

**THE REFERENTIAL FUNCTIONS OF AGENCY:
HEALTH WORKERS IN MEDICAL MISSIONS TO
MADIHA (KULINA) INDIANS IN THE BRAZILIAN AMAZON**

by

Christian Dave Frenopoulo Gorfain

Bach. Filos., Universidad Católica del Uruguay, Uruguay, 1996

Lic. Cs. Antrop., Universidad de la República, Uruguay, 2000

M.A., University of Regina, Canada, 2005

Submitted to the Graduate Faculty of
the Kenneth P. Dietrich School of Arts and Sciences in partial fulfillment
of the requirements for the degree of
Doctor of Philosophy

University of Pittsburgh

2012

UNIVERSITY OF PITTSBURGH
KENNETH P. DIETRICH SCHOOL OF ARTS AND SCIENCES

This dissertation was presented

by

Christian Dave Frenopoulo Gorfain

It was defended on

July 23, 2012

and approved by

John Frechione, Ph.D., Senior Research Associate Professor, Department of Anthropology

Christopher Keane, Sc.D., Assistant Professor, Department of Behavioral and Community

Health Sciences

Joseph Alter, Ph.D., Professor, Department of Anthropology

Dissertation Advisor: Kathleen DeWalt, Ph.D., Professor, Department of Anthropology

Copyright © by Christian Dave Frenopoulo Gorfain

2012

**THE REFERENTIAL FUNCTIONS OF AGENCY:
HEALTH WORKERS IN MEDICAL MISSIONS TO
MADIHA (KULINA) INDIANS IN THE BRAZILIAN AMAZON**

Christian Dave Frenopoulo Gorfain, PhD

University of Pittsburgh, 2012

This dissertation presents the results of a study of health workers in a medical mission in the Brazilian Amazon. The study aims to scrutinize health mission workers' perceived capacities and abilities to deliver itinerant biomedical health services to Madiha (Kulina) Indians in the Brazilian Amazon.

Participant observation with the health mission workers involved accompanying them in medical mission trips to Madiha villages and settlements in the Upper Purus River region. Madiha are hunters and manioc horticulturalists.

The research shows that health mission workers participate in three social spaces during a mission journey. In the work space, they perform rigid role behaviors that emphasize biomedical technical procedure and the use of imported technical practices and knowledge. In their domestic space, located on the boat that they use for living and traveling, their behaviors emphasize ethnic similarity and a self-assumed status as trustees of the Madiha population's health welfare. In the population's domestic spaces, they attempt to participate in activities that can award them a status as equals to the villagers.

The analysis of their interactions in these spaces suggests that their capacities and abilities are constructed according to a foreign/local polarity. The polarity underscores their

missionary status as expert outsiders who need to engage in active efforts to achieve legitimacy among the patient population. Throughout the day, they constantly switch their positioning relative to one another and to the villagers, in order to navigate the ambiguity of their missionary status. In this way, they inhabit the various domestic and work spaces differently, cross-referencing each space with alternating behaviors.

The dissertation attempts to contribute to the theory of human agency in anthropology by proposing that agency configurations are not properties of social actors, but circumstantial indexes of relative position in specific types of relationships. Agency is comprehensible relative to role arrangements. In this sense, agency would have two referential functions. Agency would indicate an actor's position relative to resources and relative to other actors. Thus, agency attribution is an interpretation of the value of actions and of the relative status of actors.

TABLE OF CONTENTS

ACKNOWLEDGEMENTS	XXVII
PREFACE.....	XXIX
1.0 INTRODUCTION.....	1
1.1 INTRODUCTION: AN INFANT DEATH IN BOAÇU VILLAGE	1
1.2 THE PROBLEM.....	3
1.3 THE SETTING	4
1.4 HYPOTHESIS	8
1.5 CONTRIBUTION.....	9
1.6 SYNOPSIS OF CHAPTERS	11
1.7 TERMINOLOGY	12
1.7.1 Ability and capacity.....	12
1.7.2 Intention and intentionality	13
2.0 THEORY	14
2.1 THE EMANCIPATORY MODEL: AGENCY AS A PROPERTY.....	15
2.1.1 Patient resistance as a sign of agency.....	17
2.1.2 Patient compliance as a sign of agency	18
2.1.3 Patient ambivalence as a sign of agency	22
2.1.4 Liberal humanism: agency as a property of the acting self.....	23

2.2	FORMATION OF THE AGENT	26
2.2.1	Ortner: articulation of political position and intention	26
2.2.2	Mahmood: habitual practices of the acting self	29
2.2.3	Discussion: The correspondence between position and intentionality is not universal	33
2.3	REFERENTIAL FUNCTION OF AGENCY IN HEALTH CARE RELATIONS	38
2.3.1	The “agency relation”	38
2.3.2	Parsons’ model of the health care relation	42
2.4	REFERENTIAL FUNCTION OF AGENCY IN ROLES	46
2.4.1	Strathern: agency in reciprocal role relations	47
2.4.2	Latour: agency and the interpretation of roles	50
2.5	COMPOSITE MODEL: THE REFERENTIAL FUNCTIONS OF AGENCY	53
2.5.1	Traits are indicators of relative role	54
2.5.2	Two types of agency: capacity and ability	55
2.5.3	Intentionality and the directionality of action	58
2.5.4	Intentionality indicates status	62
2.5.5	Functionality indicates role	64
3.0	METHODOLOGY AND TECHNIQUES	67
3.1	RESEARCH QUESTIONS	68
3.1.1	Hypothesis	70

3.1.2	Research question 1 Indicators of counter-role orientation: Status and intentionality	71
3.1.3	Research question 2 Indicators of utility: Resources and functionality ...	73
3.2	PARTICULARISTIC APPROACH: CASE STUDY OF TWO DAYS	74
3.2.1	Justification	76
3.2.2	Two dates: March 18 and March 21	77
3.2.3	Other field locations	77
3.3	TECHNIQUES.....	78
3.3.1	Observations of health care interactions	78
3.3.2	Participant observations	81
3.3.3	Use of photographs	82
3.3.4	Semi-structured interviews with Base Post workers	82
3.3.4.1	Interview guide.....	83
3.3.4.2	Duration	85
3.3.4.3	Interviewees	85
3.3.4.4	Dates	85
3.3.4.5	Interview locations	86
3.3.5	Informal interviews	86
3.4	PROTECTION OF HUMAN SUBJECTS	87
3.4.1	Formal approval	87
3.4.2	Anonymity and use of names	88
3.4.3	Informant consent.....	88
3.5	RESEARCH POPULATION: HEALTH MISSION WORKERS.....	90

3.5.1	Permanent staff: local residents from Manoel Urbano.....	91
3.5.1.1	Local residents.....	91
3.5.1.2	Local study and certification.....	91
3.5.1.3	Antiquity and early employment.....	92
3.5.1.4	Young age.....	93
3.5.1.5	Career plans.....	93
3.5.2	Transient staff: physicians and dentists	95
3.5.2.1	Physicians.....	95
3.5.2.2	Dentists.....	97
3.6	RESEARCH SETTINGS: HEALTH BOAT AND MADIHA VILLAGES AND CAMPS	98
3.6.1	The “health boat” (<i>barco da saúde</i>).....	98
3.6.2	Madiha villages and camps.....	102
3.6.3	Manoel Urbano municipality region.....	110
4.0	MADIHA (KULINA) IN ACRE	114
4.1	TERRITORY OF ACRE	115
4.2	NATIVE POPULATIONS.....	116
4.3	MADIHA (KULINA) GROUPS IN ACRE.....	117
4.3.1	Ethnonym: Madiha or Kulina	118
4.3.2	Juruá River region.....	119
4.3.3	Purus River region.....	123
4.3.4	Madiha native medicine	127
4.3.4.1	Native medicine: disease categories.....	127

4.3.4.2	Native medicine: treatments	128
4.3.4.3	Native medicine and cosmology	129
5.0	HEALTH MISSION DELIVERY MODEL	132
5.1.1	SPI period (1910 – 1967): areal health missions	133
5.1.2	FUNAI period (1970s - 1999): ambulatory health teams	133
5.1.3	FUNASA period (1999-2010): Base Post health teams.....	136
5.1.3.1	Incorporation of Indian Health	136
5.1.3.2	DSEI delivery model: Base Posts and CASAI.....	137
5.1.3.3	National Policy for Indian Health.....	141
5.1.3.4	Outsourced delivery	142
5.1.3.5	End of FUNASA period (2010)	144
6.0	MEDICAL MISSION TRIPS: TWO SOCIAL SPACES	145
6.1	JOURNAL DESCRIPTION: MARCH 18, 2010	147
6.1.1	Early morning on the boat: Updating field journal	147
6.1.2	Early morning in the school house: Introductory meeting.....	148
6.1.3	Early morning in the school house: Spatialization of health work.....	151
6.1.4	Mid-morning in the school house: Medical consultations	151
6.1.5	Mid-morning in the school house: Child growth and development screening	152
6.1.6	Mid-morning in the school house: Fluorination of children.....	152
6.1.7	Mid-morning in the village: Villagers’ domestic activities	154
6.1.8	Mid-morning in the village: Water sanitation engineering project	155
6.1.9	Mid-morning in the village: Updating field journal.....	156

6.1.10	Late morning in the school house: Medical consultations.....	157
6.1.11	Late morning in the school house: Influenza A (H1N1) immunization.	157
6.1.12	Late morning on the boat: Oral health treatment.....	158
6.1.13	Late morning on the boat: Boat crew work and leisure	158
6.1.14	Noon on the boat: Lunch	159
6.1.15	Noon on the boat: Informal interview with physician	160
6.1.16	Noon on the boat: Nurse arrives with laboratory technician.....	160
6.1.17	Afternoon in the village: The men have returned from the fishing expedition	162
6.1.18	Afternoon in the school house: Medical consultations.....	163
6.1.19	Afternoon in the school house: Newborn screening	163
6.1.20	Afternoon in the village: Villagers' domestic activities.....	163
6.1.21	Afternoon on the boat: Oral health treatments.....	164
6.1.22	Afternoon on the boat: Boat crew leisure	164
6.1.23	Late afternoon on the boat: Informal interview with dental assistant..	165
6.1.24	Late afternoon on the boat: Informal conversations between workers	165
6.1.25	Evening on the boat: Dinner, relaxation, sleep.....	166
6.2	TWO SOCIAL SPACES IN HEALTH MISSION WORK.....	166
6.2.1	The Health Boat: the health missionaries' domestic social space	167
6.2.2	The Madiha villages and settlements: the health missionaries' work space	170
6.2.3	Schedule of work and domestic interactions.....	173
6.3	INTERACTIONS IN THE WORK SPACE	175

6.3.1	Early morning: Introductory meeting	175
6.3.1.1	Description of interactions	175
6.3.1.2	Indicators	176
6.3.1.3	Utility and orientation in photographs	177
6.3.2	Mid-morning medical consultations	178
6.3.2.1	Description of interactions	178
6.3.2.2	Indicators	179
6.3.3	Late morning medical consultations	181
6.3.3.1	Description of interactions	181
6.3.3.2	Indicators	182
6.3.4	Afternoon medical consultation	183
6.3.4.1	Description of interactions	183
6.3.4.2	Indicators	184
6.3.4.3	Utility and orientation in photographs	185
6.3.5	Mid-morning dental care: distribution of kits	187
6.3.5.1	Description of interactions	187
6.3.5.2	Indicators	188
6.3.6	Mid-morning dental care: fluorination of children	189
6.3.6.1	Description of interactions	189
6.3.6.2	Indicators	190
6.3.7	Late morning dental care: surgery	191
6.3.7.1	Description of interactions	191
6.3.7.2	Indicators	193

6.3.8	Afternoon dental care: surgery	194
6.3.8.1	Description of interactions	194
6.3.8.2	Indicators	195
6.3.8.3	Utility and orientation in photographs.....	196
6.3.9	Mid-morning screening and prevention: Child growth and development monitoring.....	197
6.3.9.1	Description of interactions	197
6.3.9.2	Indicators	198
6.3.9.3	Utility and orientation in photographs.....	199
6.3.10	Late morning screening and prevention: Influenza A (H1N1) immunization	201
6.3.10.1	Description of interactions	201
6.3.10.2	Indicators	201
6.3.10.3	Utility and orientation in photographs.....	202
6.3.11	Afternoon screening and prevention: newborn screening.....	204
6.3.11.1	Description of interactions	204
6.3.11.2	Indicators	205
6.3.11.3	Utility and orientation in photograph	206
6.4	INTERACTIONS IN THE DOMESTIC SPACE.....	206
6.4.1	Breakfast.....	207
6.4.2	Boat crew leisure: line fishing.....	207
6.4.2.1	Description of interactions	207
6.4.2.2	Indicators	207

6.4.2.3	Utility and orientation in photograph	208
6.4.3	Lunch	209
6.4.3.1	Description of interactions	209
6.4.3.2	Indicators	209
6.4.3.3	Utility and orientation in photograph	210
6.4.4	Conversations when nurse returns with laboratory technician	211
6.4.4.1	Description of interactions	211
6.4.4.2	Indicators	212
6.4.5	Boat crew leisure: playing cards	213
6.4.5.1	Description of interactions	213
6.4.5.2	Indicators	214
6.4.6	Evening relaxation on the boat.....	214
6.4.6.1	Description of interactions	214
6.4.6.2	Indicators	216
6.4.6.3	Utility and orientation in photograph	216
6.5	RESPONSE TO RESEARCH QUESTIONS.....	217
6.5.1	Intentionality and functionality in the work space.....	217
6.5.2	Intentionality and functionality in the domestic space.....	219
7.0	RESPONDING TO AN EMERGENCY	225
7.1	JOURNAL DESCRIPTION: MARCH 21, 2010	226
7.1.1	Early morning on the boat: Waking up.....	226
7.1.2	Early morning on the boat: Breakfast.....	227
7.1.3	Mid-morning on the boat: Blood extraction and vaccination	229

7.1.4	Late morning in the village: Critical emergency call	229
7.1.5	Late morning in the village: Waiting	231
7.1.6	Noon in the village: Wake	232
7.1.7	Noon on the boat: Hepatitis B antigen tests	233
7.1.8	Noon on the boat: Lunch.....	234
7.1.9	Noon on the boat: Return from attempt to call airplane	234
7.1.10	Early afternoon on the boat: Preparing to leave for Maloca village	234
7.1.11	Mid-afternoon on the boat: Traveling on the river	235
7.1.12	Mid-afternoon on the boat: Informal interview with nurse	235
7.1.13	Mid-afternoon in a Madiha settlement: Vaccination and medication delivery in a temporary camp	237
7.1.14	Mid-afternoon on the boat: Traveling past a canoe	238
7.1.15	Evening on the boat: Spending the night on the Chandless River.....	239
7.1.16	Schedule of work and non-work interactions	239
7.2	DIFFERENCE BETWEEN PERMANENT AND TRANSIENT STAFF..	241
7.2.1	Transitory and longer-term participation.....	241
7.2.2	Different role configurations in each space.....	242
7.3	ROUTINE AND NON-ROUTINE HEALTH WORK.....	243
7.3.1	Mid-morning on the boat: Blood extraction	244
7.3.1.1	Description of interactions	244
7.3.1.2	Indicators	244
7.3.2	Mid-morning on the boat: Vaccination	245
7.3.2.1	Description of interactions	245

7.3.2.2	Indicators	246
7.3.3	Late morning in the village: Critical emergency call	247
7.3.3.1	Description of interactions	248
7.3.3.2	Indicators	251
7.3.4	Noon on the boat: Hepatitis B Antigen tests	254
7.3.5	Mid-afternoon in a Madiha settlement: Vaccination in a temporary camp	254
7.3.5.1	Description of interactions	254
7.3.5.2	Indicators	255
7.3.5.3	Utility and orientation in photograph	256
7.3.6	Mid-afternoon in a Madiha settlement: Medication delivery in a temporary camp	257
7.3.6.1	Description of interactions	257
7.3.6.2	Indicators	257
7.4	INTERACTIONS IN THE VILLAGERS' AND WORKERS' DOMESTIC SPACES.....	258
7.4.1	Early morning on the boat: Breakfast.....	259
7.4.1.1	Description of interactions	259
7.4.1.2	Indicators	259
7.4.2	Noon in the village: Wake	261
7.4.2.1	Description of interactions	261
7.4.2.2	Indicators	262
7.4.3	Early afternoon on the boat: Preparing to leave for Maloca village	263

7.4.3.1	Description of interactions	263
7.4.3.2	Indicators	263
7.5	RESPONSE TO RESEARCH QUESTIONS.....	264
7.5.1	Intentionality and functionality in the work space.....	264
7.5.2	Intentionality and functionality in the domestic spaces	267
8.0	INTERVIEWS.....	270
8.1	SEMI-STRUCTURED INTERVIEWS	272
8.1.1	Health workers’ actions are oriented to a counter-role	272
8.1.1.1	Perceptions of patient autonomy	272
8.1.1.2	Acquisition of patient consent.....	275
8.1.1.3	Gifts for unwilling patients.....	280
8.1.2	The resources that establish functionality of action	281
8.1.2.1	Stationary care delivery model	281
8.1.2.2	Professional rank and scope of competence	285
8.1.2.3	Neglect of local public health resources	290
8.1.2.4	The referral paradigm	294
8.1.2.5	“Capacitated” (<i>capacitado</i>) as technical training.....	298
8.2	INFORMAL INTERVIEWS	299
8.2.1	Informal interview with physician (March 18).....	300
8.2.1.1	BMI (Body Mass Index) tables	300
8.2.1.2	Biases in health surveillance and reporting.....	300
8.2.1.3	Medical school	301
8.2.2	Informal interview with dental assistant (March 18).....	302

8.2.2.1	Gaining the villagers' trust.....	302
8.2.3	Informal interview with nurse (March 21).....	302
8.2.3.1	Career development for residents of Manoel Urbano city.....	302
8.2.3.2	Turnover of professionals from other locations.....	303
8.2.3.3	Learning and long-term association.....	303
8.3	ACHIEVING THE "AGENCY RELATION" IN MISSIONARY DELIVERY.....	304
8.3.1	Workers' relations with villagers.....	304
8.3.2	Importance of long-term acquaintance.....	309
8.3.3	Replication of the stationary clinic model.....	312
8.4	RESPONSE TO RESEARCH QUESTIONS.....	315
8.4.1	Intentionality and functionality according to semi-structured interviews.....	315
8.4.2	Intentionality and functionality according to informal interviews.....	320
9.0	HEALTH MISSION CARE.....	322
9.1.1	Health mission delivery as a form of biomedical care.....	322
9.1.2	Intact transfer of foreign resources.....	323
9.1.3	Health care interactions: rigid roles and imposition of foreign behavior patterns.....	326
9.1.4	Clique sociability: suspension of rank and class difference.....	327
9.1.5	Medical segregation.....	329
9.1.6	No adaptation to native medical structures.....	330
9.1.7	Neglect of local resources.....	333

9.1.8	Biases in epidemiological surveillance	335
9.1.9	The infectious disease paradigm	339
9.1.10	No development of local infrastructure.....	342
9.1.11	Moral reversal: the superior value of local residents.....	344
9.1.12	Integration into villagers’ activities	348
9.1.13	Conclusion.....	348
10.0	CONCLUSION.....	351
10.1	THE BABY’S EMERGENCY: A CRISIS OF THE “AGENCY RELATION”	351
10.2	RESEARCH QUESTION RESULTS.....	353
10.2.1	The value of the actor: intentionality and the counter-role.....	353
10.2.2	The value of the act: functionality and the use of resources	356
10.3	AGENCY OF HEALTH MISSION WORKERS.....	357
10.4	SPACES OF ROLE PERFORMANCE.....	361
10.4.1	Front and backstage.....	361
10.4.2	Role distance: situational agency	363
10.5	INTENTION AND INTENTIONALITY	366
10.6	REVIEW OF THREE APPROACHES IN MEDICAL ANTHROPOLOGY STUDIES.....	369
10.6.1	Autonomy	369
10.6.2	Intentionality and intention	370
10.6.3	Subjectivity.....	372
10.7	CONCLUSION	373

10.7.1 Agency indicates position in a type of relationship	373
10.7.2 Directions for future research and enquiry	375
APPENDIX A	378
APPENDIX B	381
APPENDIX C	387
APPENDIX D	389
BIBLIOGRAPHY	392

LIST OF TABLES

Table 1. Two social spaces: health care and leisure interactions, March 18, 2010	174
Table 2. Health care and non-work interactions, March 21, 2010.....	240

LIST OF FIGURES

Figure 1. Map of Brazil, indicating Acre state (source: IBGE 2012b [modified]).....	6
Figure 2. Map of Acre state, indicating approximate location of Boaçu village (source: IBGE 2012a [modified])	7
Figure 3. Boaçu village, July 2008 (Photo: C. Frenopoulo)	7
Figure 4. Boaçu village, July 2008 (Photo: C. Frenopoulo)	8
Figure 5. Distribution of gifts, Santa Júlia village, July 2008 (Photo: C. Frenopoulo)	89
Figure 6. Distribution of photographs, Santa Júlia village, August 2010 (Photo: C. Frenopoulo).....	89
Figure 7. Base Post staff (L-R: nursing technician, administrator, nurse), Manoel Urbano, July 2008 (Photo: C. Frenopoulo)	94
Figure 8. Base Post staff (L-R: dental clinic assistant, nursing technician), Manoel Urbano, July 2008 (Photo: C. Frenopoulo)	95
Figure 9. Base Post staff (L-R: cook, boat pilot), Manoel Urbano, July 2008 (Photo: C. Frenopoulo).....	95
Figure 10. <i>Deus É Fiel</i> boat (exterior) with captain standing in foreground, Boaçu village, July 2008 (Photo: C. Frenopoulo)	101
Figure 11. <i>Deus É Fiel</i> boat (exterior), Apui village, July 2008 (Photo: C. Frenopoulo)	102
Figure 12. <i>Deus É Fiel</i> boat (interior), Boaçu village, July 2008 (Photo: C. Frenopoulo).....	102

