


**The "Hierarchy Of Resort"
Reexamined:
Status And Class Differentials
As Determinants Of
Therapy For Eye Disease
In The Egyptian Delta**

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ABSTRACT: Treatment of trachoma and other blinding eye diseases in a rural Egyptian village occurs through a hierarchical, three-tiered system, consisting of: (1) treatment within the family; (2) treatment by traditional healers; and (3) treatment by biomedical physicians. Status differentials occurring within the extended family, based on gender and age, determine the various "hierarchies of resort" for eye disease, or the sequences by which some, but not all, individuals pass through this therapeutic system. Class-based status differentials occurring between a government physician and his rural clientele also prevent some villagers from seeking low-cost eye care, diverting their resources instead to more expensive private physicians. Nevertheless, villagers' belief in biomedical therapies remains high, despite widespread acceptance of traditional (and lack of understanding of biomedical) etiologies of eye disease. This suggests that "explanatory models" and other cognitively based approaches, which are widely utilized in medical anthropology, are insufficient

frameworks for the study of therapeutic choice in this context. Rather, a structural model, in which the status and class structures of Egyptian society are considered, appears to offer superior explanatory power.

Introduction

The term "hierarchy of resort" was introduced to anthropology (more specifically, to medical anthropology) by Romanucci-Ross, who, in her landmark publication in 1969, described the various sequences through which the peoples of the rapidly acculturating Admiralty Islands in Melanesia sought cures for serious illnesses that remained unresolved after initial (often traditional) therapy. By tracing the sequences of these curative events, Romanucci-Ross was able to discern that, despite their enthusiastic acceptance of European-American lifestyles, the peoples of the Admiralty Islands tended to utilize European medicine as a "last resort": i.e., only after a number of alternative, traditional therapies and curers had already been tried. This "counter-acculturative" sequence, she surmised, was due to a nativistic loyalty to native diseases lying beyond the scope of European knowledge and power. And she concluded that, because of the tenacity of the native belief system regarding the etiology and therapy of various illnesses, European medicine could be expected to face a long period of competition with existing medical systems.

Since the publication of Romanucci-Ross' article, numerous anthropologists have attempted to "explain" the hierarchy of resort (namely, why individuals choose the therapies and therapists they do *in a particular order*) in medically pluralistic societies. Arguing from a cognitive perspective, most authors have suggested that therapeutic choices are the logical outcome of an intellectual decision made by the individual patient, which may be related, in part, to (1) the level of education of the patient and his or her resultant level of "innovation" (Colson 1971:227-228); (2) the perceived gravity of the illness episode (Young 1980:113); or (3) the "explanatory model" held by the patient regarding

the etiology and appropriate therapy of the particular illness (Kleinman, Eisenberg and Good 1978).

Yet, the cognitive perspective in medical anthropology, in its microscopic focus on the individual patient and his or her medical belief system, remains rather limited in its utility, in that it fails to consider the macrosociological structural principles operating in the complex, pluralistic societies that offer these therapeutic alternatives.

As growing numbers of medical anthropologists have recently noted,¹ a society's class divisions may be an important factor in access to, and outcome of, health care in pluralistic societies with competing medical systems. With regard to the Middle East in particular, Morsy (1980; 1981) has argued that status differentials within the Middle Eastern family, structural principles relating to Middle Eastern village social organization, and asymmetrical power relations between the Middle Eastern rural masses and the urban elite (who constitute the pool from which most Middle Eastern physicians emerge) are significant variables in the analysis of health and illness (and, particularly, who receives treatment) in the Middle East.

The results of our fieldwork carried out in an Egyptian Delta village suggest that the political-economic perspective advanced by Morsy and others may be more appropriate as a theoretical framework for describing therapeutic decision-making and the hierarchies of resort through which individuals seek eye care in rural Egypt. Specifically, by tracing and quantifying the various sequences of therapeutic events involving eye disease, by eliciting information on indigenous medical beliefs involving the eye, and by examining the status and class structures (both general and medical) in rural Egypt, we found that access to, and choice of, practitioner for the treatment of eye disease was influenced more by status differentials within the family (based primarily on age and gender) and by class differences between patient and healer than by the "explanatory models" of eye disease held by patients.

The Study Site: Gamileya

This study was conducted in Gamileya, a rural hamlet in the Nile Delta region of northern Egypt. The community, with a total population of 1,033 *fellahin*² (peasant farmers), consists of 104 extended-family households, of which 99 are Sunni Muslim and five are Coptic Christian. The range of socioeconomic levels among these households is immediately apparent, based on housing types, which range from single-story, mud dwellings to more elaborate two-story, brick houses. Adult literacy is 17% overall (male 34% and female 9%), although this can be expected to increase with the recent addition of a primary school in the village. (Currently, 71% of school-aged boys and 35% of school-aged girls attend the primary school.) The level of disease in the hamlet is high, as reflected in the infant mortality rate of 188 per 1,000 and the under-age-five mortality rate of 315 per 1,000 (based on pregnancy data obtained from a random sample of 50 women).

Background of the Study

The research presented in this paper is the result of a multidisciplinary study on the sociomedical aspects of trachoma infection, conducted by the Francis I. Proctor Foundation for Research in Ophthalmology, University of California, San Francisco, and the University of Alexandria, Egypt, School of Medicine.

Trachoma is the leading cause of infectious blindness in the world (Maitchouk 1982). In biomedical terms, trachoma is an ocular infection caused by the atypical obligate intracellular microorganism, *Chlamydia trachomatis*. In its communicable, inflammatory phase, the disease is characterized by infection of the inner mucosal lining of the eyelids (follicular keratoconjunctivitis) and the growth of superficial blood vessels over the cornea of the eye (pannus) (Dawson 1984). Although the infectious trachoma usually undergoes spontaneous resolution in most individuals, the inflammation produces varying degrees of scarring of the conjunctiva

that lines the eyelids. In the worst cases, this conjunctival scarring causes inward distortion of the eyelids (entropion) and inturned eyelashes (trichiasis), resulting in abrasion of the cornea by the stiff eyelashes. Constant abrasion eventually produces corneal ulceration and permanent corneal opacity. Thus, final visual acuity may range from normal vision to total blindness (Dawson 1984).

