

**HEALTH, DISEASE AND HEALING IN THE LARGER SOCIAL CONTEXT  
POPULATION GENETICS PROJECT IN SANTIAGO ATITLÁN, GUATEMALA**

- I. Today I will present a case study of a medical project in Guatemala in the late 1960s
  - A. To illustrate several of the issues that can complicate medical research and international development projects related to health
    - 1. And to illustrate how institutional research boards have changed informed consent practices since that time
  - B. The study was concerned with the population genetics of the communities on Lake Atitlán in highland Western Guatemala
    - 1. NSF-funded project; researchers from Stanford Medical School and the Anthropology Department
    - 2. The design called for two summers of pilot projects to take place prior to the 3-year project itself
      - a. I participated during the second summer in 1966
      - b. Other participants were
        - 1) The Principal Investigator from Stanford Medical School, Howie
        - 2) A faculty member of the Anthropology Department, Cliff
        - 3) A graduate student in Anthropology who was finishing up a year of dissertation fieldwork, Bill<sup>1</sup>
        - 4) An intern, Dave
        - 5) Me
      - c. The plan was to get established and then the two senior men would leave, Dave and I would do the work
  - C. Obtaining blood samples for clinical or research work was known to be difficult in

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<sup>1</sup> See Bill Douglas, "Santiago Atitlán" in Seminario de Integración Social Guatemalteca, *Los Pueblos del Lago de Atitlán*, 1968: 229-276.  
Population Genetics Project in Santiago Atitlán, Guatemala

Mexico and Central America

1. Our strategy: medical service in exchange for blood samples
  - a. Taken as part of a physical exam
- D. We experienced utter failure in the first town during the first part of the summer
  1. And total success in another nearby town during the second part
- E. The analysis that follows that tries to explain why such different outcomes
- F. Comparing the outcome in the two towns is an example of a *controlled comparison*
  1. Much was held constant
    - a. Same time period
    - b. Same research team
    - c. Same project
    - d. Almost the same place
  2. Controlled comparisons hold everything constant except the dependent and independent variable you're studying
    - a. This means that hypotheses about what factors made the difference are stronger
    - b. The fewer the variables that might be affecting the outcomes, the better
  3. The first town was Santiago Atitlán
    - a. Tzutujil-speaking (a Mayan language)
    - b. Population about 9,000, vast majority indigenous
      - 1) About 100 Ladino (non-indigenous) families
  4. Cerro de Oro was 10 kilometers by dirt road from Santiago
    - a. Population 1500

- b. Kachikel speakers
- c. No Ladinos except for 2 couples who were schoolteachers

## II. Santiago experience

### A. We provided physical exams and took bloods for about two weeks

#### 1. We knew enough to expect difficulties

- a. Other research projects in Mesoamerica had had problems
  - 1) Researchers had been run out of town
  - 2) Lots of rumors had circulated in these other sites
    - a) For example, the gringos were going to sell blood
    - b) Eat the blood
    - c) Do sorcery with it to steal babies and eat them

- b. A widely held idea in Mesoamerica was that we only have so much blood
  - 1) It cannot be replaced except with transfusions
    - a) But transfusions are dangerous

#### 2. Then the remaining research assistants quit

- a. These four men had been working all year for Bill
- b. One had already been fired

#### 3. After 2 weeks, no one was coming to the clinic

- a. Not even with pressuring from Catholic priests who were cooperating with us
- b. The diocese of Oklahoma was in charge of the parish of Santiago
- c. They'd set up a clinic and hired a physician who came in bi-weekly

from Guatemala City

4. We found out that lots of rumors had been circulating
  - a. Not just about our taking blood
  - b. But were saying the men were looking up the women's blouses, etc.
5. This was sad for Bill, who had worked there for a year
  - a. His research assistants quitting was a disappointing blow

B. We consulted with the Catholics, and worked out another venue

1. Cerro de Oro
2. Which had asked for a clinic
  - a. And had built one with Alliance for Progress funds
    - 1) But still had no health care
3. The basic research plan was the same
  - a. I would collect histories
  - b. Dave would do exams
  - c. We would take blood samples as part of the overall exam

C. Tremendous success

1. Delivered much-needed health care
2. Collected comprehensive genealogies and blood samples from many families
3. Town was very pleased with the project

III. Factors influencing the outcomes

A. Cultural differences

1. Santiago was the center of traditional healing, who were called *zaharines*

- a. They were also seen as sorcerers
  - 1) Although sorcerers were located in other towns
  - 2) The best black magic was considered to come from Santiago Atitlán
- b. *Maximón* , a 3 ½ foot high statue, was a complicating figure
  - 1) Was housed in a *cofradía* (brotherhood, fraternal organization) house, and was taken care of by a *cofradía*, Santa Cruz
  - 2) Like the other saints (for example, Santiago Matamorros, the patron saint
    - a) There were 10 *cofradías* in all
  - 3) He was considered to be the fourth brother of Jesus
  - 4) He was in charge of shamanic healing, magic, sorcery
  - 5) A very ambivalent figure
  - 6) Can be seen as a supernatural agent of social control
    - a) For example, if women were out alone at night, they ran the risk of being raped by *Maximón*
  - 7) He was dressed like a *ladino*, in a suit coat
    - a) Big black felt hat
    - b) Big cigar in his mouth (cornhusk face)
  - 8) During Semana Santa (Holy Week) he was converted into the Judas figure
    - a) And taken into the plaza in front of the church and hanged
- c. All of this was greatly disapproved of by the Catholic priests