Figure 13. Map of Acre, indicating approximate physical locations of Madiha villages (source: IBGE 2012c [modified]).....	104
Figure 14. INSET: Map of Acre, indicating approximate physical locations of Madiha villages (source: IBGE 2012c [modified]).....	104
Figure 15. Santa Júlia village, July 2008 (Photo: C. Frenopoulo).....	105
Figure 16. Madiha temporary camp, Purus River, July 2008 (Photo: C. Frenopoulo).....	105
Figure 17. Women boiling manioc (<i>Manihot esculenta</i>), Santo Amaro village, July 2008 (Photo: C. Frenopoulo).....	107
Figure 18. Boy with hunted tapir (<i>Tapirus terrestris</i>), Santo Amaro village, August 2010 (Photo: C. Frenopoulo).....	108
Figure 19. School house, Santa Júlia village, July 2008 (Photo: C. Frenopoulo).....	110
Figure 20. Street map of Manoel Urbano city (source: Acre 2008).....	112
Figure 21. Main street of Manoel Urbano city, July 2008 (Photo: C. Frenopoulo).....	112
Figure 22. Office of the Base Post in Manoel Urbano city, July 2008 (Photo: C. Frenopoulo).	113
Figure 23. Map of Indigenous Territories in Acre, indicating Madiha Indigenous Territories (source: FUNAI 2006 [modified]).....	118
Figure 24. DSEI referral model (source: Brasil 2012a).....	140
Figure 25. Upper Purus River DSEI (source: Brasil 2012b).....	141
Figure 26. Introductory meeting, Santo Amaro village, July 2008 (Photo: C. Frenopoulo).....	178
Figure 27. Introductory meeting, Santa Júlia village, July 2008 (Photo: C. Frenopoulo).....	178
Figure 28. Medical consultation, Nova Ipiranga village, March 2010 (Photo: C. Frenopoulo).	186
Figure 29. Medical consultation, Santa Júlia village, July 2008 (Photo: C. Frenopoulo).....	186
Figure 30. Medical consultation, Boaçu village, July 2008 (Photo: C. Frenopoulo).....	187

Figure 31. Fluorination of children, Santa Júlia village, July 2008 (Photo: C. Frenopoulo).....	197
Figure 32. Dental treatment, Santa Júlia village, July 2008 (Photo: C. Frenopoulo)	197
Figure 33. Measuring height of child, Santo Amaro village, July 2008 (Photo: C. Frenopoulo).....	200
Figure 34. Weighing a baby, Santo Amaro village, July 2008 (Photo: C. Frenopoulo).....	200
Figure 35. Immunization of child, Santo Amaro village, July 2008 (Photo: C. Frenopoulo)	203
Figure 36. Immunization of adult woman, Santa Júlia village, July 2008 (Photo: C. Frenopoulo)	203
Figure 37. Newborn screening, Santa Júlia village, July 2008 (Photo: C. Frenopoulo).....	206
Figure 38. Boat crew leisure, Santo Amaro village, July 2008 (Photo: C. Frenopoulo)	208
Figure 39. Boys eating from pot with evening meal left-overs, Boaçu village, July 2008 (Photo: C. Frenopoulo)	211
Figure 40. Bed time on the boat, Boaçu village, July 2008 (Photo: C. Frenopoulo).....	217
Figure 41. Moment prior to immunization in temporary camp, Purus River, March 2010 (Photo: C. Frenopoulo)	256
Figure 42. Breakfast on boat, Boaçu village, July 2008 (Photo: C. Frenopoulo).....	260
Figure 43. Boat captain carrying equipment into temporary camp, Purus River, July 2008 (Photo: C. Frenopoulo)	264
Figure 44. Fruits and vegetables obtained through exchange, August 2010 (Photo: C. Frenopoulo).....	308
Figure 45. Distribution of dry food items to villagers, Boaçu village, August 2010 (Photo: C. Frenopoulo).....	309
Figure 46. Men lined up after receiving dry food items, Boaçu village, August 2010 (Photo: C. Frenopoulo).....	309

Figure 47. Interview guide for health workers..... 380

Figure 48. Interview guide for DSEI administrators (page one) 385

Figure 49. Interview guide for DSEI administrators (page two) 386

Figure 50. Institutional review board (IRB) exemption approval..... 388

Figure 51. Letter of research approval from FUNASA regional coordinator..... 390

Figure 52. Letter of research approval from FUNASA administrator of Manoel Urbano Base Post
..... 391

Dedicated to
Anthony of Padua, *doctor evangelicus*

ACKNOWLEDGEMENTS

I could not have accomplished this research and degree without the generous financial support from the Department of Anthropology, Center for Latin American Studies, Center for Global Health, Global Studies Center, University Center for International Studies, Dietrich School of Arts and Sciences at the University of Pittsburgh, the Tinker Foundation through the Center for Latin American Studies, and the Andrew W. Mellon Foundation. I also thank my family for providing considerable financial assistance during fieldwork and write-up.

I wish to thank all the individuals and institutions that offered support in the field. In Manoel Urbano, I thank Neiva, Seu Adrião, Mirian, Ana Lécia, Vangléia, Rosinete, Clemildo, Jair, Dona Nenê and Cristiane. I also thank physicians Edilson and Dr. Silvio, and dentists Marcus and Geovana. I also thank the boat crews, Chil and Joildo, as well as Seu Manoel and Neginho. In the Madiha villages, I wish to thank Sapó, Davi, Sabino, Bacuzzi, Sico, and Maurílio, as well as the chiefs Benedito, Cabral and Baixinho. I also thank all the other Madiha men, women, children and youths who also helped to make my trips productive and entertaining.

In Rio Branco, I thank the director of FUNASA in Acre, José Carlos Pereira Lima, and the administrators of the Upper Purus Special Indigenous Health District (DSEI Alto Rio Purus), Gelcimar Mota da Cruz, Maurílio Bonfim and Maria da Conceição da Silva Leitão. I also received considerable assistance and advice from professors Estanislau Paulo Klein and Jacó

Cesar Piccoli from the Federal University of Acre (UFAC). For accommodation in Rio Branco, I thank Francisca Santiago and José Alexandre Braz, and Diana Goulart.

I also thank the faculty who participated in my dissertation committee. I thank Kathleen De Walt, my dissertation advisor. I am particularly grateful that she always allowed me to work alone and unobstructed, never imposing herself upon me or trying to influence my ideas. I also thank Christopher Keane, Joseph Alter and John Frechione for their enthusiasm. Additionally, Hugo Nutini served on a comprehensive examination committee.

I expressly wish to thank fellow graduate student Ralitsa Konstantinova. Her discussions and comments throughout these years were always at a very high level and provided me with much encouragement and confidence to pursue my ideas.

I thank John Duns Scotus, *doctor subtilis*, and William of Ockham, *venerabilis inceptor*, for their exemplar resolution to clarify the subtle and to dispense with the unnecessary. Finally, I thank Mestre Raimundo Irineu Serra, Mestre Daniel Pereira de Mattos and Madrinha Francisca Gabriel dos Campos Nascimento for spiritual guidance.

PREFACE

I have chosen to examine here only one single specific analytical concern. What characterizes the agency of health mission workers? The dissertation presents primary results from my fieldwork with the traveling health team of the Base Post (*Pólo Base*) of Manoel Urbano city. The health team travels to the villages of Madiha (Kulina) Indians within its jurisdiction. This report comprises a small selection of informants and field sites.

The dissertation presents preliminary results of a larger research project. I initially planned to write a dissertation that would cover all my fieldwork and interviews in accordance with my original research project. However, very soon after I started to write, I began to perceive that the task was monumental and that such a research report would prove too lengthy and too detailed. As it stands, this core data of the dissertation deals with two days of fieldwork and five interviews. I have found myself forced to postpone the analysis of the remaining materials for a later date.

The original research project deals with the topic of agency in health care and includes research with health workers and with patients. The main goal of the research is to attempt a theoretical revision of conventional understandings of agency in social theory, which seem to be based on Western models of personhood. My overarching interest is to understand how the interactions between patients and health workers affect their development and exercise of agency

to achieve health care. My original research questions cover such issues as perceptions of the body, social relationships and institutional constraints on interactions.

I conducted a total of a year of fieldwork and two summers of preliminary fieldwork for the project. I carried out observations, participant observations and interviews in the three types of locations through which Amazonian Indian patients are referred as part of the Indian Health subsystem of the Brazilian state health care system. The Indian Health subsystem is a semi-parallel network that provides assistance exclusively for Indians living in villages. The three types of locations are the House of Indian Health or CASAI (*Casa de Saúde do Índio*) in Rio Branco city, the Base Posts (*Pólos Base*) in the capital cities of the municipalities, and the traveling health teams that visit the Indian villages in medical missions. My research was in the Special Indigenous Health District (*Distrito Sanitário Especial Indígena*) of the Upper Purus River in the south western Brazilian Amazon, near the border with Bolivia and Peru.

1.0 INTRODUCTION

1.1 INTRODUCTION: AN INFANT DEATH IN BOAÇU VILLAGE

Júnior, the boat captain, climbs into the boat at 11:40 am. “The baby died”, he announces. “He’s up in the house.” Ana Lucia, a nursing technician, immediately climbs out and begins trekking up the cliff. I rush to get my stuff and go up. I can hear women wailing and singing songs. I arrive at the house. Women are crying and howling. I see the baby’s father weeping, but without making a sound.

The baby is laid out on the floor, wrapped in a purple blanket. People are coming in and out of the house. A circle of women and girls sit around the baby. Ana Lucia crouches and looks at the baby. She gets up and comments to me that this is probably why the parents wouldn’t let the baby travel. She says that they surely knew what to expect. A single-flame gasoline burner, used by Madiha as house lamps at night, is lit by the baby’s head. It looks like a substitute candle to me. There is much less people in the house now than when the baby was still alive and critically ill. Somebody picks up the baby and places it inside the bedroom. People move towards the bedroom.

Viviane, a nursing technician, arrives. She had been walking with Eduardo, a physician, along the village path. The physician split off from her and walked back down to the boat. Viviane sees the baby. She quickly leaves, goes to the boat and promptly returns with three

candles. Silently, she gives them to the mother. The mother takes them. The mother lights a candle at the head of her baby and another at the feet. She then blows out the gasoline burner. Ana Lucia sits inside the bedroom amid the wailing women. The baby's mother sobs and plunges her face into a cloth. The father sits in a corner, brooding and silent. Outside, women are wailing very loudly on the porch and in the common room. Men cry and dry their tears, but they make no sound. I refrain from taking pictures and from filming due to my own sense of proper funeral behavior. I write some quick notes from the kitchen.

My emotions are very strong at this moment. I write down my thoughts in my journal. I feel indignant with the physician and laboratory technician. They had demonstrated such assertiveness only a short while earlier. They were so confident planning a risky blood transfusion with rudimentary equipment, convinced they could save the baby's life. They were angry and frustrated with the villagers for refusing their offers of medical care. But now they were nowhere near the site of grief and convulsion to offer sympathy or support. It seemed so callous to me. Their prior assertiveness now soured in my memory as vanity and arrogance. I simultaneously felt relieved and sympathetic towards Ana Lucia and Viviane for sitting at the baby's wake, and to Viviane for fetching some candles. Though they had not been able to do anything for the baby, they showed compassion for the family.

I remain some time sitting quietly in the wake. After a while I return to the boat. Walking back along the path, I realized that I would start my dissertation with this episode.

1.2 THE PROBLEM

What characterizes the agency of health workers in a medical mission for Amazonian Indians?

This is the fundamental question that I intend to address in this dissertation. It has become a self-evident assumption in the social sciences that agency is intrinsic to human social actors and that the medical encounter is a struggle between the potentially conflicting agendas of health workers and patients.

Superficially, the circumstances of the baby's death seem to support this conventional view. The baby's father and other villagers had steadfastly refused and rejected the health team's offer to transport the baby urgently to the nearest health clinic, some four hours away by boat. Instead, the villagers serenely repeated over and over to the health workers that they would not let the baby travel until it began to nurse again. The villagers seemed unable to get their message across to the health workers. In turn, the health workers were likewise exasperated. They could not convince the villagers of the urgency of their warnings. The baby would die without urgent medical care. The workers planned an emergency blood transfusion, but faltered at the riskiness of the procedure. They did not have adequate materials and tools for such a procedure. The only solution they could envision was to transport the baby, but the parents would not provide consent. The stalemate was not resolved and the baby tragically died only a few hours later.

Judging by their actions, the health workers and the villagers initially seem to exemplify the conventional view of human agency. The health workers were motivated, entrepreneurial, and deliberately attempted to implement a successive course of action that would lead to a desired result. The health workers demonstrated a strong motivation to save the baby's life. There can be no doubt that they made insistent attempts to persuade the parents to provide consent and that they creatively considered alternative strategies to resolve the situation. Parallel

to this, the parents demonstrated ownership over medical decisions and asserted their autonomy, despite the medical team's full disclosure of the grim prognosis of the baby. The parents and other villagers demonstrated a persistent confidence in their own appreciation of what was best for the baby. They evaluated the health workers' offers of care and they provided what for them was a justified and reasonable response: the baby should stay.

Yet, it seems to me that something is missing in the conventional view of human agency. The workers were not acting in their own interests. They were not acting as agents for themselves. Instead, they were seeking solutions to ensure the welfare of those under their care. Their motivations were oriented towards their wards and their intentions infused with the other-orientedness of charity and a sense of medical duty. They failed as agents not out of any intrinsic fault or lack. Rather, their failed agency appears to have hinged on the relationship with the patients. Somehow, the agency of medical care is not located exclusively in the medical workers as individuals but is found somewhere else, somewhere in the interactions and in their role as health fiduciaries.

1.3 THE SETTING

The distressing outcome of the health workers' impotence to save the life of a baby in a Madiha village, far up the Purus River, was a pivotal moment in my fieldwork. The sad episode described above is a reconstruction of events that occurred on March 21, 2010, in the small village of Boaçu, in the south western Brazilian Amazon (see Figures 1-4). The incident invites a closer analysis of some of the conditions that affect the health workers' abilities and capacities to

deliver biomedical health care to Amazonian Indians living in a distant tropical forest village and to improve their health status in general.

Madiha Indians in this region number just over five hundred individuals at the time of fieldwork (494 in 2008 according to Base Post [*Pólo Base*] statistics on the noticeboard). They refer to themselves as “Madiha”, meaning “people”, but are known as “Kulina” in the literature and when speaking Portuguese.

They are spread out in seven villages and some smaller settlements on the banks of two rivers that confine the Upper Purus Indigenous Territory (*Terra Indígena do Alto Purus*). The larger villages are the oldest. They are built on very high banks of the Purus River, overlooking broad bends. The river floods in the rainy season, dramatically rising in volume and height.

Madiha hunt and cultivate manioc, and they also fish. Women and girls sing throughout the day. Madiha are very mobile and constantly travel back and forth between their villages and the gardens and hunting grounds. They occasionally go the nearest city to obtain supplies. They are quite autonomous economically and politically, and have little integration with the national society. Most Madiha are monolingual and cannot communicate in Portuguese. They maintain little contact with neighboring inhabitants, whether other Indigenous groups (the closest are Huni Kuin) or colonist farmers (*colonos* or *ribeirinhos*). They sometimes trade or exchange (*troca*) with passing river merchants (*freteiros*) and with passing Huni Kuin canoes.

The health workers in the health mission are ‘national Brazilians’. They call themselves “White” (*branco*). Madiha call them *karia* (“White”). Most of the permanent staff live in the nearest city, Manoel Urbano. They travel to the Madiha villages to provide ambulatory primary health care. They are the front line of delivery of the Brazilian state health care system for this population. They travel in medical missions that assemble a multidisciplinary team of

professionals. Each trip usually takes about twenty or more days to return to Manoel Urbano, the port of departure. The team usually only stays as long as is necessary in each village. This is usually one or two days, but can be longer or shorter for varied circumstances. They carry all their equipment and living needs with them on the boat. The health workers eat, sleep and relax on the boat. They set up their equipment and provide health services in the villages, usually in the school house.



Figure 1. Map of Brazil, indicating Acre state (source: IBGE 2012b [modified])



Figure 4. Boaçu village, July 2008 (Photo: C. Frenopoulo)

1.4 HYPOTHESIS

The dissertation will consider the proposition that agency references relative capacity and ability. In other words, agency is an index. The dissertation proposes to demonstrate that agency attribution has referential functions whereby alleged capacities and abilities are only comprehensible for the specific situation under consideration. Agency attribution expresses how a particular agent is positioned relative to other particular agents. Specifically, notions of agency indicate an actor's role for other actors.

Hypothesis: Agency is an indicator of an agent's status relative to other agents.

In the conventional view, agency is usually treated as a property or trait of the agent. In such a view, agency is residential. In that view, agency is believed to emerge automatically from the architecture or constitution of the agent. The idea that agency is residential would describe a quality that is inherent to the agent regardless of the situation. This view is problematic for the

comprehension of the agency of actors that participate in differing contexts of power and projects as part of a single subjective identity.

In a conventional view, agency describes the status of the actor relative to the action. The dissertation will explore an alternative proposition that agency describes an actor's status of the actor relative to other actors and resources. I hope to demonstrate that agency describes a position in a type of relation.

1.5 CONTRIBUTION

The dissertation contributes to medical anthropology with an ethnography of medical mission health workers. Medical mission workers provide biomedical health care in the target locations as a transferable good that can be delivered intact. There is a general neglect of local medical and public health resources, personnel and knowledge throughout the whole organization. Medical missionary health care delivery also shows little adaptation to the target population's local work and living conditions, and very little investment in the development of a local infrastructure to increase health protection and to provide health care services when the workers are absent.

During mission expeditions, the health workers simultaneously inhabit at least two social spaces: interactions with the patient population and interactions between themselves. In each of the two social spaces, they assert their identity and their status through different behavior patterns. They alternatively reference their sameness or difference with patients and with co-workers.

When workers interact with the patient population during formal health care interactions, they show an adherence to rigid role behaviors, intact implementation of foreign procedures and

strict adherence to a foreign body of medical knowledge. In contrast, when they socialize informally with the patient population in their domestic activities, their behaviors instead show dissolution of rank and difference.

In comparison, when workers interact with one another during formal health care interactions their behaviors show rank and task specialization and rigid role distinctions. In their leisure interactions with one another, they show dissolution of rank and difference, and segregation from patients.

The capacities and abilities of health missionaries reference two social fields when they are out during field mission trip. The legitimacy and pool of resources to perform biomedical procedures derive from a foreign source that is referenced intact, sharpening its foreign character. Simultaneously, the workers indicate their moral integrity through behaviors that, instead, reference their intimacy and sameness with patients or with co-workers. They engage alternative behaviors and forms of interaction with patients compared with co-workers in order to achieve the appropriate moral status within each group.

In consequence, the study of medical missionaries suggests that their agency is not a homogenous internal disposition, but a multiple and composite device that references their varying relative social position in each type of interaction.

The dissertation contributes to the theory of human agency in anthropology by proposing that the concept of agency has referential functions. The research shows that perceptions of the agency of the health workers indicate their position relative to other actors in configurations of roles and counter-roles, and the technical form of delivery of biomedicine. The study understands that agency attribution is an interpretation of the actor's position in a context.

The conventional model of agency tends to view agency as an intrinsic constitutional characteristic of human actors. In the conventional model, individual actors are endowed with agency. For instance, Ortner (2001) argues that agency lies at the articulation of an actor's social position and projects. Mahmood (2006, 2001a) argues that agency is a trait of the subject's *habitus*.

In contrast, this research shows that medical missionaries straddle a variety of social contexts of situational behavior and behave differently in each context. Their agency as foreign workers requires changing social positions and the implementation of diverse social projects in their alternating interactions with the same group of people. Their agency is configured through multiple interactions and composite relations. I argue that their agency references the multiple and varying social positions that they occupy in each setting.

1.6 SYNOPSIS OF CHAPTERS

The dissertation is organized into ten chapters. The first five chapters outline the methodological approach, theoretical aspects and background. The present chapter introduces the core theoretical problem of the agency of health mission workers. The problem is that social actors may inhabit diverse social spaces as part of a single role and they may carry out diverse behaviors with a single group of people. These observations raise questions concerning the conventional model of human agency in social theory. In the second chapter, I will present representative examples of conventional theoretical models of agency. After that I will present the theoretical supports used to elaborate the alternative model examined in this dissertation. In the third chapter, I will present the research methods used in fieldwork, the core research questions and a justification of

the decision to scrutinize two particular days in the field. In the fourth chapter, I will present some contextual background information. I will provide some information about Madiha population distribution and recent history, as well as an overview of the native medical system. In the fifth chapter, I will briefly describe the history and organization of government medical missions for Indigenous populations in this region.

The sixth chapter initiates the presentation of empirical materials. The sixth chapter presents a detailed analysis of a standard day of routine health work. In the seventh chapter I will return to the sad opening episode of this dissertation and scrutinize the field observations for the whole day in which the baby suffered a fatal crisis in order to discuss the unplanned responses to a non-routine health problem. In the eighth chapter, I present results of semi-structured interviews and three informal interviews.

In chapter nine, I will summarize the characteristics of medical mission work as a form of interethnic interaction and the implications of the missionary delivery model for health promotion and disease prevention. The tenth chapter, the last, is the conclusion. In that chapter I will discuss the theoretical contribution to the discussion of agency theory in anthropology.

1.7 TERMINOLOGY

1.7.1 Ability and capacity

In this dissertation I will make a distinction between the terms *ability* and *capacity*.

In this dissertation, I will use the term *ability* relative to a physical condition. The Latin word *habilis* refers to the aptitude to manually grasp. For example, in this dissertation the

sentence “Adult males have the ability to hunt” means that they are physically competent or equipped and skilled to hunt. For this dissertation, an ability is an etic condition. That is, it is an empirically observable circumstance.

In this dissertation, I will use the term *capacity* relative to a status. The Latin word *capax* refers to the breadth or volume of a container to keep contents. For example, in this dissertation the sentence “Adult males have the capacity to marry” means that they are legally competent, i.e., eligible or entitled, to marry. For this dissertation, a capacity is an emic category. That is, it is a socially meaningful type.