Eye examinations conducted in the hamlet by the ophthalmologist on our team revealed that trachoma infection is endemic in Gamileya (Courtright 1986). For example, during a series of eye exams conducted in January 1986, 64% of children aged two to eight had moderate or severe trachoma (on an intensity scale ranging from mild to severe), despite the fact that trachoma is at its lowest level during the winter months. Children classically manifest the highest rates of active inflammatory disease; in our survey, significant scarring of the conjunctiva was noted in children as young as age ten. In terms of long-term sequelae, women had earlier and more severe scarring than did men; by age 30, 38% of women, as compared with 21% of men, already had entropion and trichiasis. Of those individuals in the village (both men and women) who were older than age 60, approximately half had severe trichiasis and accompanying visual impairment.

Methodology

The anthropological portion of the study involved participant observation and interviews, both structured (questionnaire) and unstructured. As the two anthropologists on a larger team consisting of physicians, epidemiologists, and nurses, we lived in the hamlet with the villagers, spoke with them in the Egyptian dialect of Arabic, and accompanied them to biomedical physicians and traditional healers when they sought treatment for eye disease.

In the initial stage of the study, we interviewed villagers extensively about their beliefs and practices regarding eye care and eye disease, and we also interviewed all the traditional healers and a number of biomedical practitioners

in the area. Based on this early ethnographic portion of the study, a questionnaire was designed to investigate more specifically the therapeutic choices made with regard to eye disease among a representative sample of households in the hamlet. Questions were designed to identify: (1) who received treatment for eye disease and their position in the extended family (age, sex, kinship position); (2) what the individual was treated for; (3) which treatments were used and, in cases of serial therapy, in what order; and (4) how much the therapy cost. The questionnaire was administered to adult women in a stratified, random sample of 25 households, containing 375 people.³ In general, all adult women in the household were present at the interview and were allowed to respond to the questionnaire; in a few households where men were also present, their responses were recorded as well. Women were chosen as the primary informants because of their tendency to have more complete information on the illness episodes experienced by all family members. Although we placed no historical limit upon their accounts of ocular illness episodes in the family, most of those questioned focused on eye problems experienced by household members within the past two years. As with any study relying on recall of historical events, however, recall bias may have occurred.

Health Resources Available: Three Tiers of Therapy

(1) *Treatment Managed within the Family.* Results of these structured interviews showed that, in Gamileya, the family is responsible for the recognition and initial management of most cases of eye disease. Eye problems are so ubiquitous in the hamlet that minor ailments, such as redness and discharge, are considered normal, especially in children. Nevertheless, Gamileyans recognize a number of more serious conditions, which are described in Table 1.⁴

Table 1. ETHNOPELHAGIACAL DIAGNOSTIC CATEGORIES, SYMPTOMS, AND TREATMENTS FOR EYE DISEASE

Ethno-diagnostic Category	Biomedical Category	Symptoms	Ethnoetiology	Treatment Sphere	Treatment
<u>Hamra</u>	Redness, Inflammation	Redness	Heat	Home remedies	Eyedrops or compress of strong tea (sometimes with molasses added) Tomato - one thick slice applied to the eyes as a compress "gets the red out"
<u>Dam'ah</u>	Tearing	Tearing	Smoke, sweat	Home remedies Substances purchased from the herbalist Traditional healer (for children)	Onion - mashed as a compress or drops of juice in the eye Shebba (alum) mashed with onion and applied as a compress or - dissolved in water and used as an eye bath - ground and applied to the eyes as a powder Thread through the ear
<u>Wakhada hawa</u>	None	Redness	Cold in the eye ("It happens after a woman has finished baking bread. After she leaves the oven, her eye gets exposed to air and she catches a draft.")	Home remedy	"Take a spoonful of breast milk from a dark-skinned woman and rub it onto a special stone from Mecca (called 'wada'a') and put one drop into the sick eye every night after sunset until the eye gets better."
<u>'Ayn wama</u> or <u>Il tihab al-ghin</u>	Lid edema	Eye is swollen shut (happens most often in children)	Heat, dirty water, the will of God If a newborn has it, it might be from "bad hygiene of the mother" (i.e. not washing after sexual intercourse)	Traditional healer (for children) Biomedical physician (adults, especially males)	The Halling Sabha (health barber) makes three incisions on the temple to "get the bad blood out," then he rubs powdered Kohl (galena) into the wounds and rubs the blood and Kohl into the eyes.

Ethno-diagnostic Category	Biomedical Category	Symptoms	Ethnoetiology	Treatment Sphere	Treatment
<u>Ramad</u>	Conjunctivitis	Redness, swelling, itching, burning, secretion	Heat, smoke, dust, sweat, flies, dirty water "In the summer there is a lot of heat coming from the land. When we work in the hot sun, sweat gets into the eye and mixes with the heat and the dust and stings. This is the beginning of <u>ramad</u> ."	Home remedies Remedies purchased from the herbalist or the pharmacist	Biomedical: ointment and drops Donkey feces - a compress of donkey feces "heated until glowing from the fire" or "still warm from the intestines of the donkey." It is especially effective if the donkey is black and its feces are put into a white cloth. Compress of shih (wormwood) mixed with mashed onion and shebba (alum) <u>Kuhl</u> (galena) ground to a powder and rubbed on inner lower lid with index finger; mixed with one or more of the following (also ground to a fine powder): - <u>Irq ed-dahab</u> (long pepper) - <u>Justicib</u> (nutmeg) - <u>Mehlab</u> (plant seeds) - <u>Mir</u> (myrrh) - <u>sabr</u> (aloe vera resin) " <u>Kuhl</u> eats out the redness and makes the eyes tear, which washes out the burning that was caused by the heat."