- 1) A book, *The Scandals of Maximón*<sup>2</sup> as written about a conflict with the Catholic clergy in 1948
    - a) The priests hated this “saint’s” *cofradía*; forbade them to bring the saint into the church—as they could do with other saints
    - b) The priests arranged to have Maximón stolen, and he was taken to the Musée de L’Homme in Paris
    - c) But there was such an outcry that he was finally returned
  - 2) This conflict had not been forgotten by the inhabitants of the lake’s towns and villages in 1966
2. Western medicine practitioners were to some degree in competition with local healers
- a. And there had been serious conflicts between non-Catholic beliefs and practices, and orthodox Catholicism
  - b. Perhaps the non-Catholic aspects of the very syncretistic religion were stronger in Santiago Atitlán than in Cerro de Oro
- B. Second difference: How project was introduced
1. Cerro de Oro had a felt need for Western medicine
    - a. Whereas Santiago had many highly respected native healers
      - 1) As well as the Catholic clinic
        - a) With whom we were seen to compete, although we tried to minimize this appearance
    - b. The people of Cerro de Oro were certainly getting more of what they’d asked for
      - 1) This case underlines the importance of “felt need” in all interventions, all development projects

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<sup>2</sup> Michael Mendelson, *The Scandals of Maximón*, 1966. Originally published in French in 1952

- 2) We provided medical service in the town
  - c. We arranged for permanent local health care delivery after we left
    - 1) The Catholics agreed to supervise it: make weekly visits
    - 2) You can't set up a temporary clinic
    - 3) If you leave after several months, people are worse off
- C. 3rd difference: How the project was evaluated by the community
- 1. There was a competition problem in Santiago:
    - a. "We can go to the Catholic mission clinic when we're sick"
    - b. No competition in Cerro de Oro, quite the opposite
  - 2. In Santiago, precisely in order to not appear to be competing
    - a. We were providing medical exams, preventive medicine
      - 1) Not acute care
      - 2) When someone was found with something wrong, we sent them to the Catholic clinic
    - b. But this discredited our M.D.s
      - 1) Since they were just diagnosing, they weren't seen as proper doctors
    - c. We gave out little pills (for iron), but Latin Americans know injections are far more effective
    - d. Howie would give out the pills saying "*hierro*" (iron)
      - 1) To make you strong, build up your blood
        - a) Didn't fit into local understanding of blood
  - 3. In contrast, although Cerro de Oro didn't really buy the notion of preventive physical examinations either

- a. We had plenty of opportunity to demonstrate our treatment contributions
- b. Right at the beginning a very serious case of scabies was brought in that cleared up right away with penicillin
- c. Worm medicine, etc.
- d. And several advanced cases of T.B.
  - 1) Which improved a great deal over the course of the summer

D. The fourth reason is the effects of the trajectory of our stay

- 1. First, early on in Santiago Atitlán Howie took blood from a 1-yr. old baby—ill-advised
- 2. Second, the Cerro de Oro experience followed the Santiago one, and we'd learned from our mistakes
- 3. Third, a possible additional factor might be the other project I was carrying out in Santiago Atitlán:
  - a. I was interviewing midwives
    - 1) And interviewing 2 samples of women: those with large families, and women who were “spacers” in their reproductive histories
  - b. Possibly rumors went around about overly inquisitive gringos, asking too-personal questions
  - c. And my research assistant in Santiago was a Protestant
    - 1) And there was a lot of conflict between Catholics and evangelical Protestants
- 4. Fourth, Santiago was simply less of a homogeneous town
  - a. Much bigger
    - 1) More factions, less face-to-face interaction, many more outsiders (the boat stopped there; buses came up from tropical lowlands)



- b. May have contributed to the outcome
  - E. Social Differences is the fifth analytic category in our controlled comparison
    - 1. The men with the most authority in Cerro de Oro were identified with the project
      - a. The Mayor (show photograph)
      - b. Whereas this was not true in Santiago at all
  - F. Sixth: Relations with outsider Guatemalans
    - 1. The schoolteachers in Cerro de Oro were Ladinos (non-indigenous)
      - a. But were very respected and appreciated
    - 2. Whereas Ladino-Indian relations in Santiago were very conflictual
- IV. Discuss:
- A. Institutional Review Boards and Informed Consent
    - 1. What would be different about our research protocol today, do you think?
    - 2. Inhabitants of both towns who came to our clinic were not told about the nature of the project
    - 3. No institutions required informed consent forms to be signed by indigenous people from third world countries at that time
      - a. How would you explain the project to a resident if you were doing this kind of research?
  - B. Discuss: the Yanomami (Venezuela and Brazil indigenous groups) scandals
    - 1. Following publication of Patrick Tierney's *Darkness in El Dorado*
    - 2. In the fall of 2000
    - 3. Also population genetics research
      - a. James V. Neel, Napoleon Chagnon
- V. Final, very sad note
- A. Everyone we worked with was killed in the repression during the civil war of the 1970s and 1980s that resulted in 200,000 deaths
    - 1. Santiago Atitlán was hit very hard