1.7.2 Intention and intentionality

In this dissertation I will make a distinction between the terms *intention* and *intentionality*.

In this dissertation, I will use the term *intention* to refer to a desire or aspiration. For example, in this dissertation the sentence “The woman has the intention to boil a pot of manioc” means that she wishes to cook some manioc. That is, *intention* refers to a subjective feeling.

In this dissertation, I will use the term *intentionality* to refer to purposiveness. For example, in this dissertation the sentence “The woman placed the pot on the fire with intentionality” means that she deliberately placed the pot on the fire. That is, *intentionality* refers to the purposiveness of action.

2.0 THEORY

In this chapter I present the theoretical model that I will assess with the ethnographic materials. The model emphasizes the two referential functions of agency attribution: the indexing of the social status of the agent and of the functional value of resources. The model is developed as an alternative to a conventional view of agency as a residential property of social actors.

In the first section I will present examples of the conventional view. First I will provide examples of studies of health care interactions that make use of the model of agency as a residential property. Then I will provide two examples from anthropology of theorizations of residential agency. Next I will explain that the residential model stems from the political ideology of liberalism.

In the second section of the chapter I will contest the model of agency as a residential property with some enduring insights of functionalism and role theory in order to formulate an understanding of the referential functions of agency attribution. I will then explain that the agency of health workers shows a peculiarity that allows the researcher to develop an alternative model. Namely, that health workers' social position and intentions do not always show the correspondence that is implied in the residential model. With this in mind, I will show how the agency of health workers is referential. Next I will cite the insights of two social theorists who have developed the relevance of referentiality in their theorizations of agency. Finally, I will synthesize these ideas into a composite model that will be assessed with the research data.

2.1 THE EMANCIPATORY MODEL: AGENCY AS A PROPERTY

The conventional model of agency that I contest in this dissertation assumes that agency is a residential faculty of social actors. In this view, agency would exist as a property of every actor and social contexts provide the space for the “shaping” or “enablement” of such agency. Authors who assume that agency is intrinsically present in social actors interpret political behaviors and rhetorics that occur between social actors as forms of “negotiation”, “structuring”, and so on, of each actor’s personal agency.

That model typically associates agency with power. In that view, agency is equated with power to enact independent action. In unequal power relations, one actor’s agency is exercised at the expense of the other actor’s. The agency of actors in the dominant position seems self-evident because they carry out their desires and projects. In contrast, actors in the subordinate position must negotiate the spaces for the exercise or development of their agency.

For authors persuaded by the model of residential agency, it is challenging to demonstrate agency when behaviors are routine or conforming. This is especially problematic when social actors occupy a subordinate position in the distribution of power in the interaction and behave in ways that collaborate with their domination. Behaviors that blend into established unequal power dynamics cannot reveal actors’ independence.

Actors must show independence for analysts to attribute their action to a property that is not derived from the social interaction. This is the truism that underlies the model of agency as a property of actors.

In reality, the model of agency as a residential property is a political model of the agent. It is not a model of agency but a model of the agent. For this model, the visibility of agency shows an actor’s relative political position. Therefore, agency would be an index of political

position. The implication is that a demonstration of agency is a demonstration of autonomy and independence.

However, authors more readily treat agency as an attribute of the actor and do not dwell on the implications of treating agency as an index. This is coherent with the political ideology underlying the residential model, which seeks to attribute certain qualities to actors, such as intrinsic freedom or independence.

The use of the model of agency as a residential property is widespread in recent works in medical anthropology and medical sociology. The model is especially appealing to researchers who seek to analyze power dynamics in health care relations. In particular, the model is often used to interpret patient behavior. These works typically seek to show that patients occupying the subordinate position demonstrate, exercise and negotiate agency (e.g., Oliver & Cheff 2012; Bainbridge 2011; Barnett et al. 2011; Medina & Rios 2011; Ghobadzadeh 2010).

I will provide three examples of recent works in order to illustrate the application of the residential model in contemporary analyses. I have chosen these three because of their contradictory nature. Each of the authors analyzes the patient position and each author provides a brusquely dissimilar interpretation. Yet all three use the agency concept in a fundamentally similar way. That is, although they recognize agency differently, they use the concept for the same purpose. They use the concept to justify the actions of informants as acts of autonomy.

The three examples each dwells on a different aspect of agency: behavior, intentions and selfhood. The researchers use one of these three elements as a foundation for asserting actor autonomy. The residential model rests upon the articulation of one or more of these three aspects with actor autonomy. However, this association restricts the applicability of the agency concept to a limited array of situations. That is why it is difficult for such authors to attribute agency to

behaviors, intentions or selfhoods that do not show autonomy. The association fosters a very partial use of the agency concept.

2.1.1 Patient resistance as a sign of agency

One use of the agency concept has been to interpret certain patient actions as forms of resistance or non-compliance. For instance, Koenig argues that “patients demonstrate agency” (2011:1106) by choosing how and when they endorse a treatment recommendation. Koenig states that “patient agency might be demonstrated by initiating an action” and “patient agency may be also demonstrated by responding to an action” (2011:1106). Patients sequentially “negotiate their agency” (2011:1105) throughout the process of treatment recommendation. He says that patients “actively participate” (2011:1105) in treatment decisions through non-acceptance. In doing so, Koenig says that patients “enact the rights” (2011:1105) to not accept a treatment. For Koenig, patient resistance is an exercise of the right to agree to treatment only upon receiving satisfactory information (2011:1109).

Koenig cites studies in which treatment “acceptance is the preferred normative outcome” of medical interactions for physicians (2011:1107). Thus, “withholding acceptance to advice constitutes passive resistance” (2011:1108). Without patient acceptance, “the physician cannot advance to the next activity” (2011:1107). Thus, “physicians pursue acceptance rather than moving on to the next activity” (2011:1108). Active resistance can lead to negotiation of treatment. For example, the patient may ask questions, offer conditional acceptance or make requests to the physician (2011:1110-1111). That is, “the patient’s shift from passive to active resistance negotiates the medical diagnosis of the patient’s problem” (2011:1110). Here, the physician may not pursue acceptance and instead compromise to find a treatment that addresses

both the medical problem and the patient's concerns (2011:1111). The patient, thus, participates in the formulation of the treatment recommendation until it is acceptable. With eventual acceptance, the patient demonstrates an ability to participate actively in the process. Resistance is the means through which participants manipulate the sequential structure of the medical encounter, until their concerns are satisfied (2011:1110).

In this study, Koenig interprets patient behaviors as demonstrations of agency when they do not conform to physician preferences. The patients' non-conforming behaviors are interpreted as practices of negotiation and manipulation. That is, patients show agency through autonomy of action. Koenig allies this understanding with a second assumption that agency is shown in the ability to participate actively in the interaction. Koenig considers signs of agency when patients make choices and participate in decision making. He also considers initiation of action and response to action as signs of agency.

Koenig's interpretation exemplifies the model of agency as a residential faculty because agency is observable to him only when patients show independence. He perceives the health care interaction as an encounter between two nominally independent actors who debate with one another until they achieve an agreement. In this view, the health care interaction is a space for contractual agreement. The underlying presumption of social interaction as a contractual negotiation is where Koenig shows adherence to a model of the social actor as inherently constituted with autonomy to act independently.

2.1.2 Patient compliance as a sign of agency

Paradoxically, a concurrent use of the agency concept has been to interpret certain patient actions also as signs of agency when they show forms of compliance and acquiescence. For instance,

Tanassi (2004) objects to the view that pits compliant expectant mothers in a hospital against the “much revered models of resisting women” that depict obedient patients as “less-than-agents” (2004:2066). That is, she proposes to counter the application of the agency concept for acts of autonomy, which carry the implied evaluation that acts of conformity reduce the actor’s status as an agent.

Her study proposes an alternative to the interpretation that compliance is a sign of passivity or lack of consciousness (2004:2065). Instead, her study shows that women trust their gynecologists and comply with the physicians’ advice as a deliberate or intentional strategy to secure a positive outcome during the hospital management of birth (2004:2065). She asserts that “compliance, like resistance,” is to be understood as a patient strategy (2004:2053).

Tanassi concludes that the women’s compliance should not be dismissed as uncritical behavior (2004:2059). On the contrary, patients describe it as a strategic move to ensure their best interests. The women scrutinize the physician’s work and reject the professional if unsatisfied (2004:2060). In this way, Tanassi says, “expectant women deployed a significant level of agency” (2004:2060). Thus, Tanassi is applying the agency concept to acts which are associated with patient strategies, regardless of whether the actions run against or in favor of the established institutional power relations.

Upon hospitalization, institutional control over the patient is close to complete. The mothers do not have choice over procedures (2004:2065). Admission signals dispossession of the mother’s body and includes preparation procedures, such as pubic shaving and enemas (2004:2064). Childbirth preparation classes seem intended to convey, not accurate information about episiotomies and other procedures so that mothers could make informed choices, but to persuade them to accept the procedures as valuable tools (2004:2062). These preparations

facilitate compliance, under the apparently tacit assumption that the logical continuance to them is the patient's entire disposition to accept without question or resistance all ensuing routine procedures (2004:2063).

Interviews revealed that the space for choice occurs prior to hospitalization. Expectant mothers first choose a gynecologist whom they trust. After this, mothers tend to follow the gynecologist. They voluntarily intern themselves in the hospitals where the physician practices or refers them (2004:2057). The personal relation with the gynecologist may also infuse relations with other health workers, as the mother is identified as the patient of a particular physician (2004:2059).

Compliance is a patient strategy that allows physicians to trust the patients (2004:2059). According to Tanassi, relinquishing authority over their bodies is a necessary step for patients to establish a relationship of trust with physicians and other hospital staff (2004:2059). Compliance is an outcome of the prior circumstance of the patient first choosing the physician, based on trust in the professional (2004:2059).

Therefore, Tanassi implies that patient agency exercised prior to hospital admission involves acts of choice, while women select their preferred physician. Upon hospitalization, their exercise of agency changes and is demonstrated by their submission. In her exposition, agency is not revealed by the type of act (resistance or compliance), as is the case for Koenig (2011), but by the women's individual intentionality (purposiveness) to act in a certain way, whatever that may be.

Tanassi suggests that the collusion between medical staff and patients is possible because the patients retain a sense of agency throughout all phases of the pregnancy and birthing process (2004:2063). Tanassi theorizes that an original agency, in which the mothers are agents of their

own intentions and aspirations prior to hospital admission, gives way to a different form of agency in which they become compliant subjects who are willingly objectified (2004:2055). In the latter, the women take upon themselves the intentions of others as serving their own interests. Tanassi calls this “embodied agency” (2004:2055).

Tanassi suggests that the mothers’ sense of enduring agency, despite overt objectification of their bodies and restrictions on autonomous choice, occurs because they do not cease to see themselves subjectively as subjects of their life trajectories (2004:2055, 2063). The women continue to perceive themselves as agents due to their lingering subjective perception of agency, despite the objectification generated through the hospital practices.

For Tanassi, agency is subjectively residential even if autonomy ceases objectively in the hospital setting. The women perceive themselves as agents because they perceive themselves to be acting freely. Tanassi is aware that the agency of compliance must be different from the agency of choice and provides a terminological distinction. Her concept of “embodied agency” seems to imply that actors have internalized an extrinsic agency. Tanassi realizes that the original intentions of the women autonomously pursuing their own interests when they were choosing a physician has been displaced to the background in the hospital setting where they begin to act out the intentions of the hospital staff.

Tanassi potentially aligns with a view of residential agency in two ways. First, because she believes that the women’s intentionality is subjectively always intact regardless of the change in social settings and power relations. That is, at least subjectively, agency is residential to the individual actor. Second, because by the use of a terminological distinction she seems to hint that the agency of women prior to hospitalization is somehow more authentic than the extrinsic agency they come to embody in themselves later. That is, an actor’s action for his or her

own interests is somehow a more authentic type of agency than an actor's action that carries out another actor's intentions.

2.1.3 Patient ambivalence as a sign of agency

Concomitantly to the application of the agency concept for sustained subjective feelings of unchanging intentionality, paradoxically other authors apply the concept for feelings of ambivalence. For example, Gunson claims that her informants “demonstrated agency [...] through feelings of ambivalence” (2010:1328). She claims that ambivalence is a strategy of self-definition in the negotiation of medicalization (2010:1330). Gunson argues that the women she studied used ambivalence dynamically to transform discourses (2010:1328).

Gunson states that power is multidirectional and productive. Gunson (2010) explores the productive nature of agency in discourses of drug-induced menstrual suppression. She says that “agents participate in the contestation of meanings about a particular bodily process” (2010:1326). Gunson concludes that her informants demonstrate accommodation and modification, as much as resistance and contradiction, in their consideration of public discourses about menstrual suppression (2010:1324).

Through ambivalence, women acknowledge and reappropriate discourses of risk, choice and nature (2010:1330). They also bring other discourses into the discussion (2010:1331). Contrary to the paradigm of medicalization, the women themselves create the space for biomedicine to influence their knowledge (2010:1326). She cites studies which show that women seek authoritative biomedical opinions when they consider undergoing menstrual suppression.

Gunson presents a view in which agency is not attributed to a particular behavior (accommodation or resistance) nor to unchanging intentionality. Instead, she argues that agents

are re-creating themselves through interactions with others and that both parties participate in a co-creation of meanings regarding health. Gunson potentially aligns with a model of residential agency because she describes the women as an independent source of intentions. The women are portrayed as agents of their self-definition.

2.1.4 Liberal humanism: agency as a property of the acting self

The underlying common element in these three examples is that agency is associated with an actor's autonomy. For Koenig, behaviors that demonstrate autonomy, such as resistance, are taken as self-evident instances of agency. For Tanassi, a stable subjective perception of the self as the source of choice of action is the underlying source of the actor's autonomy to make decisions that may include behaving in ways that show submission. For Gunson, even if behaviors are unstable and may change with interactions, she still perceives that actors are independent sources of autonomous intention.

It seems that the assumption is that agents are constituted in a way that they can act or desire with independence from the environment. Thus, it appears that for these three authors, agency is a faculty that resides with each individual human actor. Agency is an attribute of the actors. It is not an attribute of their relations or interactions. Social relations or interactions are opportunities in which actors exercise their autonomy.

The blending of purposive action, intention and selfhood is at the core of the model of agency as a residential property of agents. This mode of understanding human action has roots in Western legal and theological traditions that assign responsibility for acts varying according judgments of the value of the acts themselves and also judgments of the value of the intentions of the perpetrators. This relation between behavior and intention is perpetuated in agency theory.

There is an implicit political debate in this model. The contemporary model of agency as a residential faculty stems from the liberal humanistic tradition, though it has roots in antecedent Western philosophies, such as the Christian doctrine of sin. The underlying political problem for the liberal tradition has been to establish the scope of freedom of human actions and desires. The liberals sought to establish freedom of action and choice. This is a political debate that emerged in the context of Europe's modernity in which the free thinking intellectual classes unlocked themselves from feudal bonds. This included appropriating even the term "free" to describe their thinking, as if consciousness was not historically constituted. For them, economically free actors are not bonded to the welfare of other economically free actors. Similarly, the rule of majority in politics is justifiable if all participating actors are politically free in an equal manner.

The doctrine of an intrinsic ability to govern one's own action is cardinal to the liberal philosophy of freedom. Locke explains that "the Idea of Liberty, is the Idea of a *Power in any Agent* to do or forbear any particular Action, according to the determination or thought of the mind" (Locke 1975 [1689]:237, emphasis added). He continues, "Liberty, which is but a power, *belongs only to Agents*" (Locke 1975 [1689]:240, emphasis added). Indeed, "so far as a Man has a power to think, or not to think; to move, or not to move, according to the preference or direction of his own mind, so far is a Man *Free*" (Locke 1975 [1689]:237, emphasis original).

Locke unequivocally expresses the liberal position that human agency is an intrinsic ability of individual actors to carry out intentional action in the following way,

This at least I think evident, That we find *in our selves* a Power to begin or forbear, continue or end several actions of our minds ordering, or as it were commanding the doing or not doing such or such a particular action. This Power which the mind has, thus to order the consideration of any Idea, or the forbearing to consider it; or to prefer the motion of any part of the body to its rest, and *vice versâ* in any particular instance is that which we call the Will (Locke 1975 [1689]:236, emphasis added).

For Locke, this ability is inherent to the constitution of agents. He says that, "Powers belong only to Agents, and are Attributes only of Substances" (Locke 1975 [1689]:241,

emphasis removed). He clarifies that the terms “Faculty, Ability, and Power [...] are but different names of the same things” (Locke 1975 [1689]:244, emphasis removed).

The principle that humans are constituted as individual atoms endowed with certain faculties, regardless of their forms of social association, is affirmed centuries later by Mill. He declares that, “Men in a state of society are still men. Their actions and passions are obedient to the laws of individual human nature. Men are not, when brought together, converted into another kind of substance with different properties” (Mill 1884 in Archer 1995:3). For this reason, in accordance with the theory of economic liberalism that he espouses, Mill contends that the scope of human agency is limited only to modifying empirical associations between objects. He states that,

It is found that the agency of man can be traced to very simple elements. He does nothing but produce motion. He can move things towards one another, and he can separate them from one another. The properties of matter perform the rest (Mill 1963 [1884]:5-6).

The model of human agency as an intrinsic property of human agents is an enduring legacy of liberalism. It was spelled out as self-evident by Locke (1975 [1689]) more than three centuries ago. In this model, every human being is intrinsically endowed with an ability to incur into intentional action. This ability would be the core of human freedom. This is understood as freedom of action and freedom of choice. That is, self-government. Thus, it should not be surprising that the model has guided analyses that interpret actors’ behaviors as examples of autonomy, whether autonomy of action or of intention.

2.2 FORMATION OF THE AGENT

The essential understanding of the residential model is that agency is a property of social actors. The model relies on locating the source of action and intention with the actor's selfhood.

Authors persuaded by this model distinguish themselves from one another by their description of the processes through which this property is influenced or even engendered through social interactions, but they share the core belief that formed agents access this property and exercise it in social action.

Two authors can be cited as examples of the residential model in social theory: Ortner and Mahmood. I choose to mention these two because I think they represent the spectrum of the more contemporary attempts in anthropology to theorize agency. They distinguish themselves from one another in that Ortner is more closely aligned with the liberal tradition, while Mahmood attempts to depart from this legacy.

2.2.1 Ortner: articulation of political position and intention

Ortner explicitly declares that "agency is a kind of property of social subjects" (2006:151). It is a property that is universally available to all humans but differently distributed between them. She asserts that, "while in some sense agency is a capacity for all human beings, its form and, as it were, its distribution are always culturally constructed and maintained" (2006:139). That is, agency is somehow quantifiable. Some people have more and others have less. Ortner says that people in positions of power have "a lot of agency" (2006:144). She clarifies that the dominated too have abilities to influence events through a whole spectrum of resistant actions and inactions (2006:144).

For example, Ortner's brief analysis of textual construction of agency in fairy tales is intended to illustrate "the politics of agency", that is, "the cultural work involved in constructing and distributing agency [...] among differently empowered persons" (2006:139). In the fairy tales, agency is expressed largely "through an idiom of activity and passivity" (2006:140). The tales present the characters' activity and passivity as complementary (2006:142). The hero cannot rescue the princess if she can rescue herself (2006:142). One character has agency (to save the prisoner) because the other does not.

Ortner perceives agency as a quantifiable and distributable property because she equates it with power. She says that, "agency itself may be defined as a form of power; 'agents' could easily be shorthanded simply as 'empowered subjects' " (2006:152). She says that 'agency' is virtually synonymous with the forms of power people have at their disposal, their ability to act on their own behalf, influence other people and events, and maintain some kind of control in their own lives (2006:143-144l; 2001:78).

Although agency is a property of all humans, Ortner does not assert that it is an innate and independent faculty as in the most orthodox Enlightenment creed. For Ortner, agency is developed socially and cannot exist independently from the social formation. She says that, "agency is differently shaped, and also nourished or stunted under different regimes of power" (2006:137). She agrees with Sewell, for whom human agents are "empowered by access to resources" (2006:138) and that the social and cultural structures "empower agents differentially" (2006:138).

Ortner builds upon Giddens' theory of structuration (see Giddens 1984). She says that, "'agency' is never a thing in itself but always part of a process of what Giddens calls structuration, the making and remaking of larger social and cultural formations" (2006:134).

Therefore, agency is a faculty that is enabled by the different social regimes and which collaborates in their perpetuation or transformation. For this reason, agency is not, for Ortner, “a kind of freestanding psychological object” (2006:134).

Ortner asserts that whatever agency individuals may seem to have, “it is always in fact interactively negotiated” (2006:151-152). For Ortner, the agent is always enmeshed within relations of power, inequality, and competition (2006:131). She explains that agency is about acting within relations of social inequality, asymmetry, and force (2006:139). This means that not only is agency not a fixed property of subjects but also that agency is evident only in social interactions.

Despite these indications in her theorization that agency may be a property of social interactions and not of social actors, Ortner associates with the residential model more closely when she brings to the discussion the issue of intentionality. Her concept of intentionality seems to imply a notion of agency as a residential faculty.

Ortner says that she affiliates with a concept of agency that gives active (not necessarily fully conscious) intentionality a primary role (2006:136). In Ortner’s understanding, intentionality as a concept is meant to include a wide variety of cognitive and emotional states, of varying degrees of consciousness for the actor, that make action directed towards some purpose (2006:134). Thus, for Ortner, as for Giddens (1984), agency is revealed in actions that are purposive or intentional. Ortner recognizes that many theorists do not include intentionality as a central component of their definition of agency (2006:134-135). She finds it important to make this point in order to distinguish actions that reveal agency from those that are routine practices and which proceed with little reflection (2006:136, 145).

The residential aspect of agency is evidenced in her understanding that individual actors have differing agendas and subjectivities which is expressed in their distinct intentions. Ortner talks about a form of agency that she calls “an agency of intentions”, which is about “projects, purposes, [and] desires” (2001:79). She considers that the agency of projects is, from certain points of view, the most fundamental dimension of the idea of agency (2006:144). She says that, social and cultural structures of difference and inequality produce different agendas for differently positioned actors (2001:79). She adds that the variety of culturally constituted desires, purposes, and projects emerge from and reproduce different socially constituted positions and subjectivities (2001:79).