Ethno-diagnostic Category	Biomedical Category	Symptoms	Ethnoetiology	Treatment Sphere	Treatment
<u>Lahmilyya</u>	Follicular trachoma	Small bumps or scars on the underside of the upper eyelid	Heat, smoke, dust, sweat, dirty water, flies, dirt, urine in the eye (in children)	Traditional healer (for women and children) Biomedical physician (adults, especially males)	Red <u>Tuya</u> (hematite) or a piece of stone from Mecca, ground on white clay and applied by a specialist to the underside of the upper eyelid Blue <u>Tuya</u> (copper sulfate) - rarely used Curettag - the barber everts the upper eyelid and scrapes the bumps with his straight-edged razor Biomedical physicians evert the upper eyelid and squeeze the follicles (bumps); they do curettage as well
<u>Shaqa</u> (<u>shahyaga</u>)	Posttrachomatid degenerative concretions (granular deposits), or Corneal abrasion, or Conjunctivitis	"Imples under the eyelid with a feeling of sand that rubs, as if the eyelid has a scratch from inside." Red, excessive tears (Some people describe the problem as being under the upper lid and some consider it to be a problem of the sclera.)	Exposure to draft or open air	Traditional healer Biomedical physician	Same treatment as for <u>Lahmilyya</u> : - <u>Tuya</u> - Curettage by the <u>Hallaq Sabha</u> (health barber) - Treatment by a biomedical physician
<u>Tarfa</u> (<u>matrufa</u>)	Corneal abrasion	Redness, pain, burning, and feeling that a piece of dust or hay is inside the eye	Injury - "When something from the outside enters the eyes and scratches them, such as dust or hay"	Home remedy	Breast milk from a dark-skinned woman mixed with a "dash of salt and rubbed on a sea shell called <u>maharf</u> until it is thick and then dropped into the eyes"

Ethno-diagnostic Category	Biomedical Category	Symptoms	Ethnoetiology	Treatment Sphere	Treatment
<u>Sha'ra</u>	Trichiasis (not severe)	A few eyelashes that turn inward, causing pain and excessive tearing	This is believed to be contagious. Even mentioning the name of this condition can cause it to occur. Also, contagion can occur from sleeping on a pillow of someone who had sha'ra.	Traditional healer Biomedical physician	The <u>Hallaq Sabba</u> plucks the lashes out The biomedical physician surgically takes a horizontal wedge out of the outside of the upper lid to pull the lashes up
<u>Makfi fi</u>	Severe entropion and trichiasis	When the upper lid turns completely inside toward the eye	The will of God Washing with dirty water	Traditional healer Biomedical physician	Same as sha'ra
<u>Suda'</u>	None	This is a "headache that can cause eye disease because it is reflected in the eye and makes the eye red and not clear"	Carrying heavy loads on the head in hot weather (women are more prone to this illness)	Home remedies Traditional healer	Sour milk is made into a compress with minced onions and is wrapped on top of the head in a scarf to "take the heat out" Lemon, water, and sugar (orally) A kerchief may be tied around the head and tightened with a stick The <u>Hallaq Sabba</u> injects the person with intravenous novainin (an analgesic) Religious healers (<u>shaikh/shaikhg</u>) pray and write verses of the Qur'an on the forehead of the patient
<u>Nuga bayda</u>	Corneal opacity	"A white patch over the pupil of the eye"	Untreated tarfa (when eye is red, swollen, tearing, and painful)	Home remedy	Eye drops of lemon, water, and sugar

Ethno-diagnostic Category	Biomedical Category	Symptoms	Ethnoetiology	Treatment Sphere	Treatment
<u>Zafar</u>	Pterygium	"A small red line on the eyeball that comes from the corner of the eye to the beginning of the pupil and ends with a small white piece or dot like a pinhead"	The will of God Walking on the hot ground without shoes Untreated tarfa Rubbing the eye "From the blood itself"	Biomedical physician	Surgery by a biomedical physician to remove the <u>Zafar</u>
<u>Mayya bayda</u>	Cataract	This literally means "white water" - "like a small cloud over the eye that causes blurred vision"	Grief (especially too much crying), old age, overwork, the will of God	No treatment sought	No traditional or biomedical therapy sought

Table 2. Responses of the 25 Households to Questions on Substances Used for the Prevention and Treatment of Eye Disease

Substances for Prevention	Freq.	%	Substances for Curative Treatment	Freq.	%
<u>Kuhl</u> (galena)	14	29	<u>Tutya</u> (hematite)	13	25
<u>Murr</u> (<u>Commiphora myrrh</u>)	8	16	<u>Kuhl</u> (galena)	6	12
Nothing	8	16	<u>Murr</u> (<u>Commiphora myrrh</u>)	6	12
<u>'Irg ed-Dahab*</u> (<u>Piper retrofractum</u>)			Drops and ointment (biomedical)	5	10
<u>Justitib*</u> (nutmeg)	7	14	Onion	4	8
<u>Mehlab*</u> (<u>Prunus mahaleb</u>)			Nothing	3	5
<u>Sabr</u> (<u>Aloe vera</u>)	3	6	Donkey dung	3	5
Washing, soap, clean water	2	4	Breast milk	3	5
<u>Tutya</u> (hematite)	2	4	<u>'Irg ed-Dahab*</u> (<u>Piper retrofractum</u>)		
Lemon and sugar (drink)	2	4	<u>Justitib*</u> (nutmeg)	2	4
Drops and ointment (biomedical)	1	2	<u>Mehlab*</u> (<u>Prunus mahaleb</u>)		
<u>Shebba</u> (alum)	1	2	Sour milk	2	4
Egg white (eye drops)	1	2	Tea (eye drops)	1	2
			Washing, soap, clean water	1	2
	49	100	Tomato	1	2
			<u>Shebba</u> (alum)	1	2
			Lemon and sugar (eye drops)	1	2
				52	100

* These three substances are almost always ground together and used with kuhl.

Many of the eye problems recognized by Gamileyans correspond with the various stages of chronic trachoma infection. However, villagers consider each of these stages to be a separate condition, rather than as part of a progressive disease complex, which is the biomedical view. In fact, individuals in only 9 households (36%) had ever heard of the Arabic biomedical term for trachoma (*ramad hubaybi*), and of those, only three individuals were able to describe any of the stages of trachoma as understood by biomedical practitioners.

Treatment for eye disease almost always begins at home. Treatment may be either preventive or therapeutic, depending upon the condition, and, as shown in Table 2, there is a well-developed distinction between the two categories. In the preventive realm, villagers may also take additional steps not listed in the table. For example, informants in 16 households (64%) stated that the evil eye, or the malignant power in the glance of an envious person, could cause eye disease; to counteract this threat, amulets are worn, and children are made intentionally unattractive (i.e., dressed in old, worn clothes and "kept a little dirty").

