will not be harmed; (3) there is no commercial exchange; and (4) the benefit to the recipient far outweighs the risks to the donors. For a discussion of religious views of organ transplantation in Pakistan, a different Muslim setting, see Moazam 2006.

42. Elisa Gordon (2001) found similar sentiments among poor dialysis patients in the urban United States, particularly among African Americans.

43. This is similar to what Scheper-Hughes (1992) describes as "social triage." In her now classic account of the violence of everyday life and poverty in a Brazilian shantytown, Scheper-Hughes describes the judgments poor mothers have to make in terms of harnessing resources to save babies who are most likely to survive. In the Egyptian transplant realm, families make judgments about harnessing resources to support either younger children, who have long lives ahead of them, or male providers in the home.

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