Thus, differently positioned actors embody different desires or intentions. She says that, people have “desires that grow out of their own structures of life, including very centrally their own structures of inequality” (2001:81). That is, “the cultural desires or intentions [...] emerge from structurally defined differences of social categories and differentials of power” (2001:80).

Ortner is not claiming that agency is a metaphysical attribute of actors but that it is an expression or product of their social position. However, this position is embodied and executed by discrete actors because she understands that the purposiveness of action is assigned to the actors and not their positions.

2.2.2 Mahmood: habitual practices of the acting self

Mahmood’s analysis associates agency with selfhood. For this reason, her understanding appears closely aligned with a conceptualization of agency as a property of actors. She literally refers to

“the set of capacities inhering in a subject” when she discusses a subject’s “modes of agency” (2001a:210).

Mahmood locates her examination of agency within the post-structuralist discussion of selfhood. Following Butler and Foucault, she believes that “the very processes and conditions that secure a subject’s subordination are also the means by which she becomes a self-conscious identity and agent” (2001a:210). Thus, a subject’s “capacities and skills” are “ineluctably bound up with the historically and culturally specific disciplines through which a subject is formed” (2001a:210).

She finds post-structuralist theorizations of the formation of the subject (subjectivation) useful to theorize the formation of the agent. In particular, she finds germane the “reconceptualization of power as a set of relations that do not simply dominate the subject, but also, importantly, form the conditions of its possibility” (2001a:210). Coherent with this perspective, Mahmood considers that human agency is a product of political relations and not their precondition. She argues that “the abilities that define [a subject’s] modes of agency—are not the residue of an undominated self that existed prior to the operations of power but are themselves the product of those operations” (2001a:210).

This means that she does not have a predefined notion of what agency is or how it can be recognized because whatever is implied in the “ability to effect change in the world and in oneself is historically and culturally specific both in terms of what constitutes ‘change’ and the capacity by which it is effected” (2001a:212). Mahmood claims that a person’s “capacities” cannot be defined *a priori* (2001a:212). Instead, they “emerge through an analysis of the particular networks of concepts that enable specific modes of being, responsibility, and effectivity” (2001a:212). That is, for Mahmood, agency is not defined or recognized by a

checklist of behaviors, such as resistance or accommodation, or of intentions, such as the pursuit of one's own or others' interests. Instead, agency, like subjectivity, is specific to context.

Mahmood urges analysts to consider agency only in terms of “capacities and skills required to undertake particular kinds of acts” (2001a:208). Viewed in this way, she argues for uncoupling the notion of agency from the “progressive goal of emancipatory politics” (2001a:208) and for disentangling the notion of “self-realization from that of the autonomous will” (2001a:208). Her goal is to try “to move beyond the teleology of emancipation underwriting many accounts of women's agency” (2001a:210) in feminist scholarship. She suggests that analysts should not think of agency as a synonym for resistance to relations of domination, but as a “capacity for action that is enabled and created through historically specific relations of subordination” (2001a:203).

For Mahmood, agency is entailed in acts that “aim toward continuity, stasis, and stability” (2001a:212) as well as in those that result in progressive change (2001a:212). In this way, actions which may appear to demonstrate “deplorable passivity and docility from a progressivist point of view” (2001a:212) must be understood in the context of discourses and political structures that create the conditions for their enactment (2001a:212).

Her objective as a researcher is to uncover the processes and conditions through which subjects' sentiments and desires are socially constructed (2001a:208). She explains that “the body's conceptual relationship with the self and others, and the ways in which it articulates with structures of authority, varies under different discursive regimes of power and truth” (2001b:837). In this way, the body and its behavioral forms are a tool for becoming a certain kind of a person (2001b:837).

In her study of women's participation in the mosque movement in Egypt, she finds the women conscientiously attempting to shape their desires and intentions in ways that reinforce their apparent subjugation (2005). She argues that the conscious aspect of the women's attempts to shape themselves into better Muslims problematizes distinctions between conventional and intentional behavior (2001b:828). She makes use of the Scholastic term *habitus* to describe this process of deliberately training the body, mind and emotions to achieve a particular competence (2001a:215). She explains that "*habitus* in this usage refers to a conscious effort at reorienting desires, brought about by the concordance of inward motives, outward actions, inclinations, and emotional states through the repeated practice of virtuous deeds" (2001a:215). (She clarifies that this is not the same use of the *habitus* term by Bourdieu, which ignores the intentional aspect of such habitual disciplining [2001b:838].)

Mahmood localizes agency in the subject and explains that this faculty is context specific. Subjects are shaped as agents in very specific ways that are not comparable across social and political contexts. This allows her to depart from the liberal aspiration of characterizing agency in universal terms while still adhering to the understanding that agency is an individualized property. Her notion is somewhat comparable to Ortner's understanding of agency as a socially positioned faculty.

Mahmood also departs from the liberal legacy of equating agency with autonomous will. She uses the example of her informants' conscientious individual disciplining to create habitual predispositions in order to argue that agency also applies to conventional practices. Conventional practices are still purposive, even though they are carried out without reflection. This concept distinguishes her from Ortner, who prefers a definition of agency in line with the emancipatory

legacy that is more comfortable with identifying agency in actions and intentions that depart from unreflective routine.

2.2.3 Discussion: The correspondence between position and intentionality is not universal

The residential model is theoretically problematic because it associates a subject's social position with an intentionality that is assumed to be oriented towards the subject's own interests. As is known, the assumption of the liberal model is that agents pursue their own interests. That is, the residential model assumes that actors' intentionalities respond to their own positioned subjectivity.

My theoretical discrepancy is with this assumption that a connection between positioned subjectivity and intentionality is a universal configuration of agency. In principle, I think that the purpose of an action does not have to emerge from the actor's subjective desires, for instance if the actor is carrying out the desires of others. Such a situation is not always necessarily a form of subjugation or alienation, although it may be so in some cases. It is also the characteristic of people who act as representatives of the interests of others.

A number of studies of agency, such as Mahmood's for example, focus on groups of informants in which the social actor or subject is the agent. Thus, the connection between subjectivity and agency seems natural because they coincide in these individuals. Yet, informants who act as agents for others have a split between their subjectivity and their agency. Their agency does not emerge from their social constitution as subjects but from the relations they establish with those whom they represent.

In light of this, a discussion of the agency of health workers acquires a dimension of relevance. An examination of the agency of health workers cannot be overlooked or dismissed as unproblematic simply because their position in the power relations is known. Instead, health workers present a problem when the focus is placed on their intentions and intentionality. In principle, health workers do not execute actions for their own benefit. While the issue of power distribution to carry out acts may be important in the discussion of the agency of patients, the problem of the configuration of intentionality is an issue to consider regarding the agency of health workers.

Kowal & Paradies (2005) conducted a workshop among health workers working with Australian Aboriginal communities. They found the health workers insecure, uncomfortable and ambivalent about their identity as benefactors and as agents of health improvement (2005:1353). The authors say that the “practitioners felt disturbed by their own agency” (2005:1353). The authors explain that the health workers were in an “ambivalent and contradictory subject position vis-à-vis the postcolonial context of Indigenous public health” (2005:1348), due to their White university-educated middle class status. The authors say that the workers’ ambivalence about themselves “points to the inherently problematic nature of practitioner agency in the uneven power relations” (2005:1353) of the former colony. The workers’ seek to maintain their own moral integrity as benefactors while simultaneously asserting a moral similarity with the target population (2005:1353, 1355).

Although Kowal & Paradies express themselves in terms that suggest that they also adhere to the residential model and to the use of the agency concept to explain political behavior, their statements reveal the theoretical problem that I am proposing. Their statements indicate that health workers intuitively perceive that their social position does not match their intentionality.

What Kowal & Paradies identify as ambivalence is the workers' realization that they identify with the target population in terms of intentions for action, while they are located in an opposing social position that empowers their behaviors. The residential model falters to explain competently this kind of configuration of agency in which social position and intention do not concur.

Ortner and Mahmood ground their theory of agency on the subjective experience of the agent. The authors focus their theory of agency on the formation of the agent. Both authors share the notions that agents are positioned subjects that experience subjective intentions as a personal feature of the intentionality (purposiveness) of their action. That is why agency is imagined as a residential faculty of agents. An association between positioned subjectivity and intentionality characterizes both authors' understanding of agency. This association characterizes the residential model.

The two authors disagree on the value of intentionality for defining agency. The relative relevance of intentionality in each authors' position is because they use it to qualify the political value of informants' actions. Both authors attempt to justify informants' actions. Ortner represents the liberal model of agency as a source of assertive action, to which Mahmood responds by attempting to argue that her informants should not be judged as subjugated because they attempt to shape themselves according to an agenda that subordinates them.

The debate between Ortner and Mahmood reflects the political utility of the agency concept. The model of agency as a property of individual actors is congruent with agendas that seek to portray social actions as acts of political assertiveness. As an explanatory concept, agency has been especially attractive to scholars of resistance and creativity (Keane 2003).

Keane argues that this trend is associated with a retraction from the concept of culture in social theory and its replacement with power (Keane 2003).

Wisniewski suggests that the major theories of human agency may be politically motivated (Wisniewski 2008:2-3). Agency attribution is a political exercise (Ahearn 2001:124). The attribution or discussion of agency or degrees of agency has important consequences for political and juridical relations in communities (Kockelman 2007:386).

Wisniewski proposes that theorists of agency may have intended to provide audiences with a particular way of understanding the significance of human actions. Rather than descriptive statements about the nature of being human, theories of agency are political statements that influence an audience's understanding of themselves as human (Wisniewski 2008:3). Theories of agency should be considered theories that assess the value or significance of human actions (Wisniewski 2008:23).

Therefore, there is room for using the residential model to make informants appear to represent a particular political position. This is potentially why all three studies of patient behavior mentioned above identify agency in such contradictory behaviors. Despite the divergences in patient behavior and the shifting intentions, all three authors concluded that patients had demonstrated autonomy. These three studies may exemplify Mahmood's alert regarding the teleology of emancipation underlying studies of the agency of subaltern groups (see 2001a:210).

Typically, the main political issue for many such researchers of health care interactions has been the problem of patient autonomy and patient rights. Researchers attribute agency as a device to portray patients as empowered actors despite occupying a subordinate role in

interactions. The use of the agency concept allows researchers to develop an impression that patients are able to navigate the subaltern position with some degree of strategic personal benefit.

Perhaps this may explain why there has been less appeal to use the agency concept for the study of health professionals. It is not as easy to find studies of the agency of health workers as that of patients. Given the common trend to use the agency concept to interpret the behaviors of subaltern populations, perhaps the question of the agency of the powerful may seem insipid and pointless. If health workers are believed to be the intrinsically empowered and dominant actors in the health care relationship, there may seem to be little motive to engage a study that will conclude that their behaviors are an exercise of autonomy. There may not seem to be anything worthy of study if health workers are considered to be able to exercise agency at their discretion.

Yet, the case may not be so simple. The agency of health workers is particularly thorny because even though they ostensibly occupy the dominant position in the health care relation, by definition, they are not primarily acting in their own interests. They are not agents for themselves. The challenging characteristic of their agency is their apparent renunciation of autonomy to benefit another social actor, not its assertion. They occupy a social role in which their agency relies on a collaborative relationship with patients.

The three studies of health care interactions described above show this when they represent the actions of physicians and other health workers. The researchers do not dwell on the agency of the health workers but their descriptions show that, despite the implied assumption, the health workers do not have autonomy for action. Koenig (2011) expresses that physicians are stymied when patients negotiate treatment and cannot proceed until agreement is reached. Tanassi (2004) similarly shows that physicians use patient compliance to evaluate their relationship with patients and to acquire confidence to proceed.

Therefore, agency is not necessarily a sign of autonomy. It is potentially also a sign of a position in a cooperative relationship. Agency attribution cannot be understood in some cases without observing how it is simultaneously distributed among the different actors in a relationship. This means that some agency configurations cannot be interpreted independently from the particular circumstances of specific relationships.

The difference between Ortner and Mahmood regarding the value of intentionality in the concept of agency occurs because they focus on agency in individual agents, as if agency was not a social condition that is particularized and variable in each social relation. Potentially, the problem of intentionality for the concept of agency is not whether it is present or absent in an actor's consciousness, as Ortner and Mahmood discuss, but whether it can exist independently from relationships that actors engage with one another.

2.3 REFERENTIAL FUNCTION OF AGENCY IN HEALTH CARE RELATIONS

2.3.1 The “agency relation”

According to prevailing medical ethics, an “agency relation” governs interactions between health workers and patients. The physician or other health worker acts as an agent to protect and represent the interests of the patient. Generally speaking, an agency relation is present when one party (the principal) contracts with another party (the agent) to perform some actions on the principal's behalf and delegates decision-making authority to this party (Pontes 1995:57; Gafni et al. 1998; Propper 1995; McLean 1989). The agency relation is often used to counteract the principal's inability or incapacity to perform certain acts (Bryan et al. 2006:2698; Zweifel

1994:622). The agency relation presumes that the agent will maximize the utility of the principal (Pontes 1995:58).

The “agency relation” in biomedical care is predicated on the assumption of an asymmetry of expert knowledge between the patient and the health worker (Gafni et al. 1998; Parsons 1975). The health worker possesses the knowledge needed to assess and treat the patient’s illness (Gafni et al. 1998:348). The model of the “perfect agent” expects the health worker to take on the patient’s interests and act accordingly.

In biomedical care, the paradigm of other-orientedness in the agency relation creates the space for uncertainty regarding the health worker’s acts and intentions (Gafni et al. 1998:348). The health worker’s role as an agent for the patient’s interests is compromised by the health worker’s potentially simultaneous motivation to pursue his or her own interests. Orthodox economic theory assumes that each party is motivated by self-interest and that the principal and the agent may have different goals. In this situation, the principal faces an “agency problem” (McLean 1989).

The principal’s (patient’s) problem is how to achieve “perfect agency”, i.e., perfect representation of the principal’s interests (Bryan et al. 2006; Gafni et al. 1998). The principal is unable to perfectly observe the agent’s objectives and abilities (Pontes 1995:58). The principal is faced with the need to assess and monitor the agent’s moral integrity and empirical abilities to perform the work. The agent may be tempted to serve its own interests or may have limited abilities to fulfill the required duties (Pontes 1995:58). The principal is faced with the risk of adverse selection of an agent (Pontes 1995:58).

Trust is a fundamental recurring challenge in health care relations due to the “agency problem”. The principal is required to trust the agent. In turn, the agent is required to exercise

good faith in representing the principal's interests. Ensuing from the patient's conundrum of delegating representation onto the health worker, the health worker is then faced with the risk of becoming a "double agent" by serving opposing interests simultaneously.

Medical ethics holds the "agency problem" at its core. There are several mechanisms that have been utilized to help the patient feel confidence in the health worker and to ensure the health worker will not stray from representing the patient adequately. For example, close personal relationships between principals and agents can lead to a control system in which goal conflict is reduced because agents internalize the goals of the principal (Pontes 1995:65). Additionally, external controls may be imposed on the relation, such as salary or compensation determinations, credential requirements, professional ethics board oversight and adherence to programmed tasks and protocols (Pontes 1995; Propper 1995).

More recently, the informed decision making model is another option (Gafni et al. 1998). The health worker is encouraged to share his or her expert knowledge with the patient and discuss relevant options. In this model, the health worker is not making the decisions exclusively or imposing them upon the patient. In fact, the informed decision making model reduces the degree to which the health worker is effectively acting as an agent for the patient. Instead, this model devolves authority to the patient. The model is coherent with the trend towards the commodification of biomedical care and the transformation of the patient into a consumer (Bryan et al. 2006:2698). The model is also considered preferable where the patient is not entirely devoid of relevant information. For example, the patient may know better how treatment options or prognosis may affect his or her well-being (Gafni et al. 1998:348).

Despite growing popularity, the informed decision making model remains contestable for cases in which the patients cannot act as agents for themselves. For instance, patients may

express inconsistent preferences, as may occur with psychiatric patients (Zweifel 1994:621). Also, the information and communication gap may not be bridged easily, for example where there are poor interpreting services or the patient cannot communicate (e.g., an infant). Additionally, certain studies have shown that some patients prefer the health worker to make the choices and do not desire a more active participation in decision making (Bryan et al. 2006:2701).

Finally, the “agency relation” is further complicated in contemporary biomedical care due to the large number of actors that are usually involved in a patient’s welfare. Usually, neither the patient is alone to deal with the illness nor do health workers act on their own (Gafni et al. 1998:352). This creates two nebulous sets of actors who operate as principals and as agents.

Therefore, the health care relation is structurally constituted as an interaction that creates two roles in which one actor acts as an agent for the other. That is, the agency is an attribute of the distribution of roles. Even though the “agency relation” is potentially threatened in practice by simultaneous interests and relations that may affect each of the parties, the principle of health care is that the health worker’s agency is created from the relation.

The principle of the relation supposes a fracture in the residential model’s identification of political position with subjective intentions. The two components are crossed over in the health care relation. The worker occupies the position of power while assuming the interests of the patient. While the patient, being the beneficiary of the relation, accepts a position of dispossession and obliges to obey the agent’s actions.

Therefore, in principle, the health care relation serves as an example which potentially questions the residential model. The residential model builds upon the liberal construct that individuals serve their own interests. The residential model identifies subjectivity with agency

because it identifies political position with intentions. The health care relation raises the possibility of theorizing a link between agency and role because intentionality and distribution of intentions are linked to role.

2.3.2 Parsons' model of the health care relation

Parsons established the distribution of agency as an effect of roles in his proposition of the “sick role” in physician and patient interactions in biomedicine (Parsons 1981[1958], 1951a). The assertion that agency is associated with role is not the core of his argument, but the notion is important in his presentation and is relevant for the current discussion.

For Parsons, health is defined as the “*capacity* of an individual for the effective performance of the roles and tasks for which he has been socialized” (Parsons 1981[1958]:69, emphasis original). The capacity is “relative to his ‘status’ in the society” (Parsons 1981[1958]:69). For Parsons, illness “is also a socially institutionalized role-type” (Parsons 1981[1958]:70). The ill person is in a “partially and conditionally *legitimated* state” (Parsons 1981[1958]:70, emphasis original). The sick person is expected to “cooperate with competent agencies”, “principally medical agencies” (Parsons 1981[1958]:70). The “role of illness” places the sick person “in a position of dependency” on “therapeutic agencies” (Parsons 1981[1958]:71).

The therapeutic relation creates a particular agency configuration for each actor. On the one hand, the patient in the “sick role” is considered deprived of agency—Parsons says “capacity”—to carry out normal duties (Parsons 1981[1958], 1951b). That is, the person has a socially recognized disability or incapacity. As such, the patient relinquishes or loses control over his or her health to the physician (Parsons 1951b). Correspondingly, the physician acquires

agency to intervene in the patient's health. The physician becomes authorized to perform actions that seek to restore the patient's health (Parsons 1951b).

In Parsons' description, the "sick role" comprises an "agency relation" between the patient and the physician. The patient occupying the "sick role" acquires an obligation to seek technically competent help and to cooperate with the mandated process of recovery (Parsons 1951a).

The physician's intentionality of action is guided by his or her fiduciary responsibility towards the patient (Parsons 1975). Parsons says that the physician strives to be a "genuine trustee of the health interests of the patient population relative to whom he assumes responsibility" (Parsons 1975:268). That is, the physician is expected to act according to the patient's interests. In the "sick role" the patient has transferred pursuit of his or her interests to the physician. Thus, in principle, the physician's intentionality of action is dissociated from his or her intentions. The physician pursues the interests of the patient and the physician's agency is derived from the relation. These features distinguish the agency configuration of health workers from the assumptions of the residential model.

As stated, in principle, the patient's disability or incapacity is a trait of the "sick role". Unfortunately, Parsons is not so rigorous to make the parallel claim that the physician's ability or capacity is also a trait of the role. Instead, he states that the physician's status is based on access to specialized knowledge (Parsons 1975). For Parsons, the physician's authority is based on a claim to expert knowledge. That is, the knowledge inequality built into the medical interaction justifies the physician role. The physician's possession of this knowledge legitimates his or her capacity to represent the patient's interests.

That is, Parsons implies that the actors have (inequivalent) antecedent personal traits that provide access to the roles. This potentially appears as a residue of the residential model in Parsons. Parsons (1975) literally specifies that the physician must have a “personal willingness” to act as trustee. This suggests that the physician has autonomous intentions to occupy the role, prior or concurrent to the extrinsic intentions that appertain to the role. Simultaneously, Parsons (1975) also claims that the patient has some degree of motivation to pursue the “sick role” and that the physician collaborates to reinforce the patient’s motivation to conclude the “sick role”. This potentially suggests that he thinks that the patient also has autonomous intentions prior to occupying the “sick role”.

Justly speaking, Parsons did not center his emphasis on discussing theoretically the association between agency and role when he proposed his model. His main point was to assert the structural functionalist appreciation of sickness behavior as social deviance and of therapy as a mechanism for social control (Parsons 1981[1958], 1975). His main interest was to propose a relationship between sickness behavior and normativity in the society at large, in particular the function of therapy as a social normalizer and the role of physicians as “agents of social control” (Parsons 1981[1958]:68). Yet, the notion of disturbances and reconfigurations of agency is the grounding of his model. He explains that, “*capacity* [...] is the primary focus of the problem of social control” (Parsons 1981[1958]:76, emphasis original).

The popularity of the discussion of agency in social theory comes several decades after Parsons proposed his model. The height of the agency discussion occurs mostly in tandem with the expansion of post-structuralism. The discussions of agency raged in the midst of a time of low use of functionalist insight. By the time post-structuralism joined the debates in social theory, the basic premise of structural functionalism regarding societal organization had been

swept away. In fact, this may be a reason why agency became such a central concept in analyses, once discourses on “social structures” were no longer viable. The enervation of “structure” as a staple analytical concept sharpened an interest in the agent and agent-centered ethnography. Researchers have provided valuable insights into the formation of the subject as an agent and into the relation between subjects and contexts of power and domination.