In terms of pharmaceuticals, most families have access to a wide array of substances. These include: (1) home remedies utilizing commonly employed ingredients (such as tea or lemon); (2) substances purchased from traditional herbalists; and (3) biomedical agents (drugs) purchased directly from one-room stores in the hamlet or from pharmacies in the neighboring towns.

The most commonly employed home remedies consist of eye drops of either strong tea, breast milk, or a combination of lemon, water, and sugar, or eye compresses utilizing onion, tomato, or donkey feces. Herbalists at the neighboring market also provide villagers with substances that are employed in home remedies. By far the most popular treatment in this category is a mixture of *kuhl* (galena, or lead sulfide), which is ground and mixed with one or more of the following substances: *murr* (myrrh, a plant resin); *'irg ed-dahab* (long pepper); *justitib* (ground nutmeg); *mehlab* (a seed, *Prunus* spp.); and *šabr* (aloe resin). The ground mixture is stored in tiny vials or rolled cones of newspaper and

is applied, with a saliva-moistened index finger, inside the lower eyelids on the conjunctival surface. Women are the most frequent users of the *kuhl* mixture, although they also apply this substance to the eyes of their daughters and infant sons. Nearly three-fourths of the women interviewed said they use *kuhl* frequently when their eyes are red and itchy.

Villagers also have direct access to biomedical substances (drugs), which can be purchased without prescription at small stores in the village or at pharmacies. In our sample, individuals in 19 households (76%) said they had purchased drugs for eye conditions from the pharmacy, and individuals in 15 households (60%) had bought drugs from both the pharmacy and the village stores.

The village stores, which sell food, candy, and oil, stock up on eye medication during the summer, when trachoma and other eye infections are in peak season. While some of these eye medications, such as terramycin ointment and drops containing a sulfa drug and chloramphenicol, are effective against trachoma and other bacterial eye infections, many of the other drugs sold in the village stores are not. For example, the store owners buy parenteral penicillin (intended for intravenous or intramuscular use), mix it with drinking water, and sell the mixture as eye drops. Not only is penicillin ineffective in treating trachoma, but the solution may be irritating to the conjunctiva of the eye, and it may also sensitize susceptible individuals to penicillin allergy. Two other commercial brands of eyedrops sold in the stores contain antihistamines rather than antimicrobial agents and therefore are also ineffective against trachoma or other eye infections. A final brand of eyedrop sold in the village contains several antibiotics and cortisone, the latter of which may exacerbate eye infections.

Drugs are obtained from the pharmacy as follows: The patient or a knowledgeable family member speaks to the pharmacist or to one of his assistants about the patient's eye symptoms (usually redness and irritation). Then, the pharmacist or assistant makes a diagnosis and decides on the appropriate therapy, which he pulls from one of the many boxes stored (often haphazardly) on the shelves be-

hind him. Because most of the *fellahīn* cannot read the dosage instructions, the pharmacist makes lines on the box to indicate how many times a day the medicine should be taken. The medicine is then wrapped in newspaper, paid for, and taken home by the patient.

Medicine that is left over after an episode of ophthalmological illness is used by other family members or reused later on. When informants were asked if they could show us their "medicine chests," most were able to produce multiple bottles and tubes of medication, the labels of which were often no longer legible. Thus, many villagers may be receiving inappropriate therapy or drugs that are no longer chemically viable.

(2) *Treatment by Traditional Healers.* The system of traditional medicine in rural Egypt is quite sophisticated, due, in part, to the rather advanced level of specialization manifest among its practitioners.⁵ A relatively large number of traditional healers, most of whom are specialists, practice in the immediate vicinity of Gamileya. With the exception of the *mejabaratī* (bone setter) and the *tamrīs* (the one who cauterizes and lays on hands), all of these healers perform ophthalmological services, as described below.

Midwife. The *dāya*, or midwife, who delivers virtually all the babies in Gamileya, performs two prophylactic ophthalmological treatments shortly after delivery.⁶ First, upon cutting the umbilical cord, she rubs some of the umbilical blood in the baby's eyes. Then, on the third day, she "slices" the infant's eyes open with a feather taken from the wing of a goose or a pigeon to insure that the infant's eyes "will be big and beautiful." Ideally, the feather has some of the bird's own blood on it, and it is usually dipped in onion juice as well before it is drawn superficially over the infant's eye, between the eyelids that are held apart. (Since the quill may come in contact with the cornea, this practice may lead to corneal injury.)

Health Barber. The *hāllaq saḥḥa*, or health barber, not only shaves men and cuts their hair, but he also performs a number of invasive procedures, or "ophthalmological surgeries," using the same straight-edged razor blade. The most common technique performed by the health barber is

incision of the patient's temples. This technique is used most frequently with children whose eyes are swollen shut from inflammatory eye diseases. Three small, vertical slashes are made on the temple adjacent to the swollen eye(s). After the incision begins to bleed (thereby "letting the bad blood out") the health barber rubs some *kuhl* (lead sulfide) powder into the bleeding wound, then rubs some of this bloody mixture into the patient's affected eye. Of the 293 individuals examined ophthalmologically in the 25-household sample, 61 (21%) had temple scars indicative of this procedure.

The health barber also performs a more invasive technique in individuals manifesting the conjunctival follicles and concretions (tiny bumps on the lining of the eyelid) characteristic of active trachoma. This technique, which he learned from observation of a biomedical practitioner, involves scraping the affected conjunctiva with a razor blade to remove the trachomatous lesions. Five individuals in the 25-household sample had undergone this procedure, which, in biomedical terminology, is called curettage. In fact, curettage was introduced to Egypt during this century by British physicians, who taught the procedure in Egyptian medical schools (MacCallan 1936).

The health barber is also expert in removing the inverted eyelashes that are a complication of late-stage trachoma. According to the health barber, he used to remove the eyelashes by cutting a horizontal wedge of skin from the eyelid, in order to turn the inverted lashes outward. Today, however, he has resorted to plucking the eyelashes individually, since, according to his testimony, the surgical procedure is now performed "in the hospital." (In fact, like curettage, this was a technique introduced to Egyptian physicians by the British. Presumably, it was adopted by some traditional healers.)