I bring back Parsons into the contemporary debate because I think he had an insight that has been overlooked in the current discussions on agency, even if he also shows signs of not carrying it to its fullest extent. The functionalists understood that agency was associated with role and status. They held the fundamental insight that social roles invaded and informed individuals’ sense of purpose and identity. As Parsons explains, roles “constitute the primary focus of the articulation and hence interpenetration between personalities and social systems” (Parsons 1981[1958]:58). The post-structuralist discussion of agency has correctly focused on how social roles and social identities fuse with individual subjectivity in the formation of the agent, but they have recently given way to uses of the model that may risk stating the effect as the underlying cause.

I will restate Parsons’ insights in my own terms and summarize the proposition of how agency is a trait of roles. In the model described by Parsons, the health worker has an “agency relation” with the patient. In an “agency relation” the agent acquires agency from the relation. That is, intentionality and capacity for action are dependent on the relation. The “agency relation” determines the intentionality of each actor’s actions and the distribution of rights and duties (“power”) in the relationship. The relation is expressed in terms of reciprocal roles. The distribution of agency is an effect of the role differentiation.

Occupying the “sick role” establishes the patient’s lack of agency. Lack of agency is part of the patient’s status as a sick person. It is not part of the patient’s physiological condition. In the “sick role”, the patient’s (physiological) disability becomes recognized as (a status of) incapacity. The patient’s intentions before entering the “sick role” appear autonomous because they are associated with his or her disability. Upon entering the “sick role”, the patient’s intentions are associated with the incapacity and thus transferred to the physician.

Similarly, the health worker has the intrinsic property to become an agent due to a specialization of knowledge and expertise but only effectively acquires agency when the relationship with the patient has been established. 1) The health worker’s specialized knowledge and expertise are identifiable as abilities (resources) to act only if the context of application is considered. That is, they are identifiable as abilities so long as they are evaluated in terms of their potential application. 2) The capacity (status) to act is granted to the health worker only if there is an “agency relation” with the patient. External to this relation, the health worker is devoid of such agency.

2.4 REFERENTIAL FUNCTION OF AGENCY IN ROLES

The model of agency that emerges from an “agency relation” is that agency is a form of social bonding. It is not a property of each actor but a property of the relationship between the actors. Agency does not exist separately in each actor but only as a shared characteristic of their relationship. Each actor partakes of the same agency configuration, albeit each with a different form of participation.

Agency has a referential function in the “agency relation” and should not be considered independently residential to each actor outside of the relation. Agency references the status and the role of the actors. An attribution of agency to an actor should be considered, at best, a shorthand for identifying the actor’s role or status. The attribution of agency to an actor signals the actor’s role or status in the relationship. It would be as mistaken to imagine the agency existing autonomously as a trait of the actor as much as it is impossible to imagine the role without its reciprocal, since the agency in this relation exists as an effect of role distribution.

Two authors who have theorized the correlation of agency with role are Strathern and Latour. Each author proposes a theory in which agency does not reside with the actor, but instead indicates the relative positioning of actors. Strathern focuses on the source of intentionality. For Strathern, agency emerges from an actor’s position in reciprocal role relations. Latour focuses on agency as a description of role. For Latour, agency indicates an actor’s role in a chain of actions. The combination of these two positions will allow me to develop a composite model.

2.4.1 Strathern: agency in reciprocal role relations

Strathern (1988) presents a theory of agency for actors occupying reciprocal roles. In this model, an actor’s actions originate in the other’s reciprocal condition. Strathern explains that an agent is “one who from his or her own vantage point acts with another’s in mind” (1988:272, emphasis removed). That one agent behaves with another in mind is what defines that actor’s agency (1988:334). She gives an example: “A Hagen woman is compelled to harvest her tubers for her husband [...] It is simply *in reference to him* that the wife acts” (1988:272, emphasis added).

Strathern’s model (1988) questions the notion that agents in reciprocal roles act with independence and exclusively for self-interest. She states that “the twentieth-century Western

imagination puts the self, the personality, the ego” at the center. “For the ‘person’ in this latter day Western view is an agent, a subject, the author of thought and action, and thus ‘at the center’ of relationships” (1988:269). Contrary to this, social actors in her model are constituted through social interactions and are intrinsically multiple in their constitution and perspectives. The origin of social action is not located exclusively in each unique actor. Rather, persons are “dividuals”. That is, their personhood is partible and composite (1988:185).

In Strathern’s model (1988), agency is evocation. She explains that “the constitution or capability of one person becomes externalized by he or she drawing out of another a counter condition” (1988:173). In this way, actors are “the sign of agency in others” because they are the “outcome of the action of others” (1988:222). Agency “is revealed as the ability of an agent to mobilize a constellation of relations” (1988:290).

The division of social roles solidifies divergent interests between actors. Strathern explains that, “Persons are separated by the social relations between them. It is the relations [...] which differentiate them, *for each is defined with respect to the other* and thus has his or her separate interest in the relationship (1988:192, emphasis added). In this way, social actors are incomplete. They “therefore seek completion with another”. Their incompleteness makes them agents because they are “able to act in respect of another” (1988:222).

In turn, responding to another’s agency also constitutes the actor into an agent. The actor is objectified as a unitary agent through his or her actions. From “the agent’s point of view”, his or her unity is evinced in action taken; “his or her own capacity” has been revealed (1988:278). People are “able to construct themselves as reference points for their own acts” (1988:285). The actor becomes constituted as his or her own reference point (1988:284). From the viewpoint of

the one who causes another to act, “he or she has elicited a general capacity”, but from the viewpoint of the one who acts, the act is something only he or she can do (1988:281).

Strathern adds, “It is with respect to acts, then, that one may properly talk of a cause and an agent. Taking action individuates the agent as a subject, and in his/her view the cause of the action exists as an external reference point. But *to be a reference point*, a person to another in virtue of the relationship is thereby established, is the precondition for one’s own agency” (1988:295, emphasis added).

The actor emerges as an agent because actions take a singular form (1988:277). Agents act by “the capacity” to act as ‘one’ (1988:302). It is the acts which unify (1988:275). Strathern explains that the singleness of action in turn establishes its reference points, for the actor then elicits the actions of others in reference to his or her single self (1988:277). She continues, “For the person is bestowed with a unity that generalizes his or her own capacities as an agent and provides her/him with the single position from which to act in the future” (1988:289). She states that “The agent acts in the knowledge of his or her own constitution as a person in the regard of others and indeed fabricates that regard (objectifying her or himself) in activating the relationship” (1988:275, emphasis removed). “Acts are innovative, for they are always constituted in the capacity of the agents to act ‘for oneself’.” (1988:327)

In this model, agency presumes that the agent has the ability to perceive multiple positions as references to one another. Strathern explains that what agents reveal is their constitution as composite persons (1988:288). The agent acts in response to the other and “*also* acts for him or herself. The agent’s position is intrinsically multiple” (1988:273, italics original). “People’s positioning with respect to one another entails each party perceiving the relationship simultaneously from its own and the other’s point of view” (1988:271).

Therefore, Strathern provides a theory of agency that is relevant for actors engaged in reciprocal roles in general. For her, agency results from evocation. The actor in the reciprocal role summons the counterpart into action. In her model, intentionality of action is located in the alternate actor. What appears to be an agent's intentionality is a reflection of the other's intentions. The agency references the mutual relation. That is, it references the role of each actor to one another.

Thus, the source of intentionality is located in the recognition of the counterpart of the reciprocal relation. The actor's actions reference the counterposition; that is, the relative mutual positioning of each actor.

2.4.2 Latour: agency and the interpretation of roles

Latour develops a model in which agency is not intrinsically inherent to objects or people independently from the specific circumstances of their association. Latour explains that agency can appear to inhere in such associations but this can be determined only for individual cases. Agency can only emerge when certain associations take place. Indeed, agency may be attributed to the association between human and non-human elements, where pertinent.

The distinction between "intermediaries" and "mediators" is cardinal to Latour's theory of agency. An intermediary "is what transports meaning or force without transformation" (2005:39). Whereas, "mediators transform, translate, distort, and modify the meaning or the elements they are supposed to carry" (2005:39). The distinction describes a difference in the behavior of the entities, not in their essence or constitution. For this reason, there is a constant uncertainty over whether a particular entity is behaving as a mediator or as an intermediary in any given situation (2005:39). For example, "objects, by the very nature of their connections

with humans, quickly shift from being mediators to being intermediaries” (2005:79) or vice versa. Therefore, actors become agents when they occupy that particular role in the chain of associations. They are not imbued as agents independently from the associations. On the contrary, they derive agency from the associations occurring in a particular manner.

Hence, the specificity of a mediator “has to be taken into account every time” (2005:39). For Latour, “an invisible agency that makes no difference, produces no transformation, leaves no trace, and enters no account is not an agency. [...] If you mention an agency, you have to provide the account of its action” (2005:53). Therefore, “agencies are part of an account; they are given a figure of some sort; they are opposed to other competing agencies; and, finally, they are accompanied by some explicit theory of action” (2005:52).

In this way, Latour understands that accounts of agency are interpretations. They are accounts that place actors into particular roles. These roles establish the relative activity of the actors in the sequences of interactions. Latour says that human actors “propose their own theories of action to explain how agencies’ effects are carried over” (2005:57). “What is doing the action is always provided in the account with some flesh and features that make them have some form or shape, no matter how vague” (2005:53). Actors “will not only enter into a controversy over which agency is taking over but also the ways in which it is making its influence felt” (2005:57). The major distinction will be to decide whether the agency is treated as an intermediary or as a mediator (2005:57). “Accounts of agency will constantly add new entities while withdrawing others as illegitimate” (2005:56, emphasis removed).

In Latour’s definition, agencies “make actors *do* things” (2005:55, emphasis original) and “an actor is what is *made to* act by many others” (2005:46, emphasis original). His definition excludes intentionality as a characteristic of agency, creating the space for objects and other non-

human entities to participate in agency configurations. Latour says that the main reason why objects had no chance to play in classical definitions of agency used by sociologists is because action was “limited a priori to what ‘intentional’, ‘meaningful’, humans do” (2005:71). In contrast, Latour states that “*any thing* that does modify a state of affairs by making a difference is an actor—or if it has no figuration yet, an actant” (2005:71, emphasis original). Latour states that “if we wish to be a bit more realistic about social ties, [...] then we have to accept that the continuity of any course of action will rarely consist of human-to-human connections” (2005:75), without the participation of objects.

Latour explicitly declares that the concepts of “individuals and calculative agents” are hypostases, no less than the concept of “society” (2005:54). He argues against sociologies that determine *a priori* which elements compose social relations, often repudiating the models or accounts given by informants. He says that “actors fill the world with agencies while sociologists [...] tell them which building blocks their world is ‘really’ made of” (2005:52). He appears to decry this practice as a form of intellectual hubris.

Therefore, Latour asserts that agency attribution is always an interpretation generated by actors. The attribution of agency assigns a role of relative activity or passivity to each component of a sequence of action. That is, each element is assigned the role of “mediator” or “intermediary”, respectively. Agency, therefore, is attributed to elements that occupy the role of agents in a particular account. Agency is not intrinsic to the elements, since they may occupy different roles, depending on the account. They may vary from being considered “mediators” or “intermediaries”, depending on the circumstances.

With this, Latour explicitly excludes intentionality as an intrinsic characteristic of agents. It follows that the attribution of intentionality also must be a part of the account generated by actors and not a predetermined component of the sequence of actions.

2.5 COMPOSITE MODEL: THE REFERENTIAL FUNCTIONS OF AGENCY

I propose to assess in this dissertation a composite model to understand health worker agency. The composite model that I develop agrees with insights proposed by Parsons, Strathern and Latour. The composite model proposes that attributions of agency are references or indicators of status and role. The composite model distinguishes the status of the actor in a relation and the empirical resources that permit action. That is, intentionality of action and mechanical faculties to act. The composite model contrasts with the residential model because it disentangles these two components of agency, allowing them to be assigned relative to each social interaction context. The residential model blends the two in an actor because it identifies the subjective experience of the individual actor as a sufficient expression of agency.

The model I propose here states that agency attributions or perceptions have a referential function. Agency attributions indicate how actors are positioned relative to one another and how they are positioned relative to resources. The model of agency as a residential property of actors proposes that social and ecological position create agency; whereas, the model of agency as a referential indicator states that agency attributions signal social and ecological position.

2.5.1 Traits are indicators of relative role

My thoughts about referentiality and agency were inspired by my reading of Viveiros de Castro's (2004a, 2004b, 1998) codification of Amerindian perspectivism. Viveiros de Castro's model focuses on Amerindian taxonomies of Nature in which an animal's or other being's taxonomic classification (e.g., "bird", "jaguar", "peccary", "human", "deity") is given by the animal's or being's predatory status relative to another animal or being. That is, a jaguar is not a jaguar due to some stable morphological trait, which is the rationale of the Linnean system, but because it preys on humans. It is a jaguar relative to the human viewpoint. Comparatively, humans appear as peccaries to jaguars because jaguars view themselves as humans. Similarly, peccaries look like peccaries to humans because humans hunt them for food. Whereas, peccaries look like humans to one another and view humans as jaguars. Thus, taxonomic classification depends on how the observer is positioned relative to the object of classification. In Amerindian perspectivism, beings do not have stable morphological traits that can be used to identify them independently from the observer's status relative to them. On the contrary, their traits depend on their status relative to the observer.

This crucial insight inspired me to question some ontological assumptions that are implicit in anthropological models of human action, as well as other anthropological models that I do not discuss in this dissertation. It seems possible to consider that models of human action cannot be sustained independently from our informants' status relative to our position as analysts. This means that agency is potentially not a given trait of actors, as if often explored in anthropological works, but an indicator of the actors' status relative to the analyst.

That is, the attribution of agency is indicating each actor's role relative to one another. I will not consider the many implications of this insight for the role of the researcher and the

formulation of researcher models. Instead, I will suspend that discussion for now and only develop a theory of agency that incorporates this insight for actors relative to one another, as if the researcher position is unproblematic for developing theory.

2.5.2 Two types of agency: capacity and ability

I adhere to a terminological precision in this dissertation in order to uphold a distinction between two notions of agency. I define the two types of agency as the “ability to act” and the “capacity to act”. The “ability to act” is the empirical potential to accomplish a change. The “capacity to act” is the social legitimacy to carry forth and to bear responsibility for actions.

The two types respond to a model of agency that is intuitive to the modern worldview and which distinguishes agency that involves intentionality from agency that does not involve intentionality. For instance, Howes (2007) writes about “maternal agency”, to describe a biological relation between a pregnant mother and her developing fetus. She argues that “the term ‘agency’ can be used to describe biological activity, provided that it is not understood as the conscious, teleological human form of agency” (Howes 2007:181). Her view supposes that the term “agency” can be used to describe mechanical relations between elements of matter. She opposes this to a “human” form of agency, which is characterized by intentionality.

I follow legal doctrine when making this distinction. The distinction is between acts that are accidental from acts that are intentional. The status of the act depends on the status of the actor at the moment of committing the act. Intentionality can be imputed only to legitimate actors. For instance, the determination of insanity may alter imputability in a judicial prosecution.

Legal vocabulary distinguishes the legal status of an actor to execute an act from the actor's empirical ability to execute it. The term "capacity" in juridical vocabulary refers to the legal right (i.e., status) to execute or to bear responsibility for an act. For instance, a minor may be empirically able to marry (i.e., to participate in the ceremony and say the prescribed words) but is not deemed to have the legal capacity. As such, even if the act is executed it is legally (i.e., socially) void.

Authors who use the residential model may not habitually dwell on this distinction for their definition of agency. In most cases, social subjects themselves might not distinguish their empirical potentials from their social rights or lack of rights to act in certain ways. For instance, they might not distinguish their gender or age category as a social status and they may subjectively blend it with their perception of their empirical potentials. Or, if they do perceive a variance, as is the case of Mahmood's informants, their formation of a *habitus* seems intended to deliberately enforce the indistinction. Mahmood's (2006) informants purposefully attempt to shape their empirical competences to conform to their social status. They perceive a difference in their empirical competences and in their social status as Muslim women and attempt to make the two aspects conform.

Studies of the formation of the agent, such as Mahmood's (2006), usefully attempt to show how individuals internalize a status as an empirical ability. These studies show how individuals internalize social categories to become shaped as social subjects. Thus, as Mahmood (2006) claims, there can be no universal definition of agency because agency is the circumstantial melting point at which a certain capacity and ability subjectively blend in an individual.

My contribution to the agency discussion is to stress an unambiguous distinction between the status and the empirical constitution of the actor for theoretical purposes. The distinction must be upheld in order to move away from a theory of the subjective formation of the individual agent into a theory of agency as a distributable property of social relations. Treating agency *a priori* as a property of subjects can risk naturalizing an indistinction that should be the object of examination. The distinction between capacity and ability demystifies agency as a perceived trait of individuals and presents it as a qualification of relative status.

Capacities and abilities are social judgments of the value of certain properties of actors. They are not themselves properties but value judgments regarding properties. Therefore, agency attribution is a form of value judgment. Capacities are statuses. That is, they are social categories assigned with rights. In turn, abilities are judgments of functionality.

The attribution of agency is a statement of how actors are positioned relative to one another and also a statement of how they are positioned relative to resources. Agency attribution is a heuristic (DeWalt, pers. comm.) of relative position.

Agency is comprehensible as a reference to these two issues because it is recognizable only when the empirical conditions and social context of the acts and the agents are known. The comprehensibility of factual statements of agency is forcibly anchored to knowledge of the empirical circumstances of the act and of the relative status of agents to one another. Authors persuaded by the residential model know this and explain that these conditions factually create agency. Alternatively, the opinion adopted here is that the attribution of agency is an indicator of position relative to these conditions.

Therefore, this dissertation proposes that agency attribution has a referential function of each or either of the two types of agency: relative social status (capacity) and relation to

empirical resources (ability). Agency attribution references the relative status of the actor and either or also the relative access to empirical resources.

2.5.3 Intentionality and the directionality of action

In this dissertation I make a restricted use of the term *intentionality* to refer only to the directionality of action. This restricted use ascertains that human acts or actions, in their own right, may be directed or purposeful.

In the dissertation I refrain from using the term *intentionality* to refer to the directionality of consciousness. The intentionality of consciousness was noted by Husserl. He explained that "There is no difference [...] between an experienced conscious *content* and the experience itself. The sensed e.g. is nothing else than the sensing" (Husserl cited in Baumgartner and Klawitter 1990: 222, emphasis original). Husserl implies that the act of consciousness is always consciousness about something.

I make use of the same insight in regards to social action. Social practices are also directed and "about something". Intentional acts can accomplish socially relevant action goals with potential independence from the cognitive state of the actor. An example of this is shaking hands when greeting someone, which may be carried out absent-mindedly while nonetheless fulfilling its social function. The directionality or purposiveness of the action is a characteristic of the action. It is potentially independent from the cognitive state of the actor.

Bratman claims that a central problem of the theory of intention is to provide a plausible account of the relation between the commonsense use of the notion of *intention* "to characterize both our *actions* and our *mental states*" (1984:375, emphasis original). He says, "We do things *intentionally*, and we *intend* to do things" (Bratman 1984:375, emphasis original). He

exemplifies this with the difference between intentionally starting a car from intending to do so (Bratman 1984:375).

Searle explains that “Intentionality is *directedness*” (Searle 1983: 3, emphasis original). He proposes “as a preliminary formulation” that “Intentionality is that property of many *mental states* and *events* by which they are directed at or about or of objects and states of affairs in the world” (Searle 1983: 1, emphasis added).

For Searle, the directionality of an actor’s subjective intention is associated with its purpose. Searle explains that “we can get at the content of an intention by asking, ‘What is the agent trying to do?’ ” (Searle 1983: 172). For Searle, “the Intentionality of mental states [...] is intrinsic to the states themselves.” (Searle 1983: vii-viii). He states that an actor does not “*use* his beliefs and desires” to act but he already “simply has them” (Searle 1983: vii-viii, emphasis original).

For Searle, action is grounded in the subjective intentions of actors. He says that “there are no actions, not even unintentional actions, without intentions, because every action has an intention in action as one of its components” (Searle 1983: 107).”

Searle elaborates on the subjective intentions of actors but less on the intentionality or directionality of events. The directionality of events would be how they, as events, are directed at or are about the world. It follows from Searle’s distinction between the intentions of actors and the intentionality of events that the intentionality of events might also be considered from a utilitarian or functionalist framework. The intentionality of an event would be its purpose. (‘What is this event trying to do?’) Searle does not provide commentary on the functions or purposes of events.

Toumela also accepts the use of the concept of intentionality for acts and for the cognitive state of the actor. He uses this distinction to explain that many social practices require a different cognitive state than is implied in a model of agency grounded exclusively on the assumption that actors pursue only self-interested objectives. He says that there is an important divide “between a group thinking and acting as one agent versus some agents acting and interacting, perhaps in concert, in pursuit of their (possibly shared) private goals” (Toumela 2007).

Toumela elaborates a notion of “collective intentionality”, to refer to a type of a cognitive state in which actors share intentions and have some form of partial depersonalization of their private goals (Toumela 2007). He gives the example of social statuses, which require the individual to understand his or her social behavior in terms of how the status relates to the group, and that these behaviors may differ from his or her private intentions (Toumela 2007). He explains that “both institutional and non-institutional *social practices* involve collective intentionality in the sense of being based on shared we-attitudes in the sense of we-attitude contents serving as partial reasons for such activities” (Toumela 2001, emphasis original). Therefore, for Toumela, there is “we-mode” and an “I-mode” in each social actor’s intentions (Toumela 2007). He says that,

It is important to distinguish between attitudes and actions in the “we-mode” and those in the “I-mode”. The former are essentially the kinds of positional attitudes and actions that a member has when having the attitude or, respectively acting “*qua* a group member”, whereas I-mode attitudes do not thus depend on group membership. Accordingly, one can speak of we-mode and I-mode social agency. An important application is cooperation, for it is central to distinguish between we-mode cooperation and I-mode cooperation (Toumela 2001).

Toumela mostly elaborates on the existence of “collective intentionality” in terms of attitudes, i.e., actors’ cognitive states or intentions. However, he recognizes that the “we-mode” also applies to actions. He states that,

To *think* (e.g., believe, intend) or *act* in the we-mode is to think or act as a group member in a full sense, thus for a group reason. Thinking and acting in the we-mode expresses collective intentionality in its full sense. In contrast, to think or act in the I-mode is to think or act as a private person—even if a group reason might contingently be at play. (Toumela 2007, emphasis added).

Consequently, the concept of intentionality can be applied to actors' intentions (i.e., cognitive state of desire or belief) but also to actions in their own right. Actions may be directed or purposeful in certain ways, with independence from the actors' subjective intentions.

Bratman, Toumela and Searle focus their analysis on discussing the relation between intentionality of thought and intentionality of action, attempting to show the ways in which the two aspects may connect. In doing so, they appear to align with the model of agency as a residential property, in the sense that they are trying to justify how certain actions originate in one or another type of cognitive state.

However, their understanding that the intentionality (or directionality) of an action may be independent from the actor's cognitive state (or intentions) creates the space for a complementary view that maintains this distinction in order to explain certain types of social actions that appear to display this dissociation.

One example of this is ritual. Evans-Pritchard's (1976 [1937]) classical distinction between sorcery and witchcraft exemplifies this dissociation. In Evans-Pritchard's definition, sorcery is a practical technique for modifying a state of affairs. The cognitive state of the actor is irrelevant to the efficacy of the spell, which relies only on the correct performance of a sequence of acts. In contrast, witchcraft operates invisibly on the basis of the perverse anti-social desires and thoughts of the witch. The two forms of magic exemplify, on the one hand, the intentionality of action for the case of sorcery, and on the other hand, the intentionality of consciousness for the case of witchcraft.

2.5.4 Intentionality indicates status

Human action is often experienced as purposeful or intentional. An agent's actions are purposive; that is, they are oriented towards a goal. The core feature of the "human form" (Howes 2007) of agency is intentionality. Intentionality is a reference to the function or goal of action.

As intentionality is experienced individually by the acting subject and is not discernible to external observers, sometimes it has been considered an autonomous property of the actor. Yet, although intentionality informs individual action, it is derived externally. Intentionality is a judgment produced by the objectification of action and its parameters. For this reason, intentionality is not a property but an indicator of the subject's relative position.

Social roles are sources of intentionality for social action. Strathern (1988) explains that actors are moved to act in response to a counter-role. An actor's intentionality derives from his or her status in the role configuration. The same principle applies for health care relations. Parsons (1951b) explains how the intentionalities of each actor correspond to the position in the role relationship between physicians and patients.

Actors' statuses determine the value of their intentionalities. The value of intentionality depends on the legitimacy of the actor to execute the act. For instance, insanity or minority can affect a judicial prosecution. The subjective experience of intentionality is irrelevant in the determination of attribution for responsibility for the act. The important issue to determine authorship of action is not whether the actor experiences intentionality, but regarding the social value of intentionality. The value of intentionality is derived from a social source of legitimacy. Specifically, the actor's status determines the value of intentionality.

Therefore, intentionality references status. Intentionality is an indicator of an actor's status. Intentionality is not an autonomous attribute of an actor oriented outwards towards the world but a calibration of the subject's position relative to the external context. The validity of the calibration depends on the actor's accurate identification with his or her social status.

The model of agency as a residential property includes intentionality as an organic component of the individual's action, failing to distinguish between the subjective experience and the social value of action. Often, actors may not make this distinction subjectively because they may subsume their statuses as part of their identities. Yet, I think that this distinction matters theoretically because the two components may appear separated in certain actors, such as occurs with the insane. Indeed, the distinction may be very clear in certain social contexts, as occurs with spirit-mediums or oracles.

Although actors may subjectively experience intentionality as residential to them, intentionality is a judgment that depends on the value of the actor in a social relation.

Intentionality is an expression or enactment of social status. Intentionality is performance of status. Linton explains that a status is "a collection of rights and duties" (Linton 1936:113). Thus, intentionality is performance of rights and duties.

I believe that the status of the actor may be a component of the "power" or "empowerment" that Ortner (2006; 2001) perceives in agents. Part of their "power" is their social legitimacy to execute certain acts. That is, their right to act in certain ways.

Theoretically speaking, statuses or rights are not mysterious properties residing in actors, even if actors may subjectively feel them that way. They are judgments of social value and they only have validity for specific social contexts.

Potentially, what authors persuaded by the residential model may designate as “negotiation of agency” in social interactions (e.g., Koenig 2011) is the negotiation of the actors’ statuses or rights. The actors are not negotiating some kind of mysterious substance but their rights and responsibilities as persons. What actors negotiate is their status in the relationship.

Attributing agency to actors as a property is the same reification that is involved in attributing rights to actors as properties, such as Human Rights or any other similar example of an ascribed status. Potentially, the residential model appeals to authors aligned with the emancipatory legacy of liberalism because individual inalienable agency is an ascribed status in that model. For instance, in Locke’s model (1975 [1689]) actors are automatically endowed with certain capacities as part of the ideological construct of his model of the agent. What the liberal model identifies as intrinsic “freedoms” in human actors are their ascribed rights to act in certain ways. The word “freedom” is used as a synonym for “rights”.

Consequently, intentionality is not an autonomous resource of the individual actor. Instead, it is an indicator of the social status of the actor. Intentionality references the actor’s relative status in the social context. Intentionality in agency must be understood in terms of an actor’s capacity (i.e. status).

2.5.5 Functionality indicates role

The second form of agency implies mechanical relationships between actors. Intentionality is not involved in this form of agency. This kind of agency is associated with mechanical properties of the agents.

To some observers, with this kind of agency, the ability to act may appear to derive automatically from the architecture of the actor or entity. However, although this type of agency

is associated with properties of actors, the ability to act is an effect of particular associations of those properties with the environment. That is, agency emerges only when those properties are calibrated to a particular context. The agency is not a property of the actors, but an effect or property of the required relationship of the actors with the environment.

This is, for example, a form of agency that matters to archeologists. Archeologists do not want to describe merely the empirical properties of the artifacts they find in excavations; they want to know their purpose or function. Functionality implies an operational or instrumental relationship between the artifact and its context and application. A sharp stone is comprehensible as a “knife” or “blade” if the archeologist also has evidence of the stone’s use. The sharpness of the stone is insufficient to attribute its function.

Therefore, this form of agency is also referential and not residential. The agency is not a property of the actor or tool, but an indicator of the actor’s or tool’s participation in a system of relations. That is, declaring that the stone is a “knife” indicates the stone’s use; it is not a description of the sharpness of the stone. In other words, the agency is an indicator of the actor’s role or function.

This is coherent with Latour’s (2005) understanding that the elements in a sequence of action are not intrinsically endowed as agents but only become agents when certain associations between them occur in a specific way. Latour states that the agency is attributed to the entities in accounts of those associations. My understanding is that Latour is referring to the role of the elements in the chain of associations or, in other words, their function.

Potentially, authors persuaded by the model of agency as a residential property identify agency as a sign of autonomy because they recognize the autonomy of actors or entities. That is, entities can associate with other entities in a variety of ways, retaining their architectural

properties. This is a sign of their autonomy as entities. However, their agency is not a sign of autonomy because agency is always a particular calibration of the actor, tool or entity with its environment. Therefore, acts that show agency are always showing a particular configuration of relations. Acts that show agency show that the actor is associated with other actors in a particular way.

Therefore, agency is linked to an actor's properties but is not a descriptive characteristic of the actor. It is a value judgment of the role potential of the actor's properties or resources. For this type of agency, the value of the properties is associated with the judgment of functionality. The agency is indexical of the associations between the elements. Agency indicates the role of an actor in a chain of associations.

3.0 METHODOLOGY AND TECHNIQUES

The opening episode of this dissertation raised the theoretical problem of conceiving agency as an autonomous residential faculty of social actors and the alternative proposition that agency indexes relation to other social actors and to tools and resources.

In regards to the opening episode, the health workers were not able to save the life of the baby for reasons that were not based on their intentions or personal desires and specialist knowledge, or to their position as the powerful actors in the health care relationship. First, they could not achieve the parents' consent to allow the baby to travel to another location. Second, they did not have acceptable fast transport means or adequate instruments for on-site emergency care. An alternative possibility is that the agency (ability and capacity to act) of the health mission workers is somehow located in the relationship with the patients and with the potential to access certain tools.

The review of the conventional model of agency as a residential faculty of actors in the previous chapter highlighted a perceived correspondence between actors' intentionality and their social position. That is, there is a conflation of judgment of purpose with interest. The observation of health mission workers suggests that these two elements are distinguishable in health workers' subjectivities. By definition, health mission workers act as agents for others. This means that, in principle, their intentionality responds to the interests of others. They occupy a social position of power (i.e., rights and duties) to act in the interests of their subordinates'

desires and intentions. The residential model merges purposiveness of action and interests derived from position. For this reason, the investigation of health workers is a useful starting point to consider the merit of an alternative model of agency.

In this chapter I describe the methodology and techniques presented in this dissertation. I will present the main hypothesis and two ensuing research questions. Next I will justify the choice of a case study approach. I will present analysis for two days in the field. The first day is exemplary of a standard day of health care delivery routines. The second day is exemplary of work that emerged in response to spontaneous demand or other circumstances. I will present the characteristics of the research population. The informants are permanent health workers in the Manoel Urbano Base Post for Indian Health. There are two types of worker in the Base Post: permanent and transient staff. The permanent staff live in Manoel Urbano city. The transient staff are professionals with very short-term commitments. Finally, I will provide a description of the field sites: the health boat, the Madiha villages and other settlements, and the Base Post office. The boat is used for travel, accommodation and leisure. Health services are mostly provided in the villages and settlements. I conducted the semi-structured interviews in the Base Post office in Manoel Urbano city.

3.1 RESEARCH QUESTIONS

In simple terms, the overall research question for this dissertation is to describe what characterizes the agency of health workers. I developed three questions in my original research design to answer it.

The first question asked, how do institutional regulatory frameworks for behavior impinge upon an individual's development of agency, such as through role expectations, professional or user identities and skills? The second question asked, how do social interactions regulate and shape agency, such as through transactions between behaviors, communications and cognitive representations? (Frenopoulo 2009). I merge the reporting of the results of these two questions in this dissertation because I realized during analysis that they converge in the model I have developed here. For instance, health workers' professional role performances and their social interactions with patients are not convincingly distinguishable during a medical consultation or other health care interaction.

The third question in the original research design asked about actors' systematization of the experience of agency through cosmological and physiological understandings (Frenopoulo 2009). The question was designed with the patient population in mind. As I had little contact with Madiha informants, I cannot present results for this population. As for health mission workers, they adhere to biomedical models of the body and health. I will discuss the utility of these beliefs in the perceptions of their agency. I was not very successful to probe their understandings of the health care organizational bureaucracy. Where possible, I have provided comments on informants' perceptions of the FUNASA administration. Overall, informants were reluctant to talk about bureaucracy, adducing that they did not know exactly how it worked.

Therefore, I have regrouped the presentation of the results of the three original research questions. Instead of reporting each question separately, I have reorganized the results in order to respond to two refined questions that emerge from the preceding theoretical discussion.

I present results only for the health mission workers. Unfortunately, I was not able to achieve satisfactory access to patients in the Madiha villages. Once I was in the field, I realized

with regret that it would require more time to build sufficient rapport. I received authorization and also an invitation from leaders in several villages to spend some time living in their village. Unfortunately, my time limitations made it impossible to carry out this plan and I had to leave the field before I could accomplish that exciting opportunity.

3.1.1 Hypothesis

I will assess the hypothesis that agency attribution indicates an actor's interest or utility, or orientation or position. Agency attribution signals the value of an actor in an arrangement of counter-actors and in relation to elements of their environment. That is, agency is indexical of utility as abilities, and indexical of interests as capacities (status and rights).

This means that 'agency' should not be thought of as a noun that names some kind of substantial quality or property inherent to the actor. Instead, it is like a pronoun that draws meaning from the circumstantial orientation of the actors' interests and utility. Actors do not 'possess' agency. Rather, they are positioned in relations, such that agency attribution indicates the relative values of that position.

A conventional model of agency describes it as a property of social actors. It is assumed that this property develops in the actor according to that actor's social position and relative access to power. The property articulates the subject's projects (or intentions) and social position (or rights). Agency is formed together with the actor's subjectivity because of the association with interests.

Alternatively, understanding agency as an index proposes that agency attributions are references to relative position. Agency would not be an inherent quality or characteristic of actors but a perception of their relative position in two types of relations: social and technical.

The first hypothesis that I had formulated in my original research project considered the proposition that agency perceptions depended on actors' understandings of relationships, institutional arrangements and the body. In this dissertation, I have distilled that initial comprehension of the indexical character of agency attributions into a more focused and generalizable statement.

The hypothesis that agency is an index is coherent with the models proposed by Strathern (1988) and Latour (2005). For Strathern, agency develops from role expectations in reciprocal relationships. For Latour, agency emerges when entities are associated in particular manners, occupying particular roles relative to one another. In both of these models, actors express agency but agency is not a property of actors.

I will break down the hypothesis into two focus questions. Each research question respectively summarizes the main claim of Strathern and Latour's models of agency. Each claim is one of the two referential or indexical functions of agency. With these questions, I want to know whether agency attributions indicate an actor's relative position to other actors (i.e., his or her status) and also indicate his or her utility relative to an empirical relation (functionality).

3.1.2 Research question 1 Indicators of counter-role orientation: Status and intentionality

Question 1: Does the actor act with another in mind?

What rights, interests and freedoms are implied in the patients' status? Are the actions (behaviors) oriented towards a counter-status or counter-role? What are the reciprocal interests? What are the reciprocal rights and duties? Does an actor's agency indicate the actor's role for other actors?

I will assess whether attributions of capacities to act indicate the actor's interests relative to other actors. This question is focused on the status references in capacities to act. The question explores whether agency is a sign of social role. If actors perform with a counter-role in mind, the existence of a counter-role would be implicit in their actions. Their actions would be oriented towards a counter-role. In this sense, their role as agents, i.e., what they can do, indexes their position relative to a counter-role. (Their behavior and their status may potentially also involve recognition from actors in the counter-role.)

To assess this question in observations, indicators would show that the actions imply a counter-role. To assess this question in interviews, actors would express that their actions are oriented towards the actors occupying the counter-role. They may also express that counter-actors legitimate their actions.

Indicators for observations:

The variable *orientation towards counter-role* condenses the indicators for the first research question. It seeks to determine whether an actor's actions refer to a counter-role. This variable identifies rights and interests relative to the other party. It establishes the status of the health worker or legitimate rights and duties to act. The variable assesses intentionality of action.

Orientation: Orientations may be 'dominant' or 'subordinate'. *Indicators:* Orientation is identified by one or more of three indicators: relative body position (posture), direction of substance flow, and direction of knowledge and communication flow. *Analysis:* A dominant orientation is revealed in a body posture that is comfortable for carrying out actions. A subordinate orientation is characterized by a restricted body posture. The direction of communications and substance flows are of two types: diagnostic (when substances or

information are extracted from a subordinate actor) and therapeutic or preventive (when the substances or information are administered to a subordinate actor).

Indicators for interviews:

The indicators assess how interviewees perceive rights and interests relative to the patient population.

1. Are the other actors implicit in the agent's actions?
2. Is the actor recognizable to other actors as an "agent"?
3. Does that recognition of agency require the other actors' endorsement?

3.1.3 Research question 2 Indicators of utility: Resources and functionality

Question 2: What utility is implied in the use of resources?

What do abilities indicate about the purpose of action? What does the actor's use of resources indicate about associations with resources? Does an actor's agency reference the functionality of resources?

With the second question, I will assess what abilities may indicate about the actor's relative association with resources. This question is focused on the utility or purpose of resources for action. The question is about the referencing of functionality of resources. Actors may use resources that establish functionality or purpose for that interaction.

Indicators for observations:

The variable *utility of action* articulates the indicator for the second research question. It seeks to determine an actor's use of tools and the functionality for action. This variable identifies functionality or utility. That is, the purpose of the action.

Utility: Utility or purpose may be ‘instrumental’ or ‘not instrumental’. *Indicators:* Utility or purpose is determined by two indicators: use of tools and manual dexterity. *Analysis:* An instrumental utility is identified by the use of specialized forms of equipment and materials. An actor’s dexterous use of the materials will be considered a sign not only of skill to use the materials, but of possession of specialized training and certification. A non-instrumental utility is characterized by the absence of manipulation of tools.

Indicator for interviews:

The indicators for this question are

1. What type of resources establishes the utility of the action?
2. What utility do the resources imply?

3.2 PARTICULARISTIC APPROACH: CASE STUDY OF TWO DAYS

I will base my analysis on the detailed description of two days in the field. This will show the importance of schedule, the two main spaces of social alternation, and examples of standard planned and also unplanned health care procedures. I will evaluate the research questions for these episodes. The unplanned episodes include the tragic event of the infant death that opened this dissertation. I will examine the events of that day in the same manner in order to evaluate the research questions for understanding the actions of the unexpected and unplanned event.

I have chosen to focus here on a particularistic presentation of a concise segment of fieldwork in order to present intensive descriptive details for a concentrated analytical

discussion. This is not a broad ethnography in the usual style, but a focused consideration of a particular analytical problem.

This method of case study analysis does not allow the formulation of generalizations. The method consists here of an intensive analysis of themes. The results could be used for improved identification of themes in future research and for identification of possible relations.

I have selected two days that represent the health team's work. I will present each day's events in detail. I will describe the entirety of events during each single day in chronological order. I do this in order to show the sequence of events in the same order that they occur during each day. Interaction patterns change dramatically throughout the day, even though the people and places generally do not. I wish to show how health procedures are articulated in daily routine schedules. Trips consist of bursts of intense work and other interactions with villagers.

I will use a case study approach because I wish to show the variety of types of interactions that can occur during a health mission trip. I have chosen two days from a trip with an unusually complete team. On the first day I recount, the health workers carried out a wide variety of types of health care procedures in a village. That day is an example of the variety of the types of procedures. I am interested in analyzing the functionality and relative interests in the positioning of actors in each of the interactions. The day is chosen from a trip that included a full team of professionals (physician, dentist, laboratory technician), as well as nursing and support staff. It is not common for the boat to travel with a full team and to offer the number of procedures I am able to report for the selected day. The reader should be aware that the distribution or frequency of each type of task on this particular day does not represent its frequency given a longer time frame of observation.

Thus, the health actions of each of the two days would represent a potentially different type of configuration of capacities and abilities. The day with planned actions would show agency for predictable and habitual types of health interactions, as Mahmood would consider. In comparison, the day of the emergency response would show agency for an unexpected and unplanned singular events that required spontaneous and unrehearsed actions and reactions, as Ortner would consider.

Both days are taken from my second trip with the traveling team of health workers. Throughout my fieldwork, I participated in a total of 51 days of boat travel with the Manoel Urbano health team. The first trip was from June 29 to July 16, 2008. The second trip was from March 12 to March 27, 2010. The third trip was from July 23 to August 8, 2010. I spent time with them also in the Base Post office in Manoel Urbano city.

3.2.1 Justification

A whole day should be considered because this reflects the labor and social interaction regime. Workers live in one another's presence at all times during every trip, from morning through the night. Work and leisure is segregated by schedule and type of activity, not by significant differences in spatial area or people. Workers spend the day shifting between formal and informal behavior patterns within the same physical spaces and among the same people.

Also, since I will present a detailed description of the entire stream of events for each day, from morning to night, the reader will have the opportunity to perceive all recorded events.

3.2.2 Two dates: March 18 and March 21

For the first description and analysis, I will present a reconstruction of events for Thursday, March 18, 2010. The health boat was docked at Santa Júlia village. This specific day was chosen because of the variety and types of actions carried out. The day will be used in this dissertation as a prototypical example of a full day of standard routine and planned work.

After this, I will present a reconstruction of events for Sunday, March 21, 2010. This was the day the baby died. It was a day for travel. The boat was docked at Boaçu village during the morning while workers were preparing for departure and then set off for Maloca village in the afternoon. It was not a day set carrying out standard planned health activities in the village. Therefore, the health procedures that I report occurred spontaneously and required unplanned responses. This will allow me to compare the way the health workers responded to the unplanned events with the analysis of routine interactions.

3.2.3 Other field locations

My remaining fieldwork with the team was conducted in the office in Manoel Urbano city. In that location I carried out semi-structured interviews and observations. The office is not a location for health procedures. I will report on interactions there when relevant for comparison.

The remainder of my fieldwork in the Upper Purus Special Indigenous Health District (*Distrito Sanitário Especial Indígena do Alto Rio Purus*) consisted of observations and interviews in the House of Indian Health or CASAI (*Casa de Saúde do Índio*), public hospitals and FUNASA central offices in Rio Branco city, as well as observations and interviews in other Base Posts elsewhere (Sena Madureira city, Boca do Acre city and Pauini city). I do not report

on that component of fieldwork in this dissertation, except for some comparative comments where relevant.

3.3 TECHNIQUES

I present five techniques. I will use the results of observations (filmed observations, participant observations, and photographs) to detect utilities and relative orientations of actors in interactions. In observations, I will compare health work interactions with non-health interactions (e.g., leisure and meals) in order to assess ability or capacity configurations in the interactions. I will use interviews (semi-structured and informal) to question informants about their approach to other actors and about their perceptions of resources.

1. *Observations of health work and non-health interactions*

- 1) I will examine formal observations of health care interactions. The formal observations consist of filmed episodes of health care interactions between health workers and patients.
- 2) I will provide photographs as a complementary technique to compare with films and to visually illustrate for the reader these forms of interactions.
- 3) I will examine participant observations of the health workers' leisure and other non-health interactions to compare with the observations of health work interactions.

2. *Interviews with health workers*

- 1) I will examine semi-structured interviews with health workers.
- 2) I will examine informal interviews conducted with some workers.