In addition to these mechanical techniques, the health barber administers injections for some forms of eye disease. For example, eye conditions that are caused by headache (through "reflection" of the headache into the eye) are treated with an injectable analgesic, administered intravenously by the health barber. Likewise, intramuscular

penicillin injections are administered by the health barber for red, swollen eyes in adult patients.

Herbalist. There are six *'attar*, or herbalists, who operate from stalls at the weekly open market, or *suq*, in the neighboring town. These men sell herbs, spices, henna, and various medicinal substances, including those used in the preparation of *kuhl*. The herbalists are extremely busy and rarely provide advice about use of substances, since their clientele (mostly women) tend to be knowledgeable. However, as we discovered, the herbalists will provide extensive instruction on the use of medicinal substances and will also "special order" less common ethnopharmacological substances if requested.

Religious Healers. *Shaikhs* and *shaikhas* are male and female religious healers who, among other things, say prayers for the treatment of eye problems. For women with eye conditions thought to be caused by headache, the religious healers write verses from the *Qur'an* on small slips of paper, which are worn by women under their headscarves until the condition subsides. The religious healers may also say a prayer while writing Quranic verses in pencil on the patient's forehead. Individuals in 5 (20%) of households in the sample had visited religious healers for these types of treatments.

Tutya Specialists. Like *kuhl*, *tutya* is a medicinal substance made from ground ore (hematite or chalcantite).⁷ Unlike *kuhl*, however, it is administered only by healers, never by family members. In Gamileya, there are two *tutya* specialists, elderly women who prepare the substance, then evert the eyelid to apply it. The *tutya* is ground on a shard of either red or white clay pottery, then the powdered mixture is applied by the *tutya* specialist to the conjunctiva of the patient's everted eyelid. In 15 (60%) of the households, members had visited *tutya* specialists for eye therapy. Those who had undergone *tutya* application said that the ground ore (primarily hematite in Gamileya) burned tremendously when applied to the lining of the eyelid. But they also deemed the therapy extremely effective for *lahmiyya* (trachomatous follicles) and *shaqqa* (follicular trachoma with accompanying granular deposits). Indeed,

when translated into biomedical terms, *tutya* is a therapy that can be said to be "trachoma specific."

Ear Piercer. The "ear piercer" is an ethno-ophthalmologist in Gamileya with no traditional title. She performs only one therapy for the eyes, but one that is practiced quite frequently (namely, passing of a threaded sewing needle through the upper cartilage of the patient's ear). This treatment is thought to relieve excessive tearing. Many of the adults in the village had noticeable notches in their upper ears as a result of childhood threading. Seven children in the 25-household sample had undergone this procedure.

(3) *Treatment by Biomedical Physicians.* Despite their rural residence, Gamileyans have ready access to a number of biomedical physicians, all of whom are general practitioners and care for the eyes as well as other parts of the body. A government medical clinic, providing low-cost care to rural patients, is only three kilometers from Gamileya in a larger town, and is open six days a week during the morning hours. In the same town, four biomedical physicians, who perform government service elsewhere during the morning hours, hold private clinics in the afternoon.⁸ In addition, numerous physicians, some of them ophthalmological specialists, practice in the metropolitan area 20 kilometers from Gamileya.

For reasons that will be discussed in the following section, villagers in Gamileya tend not to visit the government physician for eye care, preferring instead to visit one of the private physicians whose fees are significantly higher. According to villagers, the government physician does not provide adequate medical attention, does not treat them well, and charges more than the 5-piaster price of a visit. (Under Egypt's system of socialized medicine, the basic cost of a visit to a government physician is only 5 piasters.) The most popular private physician, on the other hand, is said to speak to patients in terms they can understand and is seen as being sensitive to patients' concerns.

Sixteen individuals in 12 (48%) of the households in the sample had visited a biomedical physician for eye disease. Six of these visits were for non-surgical treatment of red, swollen eyes, eye pain, or headache. Two were for acci-

dental injuries involving the eye (a fishhook through the eyelid and a piece of wood in the eye). And eight individuals underwent surgical therapy: four for *lahmiyya* (follicular trachoma); one for *zafar* (pterygium); one for *sha'ra* (trichiasis); and two for unknown causes (i.e., the individuals did not know the exact nature of their diagnosis). Fourteen of these 16 patients (88%) had visited a private physician.

Compared with the average cost of a traditional healer's therapy (1 £.E., or one Egyptian pound), visits to private physicians for the treatment of eye disease were expensive. In our sample, the average cost of medical therapy was 8.6 £.E. (ranging from 1.5 to 20 £.E.) and 40 £.E. for surgery (ranging from 15 to 50 £.E.). Considering that the average farmer in Gamileya makes only 1.5 to 2 £.E. for a full day's labor (1986 estimate), it is apparent that ophthalmological treatment by a private physician constitutes a major medical expense.

Hierarchy of Resort: Relationships with Class and Status

As described in the foregoing section, therapy for eye disease in Gamileya is available through a hierarchically arranged, three-tiered system, consisting of: (1) treatment managed within the family; (2) treatment by traditional healers; and (3) treatment by biomedical physicians. Yet, rarely does any one individual utilize treatment in all three tiers (either sequentially or simultaneously). Rather, the two most prevalent "hierarchies of resort" for eye disease in Gamileya are distinct, two-step sequences, involving (1) treatment within the family, *followed by* either (2) treatment by traditional healers *or* (3) treatment by biomedical physicians--if, and only if, cure is not achieved with first-step therapy. In other words, the vast majority of individuals (particularly females) never proceed beyond the first step (home therapy). Of those individuals who do, some seek therapy only within the second tier (from traditional healers), while others by-

pass the second tier altogether and seek care only within the third (from biomedical physicians).