3.3.1 Observations of health care interactions

I will present descriptions of filmed observations of health care interactions. I wish to determine the behavior patterns for standard planned health care interactions.

The descriptions are based on short film shots. I recorded them myself and obtained consent prior to shooting. The images are recorded on confidential digital video files. The recording technique consisted of remaining standing close to the interactions but without any form of participation in the actions. I only witnessed the interactions. The events were selected to represent the variety of types of interaction. The amount of recordings of each type of health action does not represent its frequency. Recording was also limited by convenience factors. This recording method may involve selection bias.

The recordings show health care interactions between health workers and villagers. The descriptions of the observations will identify the utility and orientation of the participants. This will determine if and how the forms of interaction of workers with villagers and with co-workers are patterned.

I will identify the role patterns in the behaviors by comparing them against the utility and counter-role indicators. I constructed the utility and counter-role indicators based on preliminary observations in other field sites but I have revised them for the data reported in this dissertation. The original research design listed five modes of detection of agency: body skills, specialized knowledges, use of tools, substances and social networks (Frenopoulo 2009). For this dissertation, I have attuned these five elements into a set of indicators that have a sharper focus on the relation between agency and roles in each interaction episode.

I have revised the original indicators in view of certain insights of Parsons' (1975; 1951b) model of the physician role. I use Parsons' model as a basis because of its theoretical relevance for this dissertation as an archetype of the roles in biomedical health care interactions. I will not distinguish between the different health care specializations even though Parsons' model refers specifically to the physician and patient roles.

The relevance of Parsons' model for this investigation is because it sets out a configuration of the distribution of agency according to roles. Critics and followers of his model of the "sick role" and the ensuing physician role most typically center their discussions on the other aspects of this model that were the central concerns he was trying to establish, such as the social control function of the roles (e.g., Gerhardt 1979; Arluke, Kennedy & Kessler 1979; Bloom & Summey 1976; Waitzkin & Waterman 1974), the individual management of the sickness phase and its integration into a patient's career (e.g., Coe 1981), concurrent elements of participants' identities that influence behaviors (e.g., Haug 1976), and details of expected behavior that depart from the ideal type in particular contexts (e.g., Segall 1976).

In general, these are criticisms or confirmations that are directed to the structural-functionalist paradigm in general. That is, these criticisms or corroborations often dispute or confirm how the alleged "sick role" and physician role relate to the broader societal context. For instance, they dispute or confirm whether illness is always viewed as deviance, whether patients are entirely helpless, how illness behavior is influenced by class or age, or how the details of the roles are defined in specific social contexts.

These discussions are not immediately pertinent to the use I make here of Parsons' model regarding the association between agency and role. The point here is to observe ethnographically whether agency is associated with role distribution. Parsons' model is useful to choose as the standard for comparison because it sets out the "agency relation" as the rationale for health worker behavior.

For Parsons (1975), the physician and patient relationship is necessarily asymmetric. The asymmetry is expressed in reciprocal roles (Parsons 1975:257). Inequality and dominance in the interaction are due to a difference in function. Participants have unequal rights and

responsibilities. The physician acts as fiduciary for the patient and the patient acquiesces to physician authority as part of the “sick role” (1975).

The relevance of this model for this dissertation is to observe whether the health care relation involves two roles which are reciprocal to one another, in which the health worker role implies a fiduciary status relative to the patient role. That is, the health worker acts as an agent for the patient. Parson’s model contributes to the indicator ‘orientation towards a counter-role’.

To those insights, I have added an indicator for tools and skills in order to assess utility of interaction. This second indicator is ‘utility of action’.

3.3.2 Participant observations

Participant observations were ongoing throughout fieldwork. In this dissertation I use the results of participant observations to reconstruct the events of two days in the field. I present them to the reader in a journal format. I include health mission workers’ leisure and other non-work interactions (such as meals).

Participant observations consisted mostly of loose and spontaneous interactions, observations and participations in the health mission participants’ activities. I shared the living and work spaces with the health mission workers for the entire duration of the trip. We were almost constantly in one another’s presence. I only departed from their company in brief moments when I would take reconnaissance walks along some forest or village paths or to bathe in the river to refresh myself from the heat.

My participation was largely in the form of sharing meals and recreation. I also tried to help with manual tasks where possible. Often, this involved helping to carry the boxes and equipment up and down the cliffs. I did not intervene in the specialized health work procedures.

Descriptions of observations and incidents, as well as incipient analytical comments, were recorded in field diaries. This was done usually simultaneously or very shortly after the events. I also took some time to update my diaries in my free moments. I habitually wrote in my diaries in full public view of health workers and villagers. Diary entries are mostly written in English, making the information inaccessible to most informants. The diary entries may have a selection and representation bias.

3.3.3 Use of photographs

I include some photographs to illustrate for the reader the roles and orientation in actions and interactions described in the film shots and participant observations. The photographs are included for illustrative and comparative purposes. They usually show the same types of spatial layout and positioning of actors that are described for filmed observations.

Most of the photographs were taken during a preliminary fieldwork trip in 2008. The physician, dentist and nurse had changed during my fieldwork in 2010. Even so, the photographs will demonstrate that behavior patterns remain largely identical. The photographs were shot according to convenience. I have selected those which are pertinent.

3.3.4 Semi-structured interviews with Base Post workers

I will present the results of the five semi-structured interviews conducted with workers in the Base Post. Informants' responses were recorded verbatim in confidential digital audio files. A separate file is recorded for each informant. Some supplementary hand written notes were taken

as well. Interviews were conducted in Portuguese, which is the primary language for all interviewees.

The interviewees provided informed consent for participation in the research, according to acceptable standard protocols. I explained to each of them the scope and purpose of the research and other relevant issues prior to recording. The voice recorder remained on the table in full sight of the informant during the interview and was always manipulated in full sight. The interview guide sheet and the field journal were also kept on the table and in full sight.

Regarding rapport, I was at ease with all of the informants as I had already shared at least one trip with each of them prior to the interview, as well as interactions in the Base Post office. Informants were not compensated for participation in the interviews.

3.3.4.1 Interview guide

Informants were invited to speak freely about a list of prompts contained in an interview guide sheet (see Appendix A). Prompts were used to elicit open-ended responses. A supplementary guide sheet that was elaborated for interviews with DSEI administrators was also used selectively (see Appendix B). Prompts that did not apply were omitted. Most prompts in the guide were written in Portuguese. Most of the other prompts are in English. (The same guide was used in interviews with informants in the CASAI and with the DSEI administrators. The results of those interviews are not included in this dissertation.)

The items on the interview guide are ordered. The interview guide has three sections. Each section responds to a specific concern: identification and personal history, opinions of Indians as patients, and needs and achievements in health care delivery. I did not always use the prompts in the same order. Informants also sometimes moved towards topics spontaneously.

The first section establishes a demographic profile of the informants. It requests the informants to present identification data. This section provides information about the informant within the health care organization and its history. This section also serves to ease entry into the interview because the questions are simple and factual. For example, the items ask about job position and assigned tasks, educational background and job history. I requested informants to specify the length of time working for the Base Post and their prior employment in health care. I also asked about their contract status, if they did not mention it spontaneously.

The second section aims to establish the orientation and scope of informants' approach to a counter-role as health workers. That is, to establish their view of their status relative to the patient population and to their co-workers. This section prompts the informants to describe how Madiha behave and interact as patients and health care recipients. The items ask about the informants' experience with villagers and any training and preparation for work with this specific population. I also asked them what it is like to work with Madiha and how they differ from another population (e.g., non-Indians) as patients. Similarly, items also ask how Indian Health differs from health care for the non-Indian population. This section includes questions about their degree of acquaintance with villagers. I also requested their opinions of Madiha native medicine (*medicina tradicional*) and of the relations between the two medical systems.

The third section aims to establish how informants perceive their empirical abilities in terms of the functionality of resources, whether physical, technical, or specialized knowledge. This section prompts the informants to name and describe specific aspects of the work that are problematic or successful. This section asks the informant to list problems, needs and difficulties with delivery, as well as achievements and successes. This section also requests suggestions for

improvements and how to achieve them. Items also ask about desirable changes and mechanisms to achieve change.

3.3.4.2 Duration

The interviews range in duration from 21 minutes to 1 hour. The mean duration of the interviews is 29 minutes. The interviews with the nurses lasted the longest and included additional questions about administration.

3.3.4.3 Interviewees

The interviewees are permanent staff at the Base Post in Manoel Urbano city. They are: Natália (administrator), Mônica (nurse), Ana Lucia (nursing technician), Rafaela (dental assistant) and Jorge (boat pilot). The Base Post lacked a physician and a dentist throughout 2009-2010.

The universe of interviewees excludes the truck driver and one boat pilot, who were not available. The driver does not participate in trips to the villages.

3.3.4.4 Dates

The interviews were conducted between July 14 and July 22, 2010. The Base Post personnel were stationed in the city at this time. They were preparing for an upcoming trip a few days' later. They were working regular work hours in the Base Post office, assembling supplies and stock, and performing other tasks. The interviews were conducted during office hours.

The interviews occurred six months after the events narrated in the ethnographic sections of this dissertation. All the interviewees, except Natália, had participated in that trip.

3.3.4.5 Interview locations

Four interviews were conducted in the kitchen of the Base Post office in Manoel Urbano city. The interview with Natália was conducted in the medicine storage room.

The kitchen was chosen because it was an undisturbed area at the time of interview. There was privacy during most of each interview. Usually, the workers spend most of their time elsewhere, in the air-conditioned administration office or outside on the front porch. When they are in the Base Post office, Madiha individuals usually stay outside around the front porch or inside the common room and watch television. (After the radio was installed, they also crowded around the radio to communicate with the two villages that had a working radio.)

The kitchen is a public space. A few individuals walked past and into the area during the interviews. The cook usually keeps a thermal flask with coffee and some biscuits on the table throughout the day. The kitchen also has a water fountain with chilled mineral water. Workers and Madiha individuals freely help themselves to these refreshments. There is no food segregation here.

The medicine storage room was the most undisturbed area at the time of Natália's interview. It usually remains closed and locked. The room is air-conditioned, to preserve the medicines and other supplies. Some workers briefly entered during the interview to get supplies.

3.3.5 Informal interviews

I conducted informal interviews, that is, directed informal conversations, with workers at varying times during the trips and also in the Base Post office in the city. I usually approached workers for questioning during their relaxation moments. These conversations constitute unrecorded and

unplanned interviews. The conversations were framed as casual. Sometimes I was not alone with the informant. I recorded the conversations in writing in my field diaries afterwards.

I used informal interviews to obtain information about very specific issues from particular informants. They involved targeted information seeking actions. Consequently, the informal interviews are not necessarily comparable to one another. They also comprise a scope of interest broader than the two research questions guiding this dissertation.

The informal interviews occurred prior to the semi-structured interviews. In many cases, they provide similar, and sometimes identical, responses to certain issues. Sometimes they focus on pertinent but lateral concerns.

In this dissertation I will present only the results of the informal interviews that were recorded for the two field days described here. They are presented as part of the particularistic analysis. The questions and responses are not representative of other informal interviews.

3.4 PROTECTION OF HUMAN SUBJECTS

3.4.1 Formal approval

The research for this dissertation was approved by the Institutional Review Board (IRB) of the University of Pittsburgh (see Appendix C). I also received authorization for this research from the director of FUNASA for Acre, Sr. José Carlos Pereira Lira, and from the administrator of the Manoel Urbano Base Post, Enf. Neiva da Silva e Silva (see Appendix D).

3.4.2 Anonymity and use of names

I have changed the names of the Manoel Urbano Base Post staff to conceal their identity. The Base Post staff are the primary informants for this dissertation.

I have retained the names of the FUNASA central administration staff, such as the DSEI administrators, as their identification is relevant to chronicle certain events.

I have also retained the names of Madiha individuals in order to uphold their reputation.

3.4.3 Informant consent

Whenever I interviewed anyone or when I entered a new location for observation, I always explained to the informants the research methods, purposes and the posterior use of the findings in order to obtain verbal consent. In the Madiha villages, I used the initial introductory meetings carried out by the health workers to present myself and my research. At that moment, I requested verbal authorization to take films and photographs.

I provided gifts for informants, which I usually distributed in the initial meeting with them. I presented university emblazoned souvenirs, such as pens and coasters, for the health workers and the FUNASA clerks and administrators. In the Madiha villages, instead, I provided clothing for every member of the villages, including infants. For my first trip, I purchased over five hundred items of clothing, which were given out in public distribution events in which everyone was entitled to receive a gift (see Figure 5). I also bought about two hundred toys, which were given to the children, in addition to the clothing. This form of public distribution is coherent with Madiha social ethics. Additionally, I printed out and then freely distributed hundreds of photographs of the villagers in subsequent trips (see Figure 6).

I reviewed all the photographs and film shot files with the health workers during every trip, in order to secure their consent for future publication. Without hesitation, I deleted the handful of photographs they requested me to erase.



Figure 5. Distribution of gifts, Santa Júlia village, July 2008 (Photo: C. Frenopoulo)



Figure 6. Distribution of photographs, Santa Júlia village, August 2010 (Photo: C. Frenopoulo)

3.5 RESEARCH POPULATION: HEALTH MISSION WORKERS

The research population considered in this dissertation is the team of health mission workers in the Base Post of Manoel Urbano. The Base Post is the office and headquarters of a small group of workers who travel at regular intervals (approximately every 45 days) out to the Madiha villages in their jurisdiction. They provide primary and preventive health care to the villagers.

The Base Post staff can be divided into two demographic categories: permanent and transient staff. The permanent staff are all local residents who live in Manoel Urbano city (see Figures 7-9). They occupy the job posts that require lower educational degrees, including all the service and support jobs. They form a stable cadre and have very convivial and mutually supportive relations with one another. They have worked in the front line of health care for Madiha villagers for several years. They know all or most of the villagers individually. They are well acquainted with the work, travel and living conditions of this employment. They desire to retain the job and aspire to improve their career status.

The transient staff are the physicians and dentists. They are always from another city and see the job as a temporary position. The Base Post has a chronic inability to recruit and retain physicians and dentists, and these positions are frequently vacant. There is high turnover of transient staff. Most are recent university graduates. They are young and have little, if any, prior work experience. They are eager to pursue their careers elsewhere and remain for only short periods of times.

3.5.1 Permanent staff: local residents from Manoel Urbano

3.5.1.1 Local residents

The permanent staff are local residents. Mônica (nurse) has lived in Manoel Urbano city for most of her life. She was born on a riverine farmer (*ribeirinho*) homestead further upriver. Her family relocated to Manoel Urbano city when she was a small baby because the land was transferred to the Indigenous population. The land is now part of the Upper Purus Indigenous Territory. Cláudio (boat pilot) is Mônica's older brother. He lives in Manoel Urbano city and has small children. Ana Lucia (nursing technician) is from Manoel Urbano city. She has two small children. She has other family members, such as her mother, who also live in the city. Rafaela (dental assistant) is from Manoel Urbano city and has children living with her. Most of her family is in Sena Madureira city, a port further downriver. Jorge (boat pilot) is a local resident and currently lives in Manoel Urbano city. He has a wife and small children. He was born nearby on the São Pedro rubber estate (*seringal*). His family moved to Manoel Urbano city when he was three years old. Natália is originally from Assis Brasil, a town bordering with Bolivia, but she has taken up residence in Manoel Urbano city. She is married to a local resident and they have a small child.

3.5.1.2 Local study and certification

The nursing technicians and the dental assistant acquired their degrees through distance education. They gradually increased their credentials and progressed into further degrees over the years also through distance education. This option allowed them to continue with their family life and employment in Manoel Urbano city.

Rafaela studied for her dental assistant diploma in Manoel Urbano city. The program required occasional internship practice in a hospital in Rio Branco city. It took her three years to complete the program, due to family commitments. Rafaela has two other degrees. She is a nursing technician (*técnica de enfermagem*) and has the prior degree of nursing aide (*auxiliar de enfermagem*). Ana Lucia now has a nursing technician degree (*técnica em enfermagem*). When I first met her, she had a nursing aide degree (*auxiliar de enfermagem*) and was studying for the next level through a distance education format.

Mônica is a registered nurse (*enfermeira*). For her degree, she relocated nearby to Rondonia state to study in Faculdade São Lucas, a private university.

3.5.1.3 Antiquity and early employment

The local resident staff usually have three or more years working in the Base Post. This is considered a long time in Indian Health. Rafaela (dental assistant) has the longest employment history in the Base Post. She has been working for eleven years in health care. Before transferring to become a permanent Base Post employee, she worked as a dental assistant in a municipal government health post in the city. During the early period, the municipal government would send her on trips to the Madiha villages to assist the professionals. She began to work in the Base Post permanently when the municipal health secretary appointed her to Indian Health.

Ana Lucia (nursing technician) has been working in the Base Post for four years. FUNASA contacted her when she presented her curriculum vitae. They had originally offered her work in Santa Rosa do Purus municipality (further upriver), but she declined because it was too far away from Manoel Urbano city. She was able to secure a job in Manoel Urbano when the previous nursing aide resigned.

Jorge (boat pilot) has been working in the Base Post for three years. He first worked with the Base Post as an electrician and continues to do electricity work on the boat or elsewhere. He knew something about piloting aluminum boats (*voaderas*) and barges, but mostly acquired navigation skills on the job.

Mônica (nurse) had been working in the Base Post for one and half years. She had graduated one month before joining the Base Post, working for the municipality during that first month.

3.5.1.4 Young age

Most of the Base Post workers are young. They appear to be in their twenties and thirties. Several have small children. The physicians and dentists have a similar age and marital status as the other workers.

3.5.1.5 Career plans

Generally speaking, the local residents desire to retain their employment permanently. They would like to increase their professionalization and develop a career locally, if this were possible.

Mônica told me that she was planning on pursuing a post-graduate degree. She told me that her work in the Base Post had made her interested in public health. She was registered for a Health Management (*Gestão e Saúde*) degree. Ana Lucia told me that her dream (“*meu sono*”) is to become a registered nurse and work as a nurse in the Base Post. When I asked her directly, she responded that she does not have plans to change her job. Instead, her plan is to continue to develop her credentials and pursue a nursing degree through a distance education option.

Jorge thinks that the boat pilots should participate in a six month course with the Navy in Boca do Acre city (a port further upriver, in the Middle Purus River) to acquire a pilot license

(*habilitação, carteira*). The license would professionalize them (“*para ficar profissional mesmo*”). He emphasizes that he has a low income (“*a gente que ganha pouco*”). Without a license the boat pilots are clandestine (“*sem carteira é clandestino*”). He explains that the boat pilots learned their tasks on the job, picking up knowledge from varied sources. He says that he knew a little bit about piloting a barge and aluminum boat (*voadera*) but had little skill or expertise regarding the river (“*pouca manha do rio*”). He says that there are people unwilling to write a contract for the boat pilots to participate in the training course (“*pessoal não querem fazer um contrato direto para fazer curso lá fora*”).



Figure 7. Base Post staff (L-R: nursing technician, administrator, nurse), Manoel Urbano, July 2008

(Photo: C. Frenopoulo)



Figure 8. Base Post staff (L-R: dental clinic assistant, nursing technician), Manoel Urbano, July 2008

(Photo: C. Frenopoulo)



Figure 9. Base Post staff (L-R: cook, boat pilot), Manoel Urbano, July 2008 (Photo: C. Frenopoulo)

3.5.2 Transient staff: physicians and dentists

3.5.2.1 Physicians

The two physicians that I met during fieldwork were not yet licensed. They explained to me that their work there was a temporary job. They planned to leave as soon as they acquired their

medical license. They were both recent graduates. This was one of their first employments. They were both quite young. They were not local residents and they did not have family in Manoel Urbano.

Eduardo was in his late twenties at the time I met him. He was single and not in a relationship. He had graduated as a general practitioner only two years earlier. He had studied in Cuba. He was not licensed to practice in Brazil. He was in the process of obtaining the recognition of his foreign degree. Meanwhile, he was able to find employment in the urban municipal government health service in Manoel Urbano. Manoel Urbano city is a very isolated small rural town. These locations are the few places in which physicians with a sublegal status may find instant employment. At the time of fieldwork, the town only had three physicians, including Eduardo. He is originally from Rio Branco city. His family is there. He had bought a motorcycle and traveled back to Rio Branco every weekend during the dry season, when the road is usable. He was renting a small house in Manoel Urbano city and did not cook or settle in the house. He ate only in the town's few small restaurants and paid someone to wash his clothes. He openly spoke to me about his planned relocation as soon as he acquired his medical license.

Sérgio was in a comparable situation. He was in his late thirties at the time of fieldwork. He had a wife and children in Rio Branco city and traveled back to them as soon as the boat returned to port. He did not live or stay in Manoel Urbano city. He was also eagerly waiting to obtain his medical license. He had graduated a few years earlier. He had studied in Bolivia and was pursuing the recognition of his foreign medical degree. During the trip, he barely participated in leisure activities with the other health workers. He almost never helped with any of the chores, such as carrying loads, cleaning the classroom or setting up equipment. He kept mostly to himself, working with a laptop, reading and studying for his medical examinations. In

an informal interview with me, he confessed that he did not like the job. He said the whole experience was rather humiliating, including the requirement to write additional exams to get the license.

3.5.2.2 Dentists

The dentists working in the health team have similar demographic profiles to the physicians. They are typically recent graduates. They are young. They have little or no accumulated work experience. This is a temporary employment for them. They are not local residents.

Mateus had recently graduated from Faculdade São Lucas, a private university in Porto Velho city, Rondonia state. He is originally from São Paulo and his family is there. This was his first employment. He was able to choose this location for his first job. As the sole dentist in the entire region, he was in very high demand. He was employed by the urban municipal government health service. He had also been sent out to accompany the health boat (*barco da saúde*) that attends the riverine farmer (*ribeirinho*) population, which only travels once or twice in a year. He had set up a small clinic for private practice on the main street. He was married and the couple had no children.

I met Gabriela on her second trip to the villages. This was her first employment. She had recently graduated from a university in her hometown, Cuiaba city, in Mato Grosso state. I estimate that she was in her twenties. She found employment elsewhere very quickly and left the job after her third trip.