What is the reason for this intra-local variation? It would appear that second-step decision-making (namely, the decision to utilize a practitioner and the choice of practitioner, traditional or biomedical) depends less upon the severity of the condition or the patient's belief about its etiology and appropriate cure than it does upon the relative status of the patient in the extended-family structure. Thus, if an adult male (particularly a household head) experiences an unresolved eye condition after first-step therapy, he will probably be sent, with full approval of his extended-family members, to a practitioner, ideally a private physician in a neighboring town. If, on the other hand, the patient is a child or an adult female, especially a daughter-in-law, the patient will continue to be treated at home and will be sent by the family to a practitioner (probably a less costly traditional healer) only in cases of acute illness or medical emergency (e.g., a fish-hook through the eyelid).⁹ Thus, despite our findings that children have the highest rates of active inflammatory disease and women have more of the long-term sequelae of trachoma than men, it is status (and *not* the gravity of the condition) that is the primary determinant of who receives therapy and from what type of healer.

Status, in the contemporary sociological (non-Lintonian) sense of the term, is difficult to measure, since it depends so heavily on indigenous, emic perceptions that may vary from person to person. Nevertheless, several generalizations regarding status differentials in Gamileya can be made, based on etic interpretations of emic statements and the authors' own observations:

- (1) Within any age-matched cohort of individuals in Gamileya, males are always of higher status than females. This sex-linked status differential is apparent in numerous local practices. For example, all newborns are said to be girls, and infant sons are disguised as girls for the first year of life to protect them from envy and harm. Furthermore, most boys attend primary

school and many go on to attend secondary school, while only a third of all girls in the village attend primary school and only a handful attend secondary school.

- (2) Status increases with age, and this is true for both men and women. Thus, older males are generally of higher status than younger males, and older females, especially mothers of sons, are of higher status than younger females in the household. A woman gains status as she bears children, particularly sons, for her husband, and, by middle age, she may surpass the younger males in the family in terms of status. Both men and women may gain status by making the *hajj*, or pilgrimage to Mecca, after which they are referred to, with deference, as "*Hagg*" and "*Hagga*."
- (3) Status and social class are closely related in Gamileya, as they are in the rest of Egypt. In Gamileya, a small number of households have been able, through a variety of means, to accrue more wealth than the average Gamileyan household. These wealthier families, who constitute an unofficial "elite" in Gamileya, are viewed with a degree of reverence (and also envy) by other villagers, who look to them as normative trendsetters and, in the case of one family in particular, as unofficial (i.e., non-governmental) popular leaders.

Class-based status differentials operating at higher levels also affect the residents of Gamileya. Namely, the Gamileyans, like other Egyptian *fellahin*, are viewed by most educated urbanites as poor, traditional in their values and customs, uneducated, unclean, in short, thoroughly backward. The Gamileyans realize they are viewed this way by their city brethren, and they accept (but not without ambivalence) their low position in the social hierarchy. To illustrate, Gamileyans, on the one

hand, attempt to limit their interactions with prejudiced city folk, particularly the government bureaucrats and physicians who are assigned to administer, and minister to, them. On the other hand, Gamileyans (evidently accepting the rural-urban, class-based status differential) openly boast about their "urban connections," particularly marriage alliances that were made with rural immigrant families to the nearby major city.

- (4) These class-based status differentials are apparent in the realm of medicine in Gamileya. As suggested above, the physician who has been assigned by the Egyptian government to the Gamileya area is viewed with suspicion and distrust on the part of most villagers. This physician is a newly graduated doctor from an educated urban family, who, like most medical graduates in Egypt, is required by the government to fulfill a one- to two-year period of rural service at the low salary (by urban standards) of 70 £.E. per month.¹⁰ Considering the class structure of Egyptian society, it is not surprising that this government physician, like many of the government physicians we interviewed during the course of our fieldwork, resents this period of enforced rural service and is negatively biased toward his illiterate rural clientele. Indeed, his attitude of hostility toward his patients operates as a major barrier to low-cost health care for the residents of Gamileya, many of whom simply refuse to visit him.¹¹

Private physicians, on the other hand, choose the location of their private clinics. Presumably, those who practice in the Gamileya area do so willingly and do not resent working with uneducated rural farmers and their families. Indeed, in Gamileya, private physicians (and one physician in particular) are viewed quite positively by villagers and

are considered to be of much higher status than Gamileya's own traditional healers. This high status afforded by villagers to private physicians is, in part, a reflection of the clearly differentiated class structure of Egyptian society. But villagers in Gamileya also firmly believe that biomedical practitioners possess a superior armamentarium of treatments, and biomedical substances, particularly injectable antibiotics and analgesics, are prized as status objects. As described earlier, traditional healers have incorporated a number of biomedical techniques, including injections with syringes, into their own method of practice, precisely because of the high value attached to biomedical treatment modalities. Likewise, villagers, who believe in the efficacy of drugs, attempt to incorporate biomedical substances (such as oral antibiotics) into their collection of home remedies as much as possible.¹²

Paradoxically, however, few of the *fellahīn* or the traditional healers in Gamileya maintain biomedical notions about the etiology of eye disease, as seen in Table 1. Yet, they enthusiastically embrace biomedical chemotherapy. This concatenation of traditional notions of etiology with biomedical notions of treatment lends further credence to our argument that therapeutic choices have less to do with mental paradigms of illness and cure than they do with structural principles operating in rural Egyptian society.

Hierarchy of Resort and Status: The Relationship Tested

To further examine our hypothesis that individual status is significantly related to the hierarchy of resort for eye disease in Gamileya, we performed the following statistical analyses:

(1) *Gender*. The null hypothesis states: If sex-linked status differentials do *not* affect who receives treatment from practitioners for eye disease, then males and females in Gamileya should visit practitioners (traditional healers and biomedical physicians) with equal frequency. The alternative hypothesis states: If sex-linked status differentials do affect who receives treatment from practitioners for eye disease, then males in Gamileya should visit practitioners with greater frequency.

The total sample consisted of 375 individuals, 186 males and 189 females. Of the males, 59 (32%) received therapy from a practitioner for eye disease (51 from a traditional healer and eight from a biomedical practitioner). Of the females, 30 (16%) received therapy from a practitioner for eye disease (25 from a traditional healer and five from a biomedical practitioner). Of the five females who visited physicians, all were adults and the mothers of sons or grandmothers.

Although it is impossible to use an inferential statistical test on these data,¹³ the difference in percentages between male and female use of practitioners was striking: Nearly twice as many males as females visited practitioners for eye disease (Table 3). This is in spite of the fact that, by age 30, females have nearly twice the rate of trichiasis (a long-term sequela of trachoma) than do males. This finding appears to support our thesis that males have greater access to ophthalmological practitioners than do females.¹⁴

TABLE 3: Visits To A Practitioner for Treatment of Eye Disease

<u>Gender</u>	<u>Therapy</u>	<u>No Therapy</u>
Females	30 (16%)	159
Males	59 (32%)	127

(2) *Age*. We designed this statistical test to take into consideration the confounding fact that children have by far more eye disease (primarily trachoma) than do adults in Gamileya. Using Fisher's exact test, we looked for associations between age group (adult or child) and type of practitioner utilized (traditional healer or biomedical physician). We surmised that children, who are of lower status than adults, would visit lower-status traditional healers more often than they would biomedical physicians and, by extension, that adults would visit high-status biomedical physicians more often than they would traditional healers.

The null hypothesis states: If age-related status differentials do *not* affect who receives treatment for eye disease in Gamileya, then adults (the over-18 age group) and children (aged 0 to 18) should visit biomedical physicians with equal frequency. The alternative hypothesis states: If age-related status differentials *do* affect who receives treatment for eye disease in Gamileya, then adults should visit biomedical physicians more frequently than should children.

The total sample consisted of 375 individuals, 222 children and 153 adults, of whom 91 received therapy for eye disease. (Two individuals were eliminated from the previous test because their gender was not recorded.) Seventy-five of the individuals were children, of whom 72 (96%) visited a traditional healer and 3 (4%) a biomedical physician. Sixteen were adults, of whom 3 (19%) visited a traditional healer and 13 (81%) a biomedical physician. Using Fisher's exact test, the difference between children and adults in terms of visits to biomedical physicians was significant at the $\alpha = .05$ level ($p < .0001$) (table 4).¹⁵

Logistic regression, which controlled for sex, was also performed and did not alter the results obtained by analyzing each of these effects (age and sex) separately (for sex, $p = .25$; for age, $p < .0001$). These results support those obtained using Fisher's exact test.

TABLE 4: Visits To Traditional vs. Biomedical Practitioners

<u>Age</u>	<u>Traditional</u>	<u>Biomedical</u>
Children	72 (96%)	3 (4%)
Adults	3 (19%)	13 (81%)

p < 0.0001

Hierarchy of Resort: Alternative Hypotheses

(1) *Socioeconomic Status (SES)*. We questioned whether status differentials occurring on the village level (i.e., differences in socioeconomic status [SES] between households) were associated with access to biomedical physicians. In other words, if affluent families in Gamileya were the only ones utilizing the third tier of therapy, then this would cast doubt on conclusions reached about the association between age and access to biomedical caretakers.

A locally sensitive SES scale was designed for Gamileya, which classified households into SES statuses of low (four households in the sample), medium (15 households), and high (six households). Of the 25 households in our sample, 12 contained members who had visited biomedical physicians because of eye disease. Cross-tabulation showed no association between SES status and the use of biomedical physicians for eye care (Kendall's tau statistic = .12; p < .53).

(2) *Educational Level*. We attempted to examine Colson's (1971) hypothesis that therapeutic choice is associated with patient's educational level. In other words, we wondered whether education (i.e., the educational level of parents, boys, and girls in a household) was related to the household's use of biomedical practitioners for eye dis-

ease. If households with higher educational levels were the only ones utilizing the third tier of therapy, then the association between age and access to biomedical practitioners would, again, be suspect. However, there was no association between educational level and use of biomedical practitioners for eye care (Kendall's tau statistic ranged from .03 to .09; p-values ranged from p < .68 to p < .89).

(3) *Belief in Biomedicine*. Finally, we wondered whether "explanatory models" (Kleinman, Eisenberg, and Good 1978) were related to choice of practitioner. In other words, if individuals who believed in and understood the biomedical etiology of the major eye diseases in Gamileya were the only ones visiting biomedical practitioners, then the association between age and use of biomedical practitioner would, again, be invalid. (Indeed, the cognitive models put to rest in the opening portion of this paper would require resurrection.)

To test this association, we asked all informants a number of questions regarding the etiology of eye conditions found in Gamileya. The responses to these questions were coded according to their "traditional" or "biomedical" nature. Kendall's tau statistic showed that belief in the biomedical etiology of eye disease was not predictive of the use of biomedical practitioners for eye care (Kendall's tau statistic ranged from .11 to .19; p-values ranged from p < .40 to p < .58.)

Conclusion

Our study of the hierarchy of resort for eye disease in a rural Egyptian village shows that therapeutic choices made in a medically pluralistic environment have less to do with a patient's medical belief system than with his or her structural position vis a vis the family, the community, and the society at large.

In an analysis utilizing both quantitative and qualitative data, we found that individuals who, by virtue of their age or sex, were of "high status" in their extended-family households had better access to alternative care for eye disease

than did "low-status" individuals. Specifically, males were more likely to progress to second-step therapy (treatment by a practitioner) than were females, and adults were more likely to receive therapy from the highest-status practitioners (biomedical physicians) than were children. Thus, age and gender (two of the most important determinants of relative status in the Egyptian family) were more important than all other variables, including socioeconomic status, educational level, and belief in biomedical etiologies of disease, in predicting who received therapy from a health care practitioner and of what type (traditional healer or biomedical physician).

But other factors besides intrafamilial status differentials prevented some individuals from advancing through the hierarchy of available health resources. In the community under investigation, class-based animosity between the urban-born, government-assigned physician and his rural, *fellahīn* clientele prevented villagers from seeking medical attention and, in some cases, diverted substantial portions of their income to more expensive private physicians. This would suggest that the sharply drawn class distinctions which operate in Egypt as a whole may serve as a deterrent to effective, therapeutic physician-patient relationships and to the low-cost health care that is the right of all individuals under Egypt's system of socialized medicine.

In conclusion, we, like Morsy (1981), would urge medical anthropologists working in Middle Eastern settings to move away from the particularistic, "belief-oriented" studies of ethnomedicine that have dominated this field in the past, in order that we, as a humanistic profession, may begin to understand the complex social, political, and economic factors that affect so profoundly the health and welfare of Middle Eastern populations.

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NOTES

- ¹ A political-economic or "critical" medical anthropology, which views health issues in terms of larger political and economic forces and macro-level structures, has emerged since the late 1970s. For examples of this perspective in medical anthropology, see the collections of papers in *SOCIAL SCIENCE AND MEDICINE* 23(2), and *MEDICAL ANTHROPOLOGY QUARTERLY* 17(5).
- ² Although most authors transliterate from Modern Standard Arabic into English, we chose to transliterate words to reflect their pronunciation in the Egyptian colloquial dialect of Gamileya. We have been assisted in this regard by Dr. Maurice Salib, a native speaker of Arabic (and the Egyptian dialect) and an instructor in colloquial Arabic dialects at the University of California, Berkeley.
- ³ The listing unit for randomization was the household, rather than the individual. During an initial census of the village, households were evaluated and ranked with respect to a number of potentially confounding characteristics, including socioeconomic status (i.e., high, medium, low). Households were first stratified on the listing according to their socioeconomic status, then households from within each stratum were randomly selected for further study. One structured interview was conducted in each of the 25 chosen households. These 25 interviews yielded information on perceived ocular illness episodes among the total sample population of 375 individuals (i.e., members of the 25 households). Since some individuals had experienced more than one illness episode, the total number of individuals with perceived eye episodes, rather than the total number of episodes, was used in the statistical analysis of the data. It is important to note that this analysis was based on *perceived* ocular illness episodes, rather than cases of eye disease as diagnosed by biomedical practitioners. Biomedical data collected by the epidemiologist and ophthalmologists on our team yielded point prevalence rates for trachoma and other eye diseases as of January 1986. These prevalence rates suggested that trachoma was one of the major causes of ocular illness in the community at the time of our study.

Thus, many of the illness episodes reported by informants presumably corresponded with symptomatic episodes of trachoma.

- 4 In reality, many of the eye problems described in Table 1 are not as strictly defined as the table would suggest. Indeed, there is some degree of overlap between diagnostic categories, as well as disagreement among informants about characteristics of each illness and its treatment. Nevertheless, this table represents majority opinion among those interviewed.
- 5 For descriptions of the system of traditional medicine and its healers in Egypt, see Kennedy 1967; Nadim 1980; Assaad and El Katsha 1981; and Sukkary 1981.
- 6 Before 1969, midwives were licensed to practice in Egypt. In 1969, their licenses were revoked, making them officially illegal in the country (Sukkary 1981). Recently, there has been a movement in Egypt to register traditional midwives. However, as of yet, this has not affected the majority of rural Egyptian midwives, who receive no government training in sterile delivery techniques; for this reason, the incidence of neonatal tetanus in rural Egypt is high. Traditional midwives in Egypt also do not administer the silver nitrate eyedrops that are now used worldwide to prevent blindness from neonatal gonococcal infections.
- 7 Chalcanthite (copper sulfate) was a common topical treatment for trachoma in the United States prior to the advent of sulfa drugs (Dawson; personal communication).
- 8 This is a practice pattern found throughout most of Egypt (el-Mehairy 1984:19).
- 9 Most of the eye conditions recognized by villagers in Gamileya are stages of chronic trachoma infection, which although often symptomatic and uncomfortable, are not acute medical emergencies. These conditions (e.g., trichiasis) usually develop over time and are found more often in women than in men in Gamileya, according to ophthalmological examinations conducted there. This suggests that: (1) the decision to send a family member to a practitioner is rarely based on an assessment of the severity of the condition alone; and (2) women, because they manifest more of the complications of trachoma, probably receive less treatment from practitioners.
- 10 For an excellent discussion of the training and roles of Egyptian physicians, see el-Mehairy 1984.
- 11 To illustrate further the types of problems faced by rural patients who attempt to negotiate their ways through the government medical system, we include this passage from our field notes: "We sent a man who was blind in one eye and had what appeared to be a corneal abrasion in the sighted eye to the government hospital (20 kilometers away) in the University car two days in a row. On the first day, he was told to come back the next day because he was too late to be seen. On the second day, he was tested for schis-

tosomiasis in his stool and urine and sent home with a lab slip recording the results. Indeed, he had schistosomiasis. He brought this to us, thinking that it was a prescription for eye medicine (he could not read). In desperation, we asked one of our Egyptian medical colleagues, who was not an ophthalmologist, to treat the man (even though we were instructed to utilize the local system), because our ophthalmologist had not yet arrived from the U.S."

- 12 Because of the lack of understanding of the mechanism of action of these biomedical substances on the part of the villagers and traditional healers who use them, biomedical agents, such as antibiotics, are subject to misuse, which, in some cases, may be dangerous to the patient. For example, we documented several cases in which antibiotics were used when contraindicated or were administered in dangerously high doses. Furthermore, needles and syringes, a popular form of administration, are never sterilized.
- 13 Data collected by the team epidemiologist and ophthalmologists yielded point prevalence rather than incidence data. To test this association, accurate incidence data are necessary.
- 14 Our thesis is further supported by our observations regarding women's sick-role behavior. Namely, women are quite stoic when they experience illnesses that are not severe, including headaches, sore and itchy eyes, and abdominal distress. They never lie down during the day, and they continue to engage in heavy work, even during the last trimester of pregnancy. However, when a woman's pain becomes severe enough, she will cry, refuse to move, and act as if she is dying. The other women in the household begin to pace around her, saying "Oh sister, oh daughter, one thousand *salaams*, oh sister!" Other kinswomen from nearby houses come to join in the chorus, in which they beg God to spare their sister. Eventually, the males in the household are alerted, and they return home to find five or more women, wailing like professional mourners and hovering around the sick woman, who, by this time, is rocking back and forth and crying through clenched teeth. At this point, the men hasten to call one of their relatives or neighbors who owns a car, in order to take the sick woman to a doctor.
It would appear that women must engage in these histrionic performances before they can convince their menfolk of the need for therapy. Men, we observed, do not exhibit this type of behavior and seem to have access to practitioners without having to "prove" their illnesses.
- 15 Because this analysis yielded a two-by-two table with known frequencies, an inferential statistical test was possible.

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