3.6 RESEARCH SETTINGS: HEALTH BOAT AND MADIHA VILLAGES AND CAMPS

The two main research settings are the “health boat” (*barco da saúde*) and the Madiha villages and other settlements. The health boat stops at temporary Madiha settlements along the river to provide services to families living in the camps.

Additionally, semi-structured interviews were conducted in the office of the Base Post in Manoel Urbano city.

3.6.1 The “health boat” (*barco da saúde*)

The health team travels to the villages on a relatively small and cramped boat. The boat is the means of transport for the personnel and equipment and is also the living and recreation space for the personnel. Officially, health services should not be provided on the boat. However, this sometimes occurs as a matter of necessity. For example, it is not always possible to make the electricity reach the village school house to power the dental equipment. In these situations, the dentists provide consultations from the boat.

The Base Post does not have its own adequately sized barge or boat (*batelão, barco*). The Base Post rents a private merchant boat for every trip (see Figures 10-12). They are not always able to secure the size or type of boat they prefer. The rented boat is hired together with its captain and its boat pilot to steer the rudder. The Base Post does own a boat but it is never used. The boat is too small and it has remained docked at the port in Manoel Urbano for years.

The rented boats are approximately 12 meters (c. 39 U.S. feet) long and about 4 meters (c. 13 U.S. feet) wide. They have only one deck (i.e., one story). The typical boat has one small

cabin behind the cockpit, which the health team uses for storage of medications and equipment. Often, someone may have to sleep there at night, if there is insufficient room on the deck. There is a small galley (kitchen) and a small bathroom in the stern at the back of the boat, near the motors. The barge uses one or two large outboard motors with propellers attached to long shafts. These are manipulated continuously to help steer the boat.

The boat carries all the food, drinking water and equipment for several weeks' journey, in addition to each passenger's luggage and belongings. Equipment includes tables, chairs, stools, a television set and DVD player, two freezers (one for food and the other for vaccines), insulated cooler boxes, several boxes with the clinical histories of every individual and other paperwork, mattresses and hammocks, a blue wooden box used as a dry pantry, portable dental equipment, fans, several gasoline drums, a large gasoline-powered electricity generator, and supplies of dry food items that are distributed to villagers with undernourished children.

The physical space is very tight (see Figure 12). The boat pilots are constantly clearing the deck of clutter throughout the day. Equipment is moved about to make space, depending on the momentary needs. Wet clothes, underwear and towels are always hanging to dry from the side planks of the boat. Mattresses are piled up during the day. Hammocks permanently hang from the roof beams.

The voyage recounted in this dissertation carried fourteen passengers: physician, dental surgeon, nurse, two nursing technicians, dental assistant, laboratory technician, cook, two Base Post boat pilots, two hired boat pilots, an anthropology student, and Sabino, a villager who joined the boat for a large portion of the trip. The number of passengers can vary from trip to trip, depending on the availability of professionals. At the very minimum, a trip will include at

least six individuals: nurse, nursing technician, cook, one Base Post boat pilot, and the two hired boat pilots.

The boat is a very crowded and confined space of permanent social activity. Passengers live on the boat throughout the whole trip. They are in one another's presence at all times during the entire trip. Almost all informal socialization occurs on the boat. They take all meals in the boat. They rest and relax on the boat. They sleep on the boat. They also perform necessary clerical work and stock control on the boat. On some occasions, dental, medical or nursing work may be performed on the boat. When stationed in a village, some villagers also come down throughout the day to chat or socialize with the workers, and may also receive a meal. There is usually a steady stream of children and youths who sit on the sides of the boat or on the beaches looking at the workers on the boat.

During a trip, there are practically no alternative spaces used for socialization, relaxation or activities. Workers go nowhere else or spend time with anyone else. In only very exceptional circumstances workers may eat, sleep or relax elsewhere, such as in the village schoolhouse, on a beach or at a riverine farm (*ribeirinho*).

For all its austerity and spatial restrictions, the health boat is probably the most luxurious vessel that travels regularly on this portion of the river. Passengers have access to electricity during the night, refrigerated drinks and water, a shower for private bathing, and immediate primary health care in case of need. Merchant and army boats on this river are the same size or smaller. They only carry goods or livestock and have no furniture, except for hammocks and perhaps a few chairs. Army boats may carry a number of men.

The Base Post also uses a small aluminum boat (*voadera*) for rescue operations. It is also used to transport single individuals or small groups on an errand. The Base Post had not had its

own aluminum boat for two years, according to Jorge at the time of his interview. For example, during the crisis of the baby recounted in this dissertation, the health team had to borrow the aluminum boat belonging to the construction workers who were drilling a well in Santa Júlia village. These small aluminum boats with outboard motors are the quickest vessel used on this portion of the river. They measure about 3 m (c. 3.3 US yards) long by 2 m (2.2 US yards) wide. They can carry about four to six passengers with baggage. They usually do not have a canopy for shade. Assuming no obstacles or delays, and traveling upriver (i.e., against the current), an aluminum boat can reach Ipiranga Nova village (the farthest Madiha village on the Purus River in this municipality) on the night of the same day it left Manoel Urbano very early at dawn.



Figure 10. *Deus É Fiel* boat (exterior) with captain standing in foreground, Boaçu village, July 2008

(Photo: C. Frenopoulo)



Figure 11. *Deus É Fiel* boat (exterior), Apui village, July 2008 (Photo: C. Frenopoulo)



Figure 12. *Deus É Fiel* boat (interior), Boaçu village, July 2008 (Photo: C. Frenopoulo)

3.6.2 Madiha villages and camps

The Madiha Indians (also known as Kulina) that live in the Manoel Urbano municipality number a total of a little more than five hundred individuals, including infants and newborns. My research involved contact only with the Manoel Urbano villages, which are in the jurisdiction of the Manoel Urbano health team. There are also some Madiha villages further upriver in the

adjacent municipality of Santa Rosa do Purus, which borders with Peru. Santa Rosa do Purus is mostly populated with the Pano speaking Huni Kuin Indians (also known as Kaxinawa or Cashinahua) and some riverine farmers (*ribeirinhos*).

The Madiha in the Manoel Urbano municipality are mostly settled into seven permanent large villages and numerous temporary camps of small family units (see Figures 13-16). The villages have a varying size. The oldest villages are the largest. They are Santo Amaro (132 individuals in 2008) and Santa Júlia (111 individuals in 2008). The medium sized villages are Boaçu (74 individuals in 2008) and Nova Ipiranga (75 individuals in 2008). The small villages are Apui (48 individuals in 2008), Bela Vista (30 individuals in 2008), Maloca (24 individuals in 2008) and Velha Ipiranga (established after 2008; it consists of four or five houses). The small villages appear to be secessions from the larger villages (e.g., Velha Ipiranga is a family group that split off from Nova Ipiranga). The villages are headed by a chief and the inhabitants appear to be his descendants and their spouses (of both genders, since young men locate to the village of their wife for the first few years of marriage).

Figures 13 and 14 show approximate physical locations of the villages based on my memory of the river bends. I did not take GPS measurements at the sites to record the exact locations.

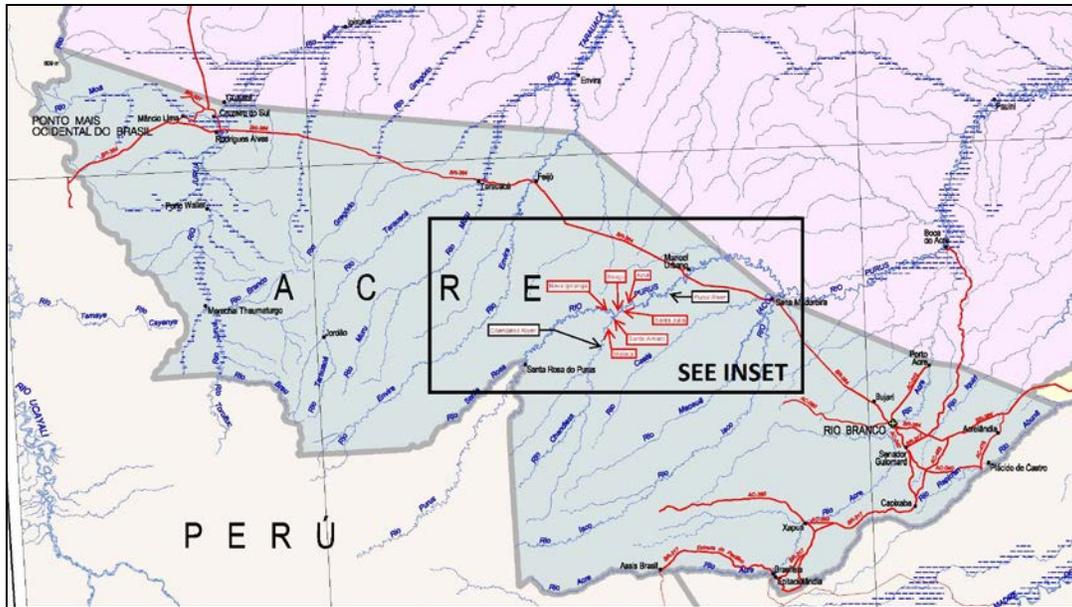


Figure 13. Map of Acre, indicating approximate physical locations of Madiha villages (source: IBGE 2012c [modified])

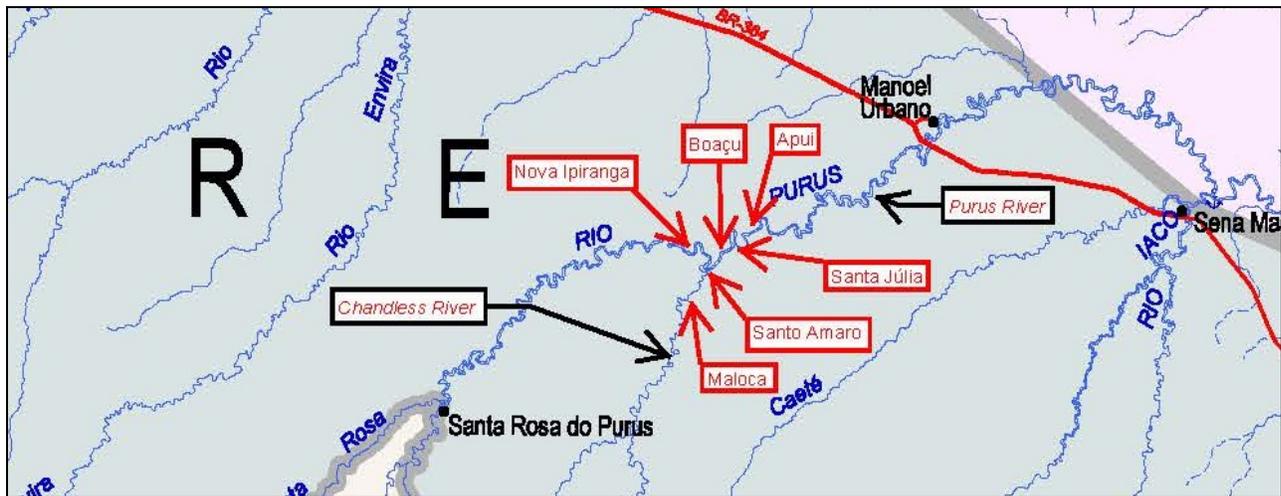


Figure 14. INSET: Map of Acre, indicating approximate physical locations of Madiha villages (source: IBGE 2012c [modified])



Figure 15. Santa Júlia village, July 2008 (Photo: C. Frenopoulo)



Figure 16. Madiha temporary camp, Purus River, July 2008 (Photo: C. Frenopoulo)

The major villages lie on high banks of the Purus River. The Purus River is very wide and long, painfully making its circuitous way all the way down to the Amazon River. It is a “white” river. The water is thick and has a light clay color. The river teems with fish and wildlife, including pink dolphins, sting-rays, alligators, catfish and carnivorous fish. Birds of all sorts flock in the trees bordering the river. The Upper Purus is the section of the river near the headwaters, which are located just across the border in Peru. The river here can become very shallow during the dry season or “summer” (midyear), making navigation very difficult. Almost

all the land here is dense tropical forest. There are some riverine farmer (*ribeirinho*) homesteads on the left bank. The right bank is a large Indian Reserve with only Madiha and Huni Kuin villages.

There is also one small Madiha village, called Maloca village, on the Chandless River. The Chandless River is a tributary of the Purus River. It is quite shallow and narrow. The boat is sometimes unable to reach Maloca village in the dry season and the health workers have to send a party of workers in a small aluminum boat. The village is built in a National Forest Reserve, where non-Indigenous populations are not allowed to occupy or to use the natural resources.

The Chandless River is named after the English geographer William Chandless, who mapped the Purus River in 1864 (Chandless 1866) and other regional rivers during those years (e.g., see Chandless 1869). Chandless was exploring the region for natural groves of rubber trees (*Hevea brasiliensis*) and other forest products. In his travels here, Chandless met with Manoel Urbano, a Brazilian military officer, who was conducting a similar sort of expedition in the region and they helped one another. Manoel Urbano was testing the stories that claimed the Purus River linked to Andean rivers, providing a direct navigation channel from the Andes to the Amazon River and out to the sea (Chandless 1866). Chandless describes Manoel Urbano as a mulatto who was very hardy and able to communicate with the Indians (Chandless 1866).

The Chandless River has become increasingly attractive to Madiha as a hunting ground since game resources have been progressively depleted along the Purus River. On my last trip, one of the chiefs was viewing the Chandless River as a prospective site to set up a new village. The forest there is rich in game and virtually uninhabited by humans. Access to that region is very difficult with large boats, naturally safeguarding the area from encroachment by non-Indigenous people.

Madiha are Arawan speakers (Dienst 2006). Once very numerous throughout the region, they are now mostly concentrated in the Envira River and the Upper Purus River basins. They were severely reduced during the invasions and wars of the Rubber Era and fled towards the headwaters of these rivers. There are now very few Arawan speaking groups. They are not as well-known as the Pano and Arawak speakers and there is very little documentation about them.

For the most part, Madiha men hunt and women tend manioc (*Manihot esculenta*) gardens (see Figures 17 and 18). Madiha cultivate other edible plants too, such as banana (*Musa acuminata*), papaya (*Carica papaya*) and pineapple (*Ananas comusus*). Men and women both fish (separately). A bush that provides a poison used for fishing is cultivated besides the houses. Women weave cotton (*Gossypium sp.*) for hammocks and make baskets. Women and girls sing throughout the day. Madiha wear Western clothing and live in houses that emulate the architecture of the rubber-tapper houses built on stilts. Each nuclear family lives in its own house.



Figure 17. Women boiling manioc (*Manihot esculenta*), Santo Amaro village, July 2008 (Photo: C. Frenopoulo)



Figure 18. Boy with hunted tapir (*Tapirus terrestris*), Santo Amaro village, August 2010 (Photo: C. Frenopoulo)

Since the demise of the rubber industry in the 1970s, Madiha have become more isolated and the newer generations are monolingual. They interact very little with other groups, whether Indigenous or non-Indigenous, except for exchanges (trade). Most do not speak Portuguese well or at all. Children and many women (especially young women) are monolingual. They have less contact with outsiders. Elderly men are more likely to be bilingual, especially due to their association with the rubber industry when they were younger. Most Madiha cannot read or write.

Madiha are very migratory. They persistently visit one another's villages daily, with canoes traveling back and forth throughout the day. Not surprisingly, gasoline is a highly desired resource. They may all leave the village for short periods, such as for hunting expeditions or to gather turtle eggs. Several times, the boat reached a village that was entirely empty and we had to wait some days for the villagers to return. It is more common for the men to spend time away in hunting or fishing expeditions, while the women and children stay in the village and tend the gardens. They also often split up into smaller family units, setting up temporary camps along the rivers (see Figure 16). I was also told that kin leave a village when a close family member dies.

Their migratory practice disturbs the Base Post's scheduled delivery of health care in the villages and is a frequent cause of frustration for the health workers.

The chief's male sons usually occupy the salaried government posts of teacher and lay health monitor (AIS). This means that the health monitors (AIS) are not especially prepared for the job and it cannot be assumed that they have a vocational interest in healing. At the time of fieldwork, almost none of the villagers had government identity documents or birth certificates. Therefore, almost all of them were ineligible to occupy government employments. Only the few men who had acquired identity documents were able to become teachers or lay health monitors.

Madiha strongly adhere to their native medical system and the shamans are not involved with the work of the biomedical health team. The two medical systems coexist side by side in a state of separation. From my observations, villagers prefer the native medical system when faced with a therapeutic or diagnostic alternative. This generated a great deal of frustration in one physician, who openly insisted on telling the villagers that there was no such thing as sorcery (*dori*). The permanent staff are more abiding and do not confront the native medical system.

The health team usually sets up the equipment in the school buildings. The larger villages have school houses that were built by the state government in 2002, though now all of them need repairs (see Figure 19). In the smaller villages, they set up the equipment in the living/common area of somebody's house.



Figure 19. School house, Santa Júlia village, July 2008 (Photo: C. Frenopoulo)

3.6.3 Manoel Urbano municipality region

Manoel Urbano city is a small port on the Purus River. The city has only about twenty-two streets. There are about thirteen streets that run parallel to the river and about nine streets that run perpendicular (see Acre 2008:132) (see Figures 20 and 21). The city is about 1.2 km long (c. 0.75 miles) and about 1 km wide (c. 0.62 miles) (see Acre 2008:132). The city is accessible by road (BR 364 highway) only during the dry season (midyear) and has a runway for very small aircraft (Acre 2008:129). The city is built on the former estate Colocação Tabocal (Acre 2008:129).

The city is named after Manoel (or Manuel) Urbano da Encarnação, who was appointed by the governor of Amazonas as director of Indian Affairs for the Purus River and affluents during the late nineteenth century (Acre 2008:129). He explored the local rivers between 1850 and 1860, preparing the way for the Rubber Boom that was to erupt in 1880 (Acre 2008:129). He

was illiterate but is said to have been a man of great intelligence. He is said to have conquered the trust of the local Indigenous groups (Acre 2008:129).

The Base Post office is located in the city (see Figure 22). It is a small building that does not offer health services and is only the administrative headquarters of the health team. The pharmaceutical stock and travel equipment is kept here. The health workers carry out clerical and preparatory work here in the periods between trips. Madiha villagers who require medical assistance in the town are sent to the local clinic for the general population, though the Base Post workers provide them with assistance and company. However, Madiha reluctantly and rarely make use of these services.

The whole municipality of Manoel Urbano is almost entirely covered in dense tropical forest. Just under half of the land is a reserve. The Indian reserve covers 11.3% of the land and a forest reserve covers another 44% (Acre 2008:129-130). These reserves are, in turn, surrounded by adjacent forest reserves and other Indian reserves, located in the neighboring municipalities and in Peru (Acre 2008:130).

The total population for the municipality (including Indians) is 7148 individuals (Acre 2008:130). The population density is very low at 0.67 people per km² (c. 0.26 people per US sq. mile) (Acre 2008:130). It is the municipality with the second lowest population density in Acre (Acre 2006:163). The adjacent municipality of Santa Rosa do Purus is the lowest, at 0.55 people per km² (c. 0.21 people per US sq. mile) (Acre 2006:162). The port of Manoel Urbano is the only town. The other settlements in the municipality are the individual riverine farms (*riberinhos*) and the Madiha villages and temporary camps.



Figure 22. Office of the Base Post in Manoel Urbano city, July 2008 (Photo: C. Frenopoulo)

4.0 MADIHA (KULINA) IN ACRE

In this chapter I present some background information that will assist the reader to understand the geographical, historical and interethnic social context of the research settings. In the first section I provide information about the geographical locations and population sizes. I concentrate the rest of the chapter on background information about the Madiha people.

The Madiha population is now concentrated around two major river systems: Juruá River and Purus River. My research was conducted with the Purus River system inhabitants. A brief historical exposition will explain the Madiha people's contemporary migratory behavior and other changes induced by the invasions of the Rubber Era.

I also include an overview of the native medical system, as this is potentially relevant to understand their modes of interaction with health workers and offers of biomedical care, such as the villagers' tolerance for injections and aversion to oral pills.

Additionally, I call the reader's attention to the two common native disease categories of *dori* (sorcery), which affects adults and cannot be healed with Western medications, and *epetuka'i*, which affects infants and can be treated also only by the shaman. It appears that the baby that died on March 21, 2010, had been diagnosed with *epetuka'i*, according to a film recording that I recount later in this dissertation.

4.1 TERRITORY OF ACRE

Acre is a relatively small state in the west of Brazil. It is entirely immersed in the Amazon tropical forest and borders with Peru and Bolivia (Acre 2008:29). The state has a size of 164,221.36 km² (c. 63,406.22 U.S. square miles) (Acre 2008:30). Comparatively, Acre is roughly the size of Tunisia or Surinam and slightly smaller than Uruguay (mongobay.com 2012). Compared with U.S. states, Acre is slightly smaller than the state of Washington but larger than Georgia (IPL2 2012).

Acre has a total population of 655,385 individuals (Acre 2008:30). Comparatively, Acre has slightly less total population than Bhutan or Montenegro and more than Equatorial Guinea (mongobay.com 2012). Compared with U.S. states, Acre has more population than Vermont but less than North Dakota (IPL2 2012).

The population density for Acre is 3.99 people per km² (c. 1.54 people per U.S. sq. mile) (Acre 2008:30). Comparatively, Acre is slightly more populated than Libya, Canada or Mauritania (mongobay.com 2012). Compared with U.S. states, Acre is slightly more densely populated than Alaska. The next most densely populated states in the United States are Wyoming and Montana, which have almost four to almost four and a half times the population density of Acre (IPL2 2012).

Almost half of the population of Acre (47%) is located in Rio Branco, the capital city, and its surrounding region (Acre 2006:161). The metropolitan area of Rio Branco accounts for 57% of the state's population. In the west, Cruzeiro do Sul city and its surrounding region account for 18% of the total population of Acre (Acre 2006:162).

Although it was once the unsurpassed source of economic wealth and development in Acre for the non-Indigenous population, the extraction of latex from the rubber tree (*Hevea*

brasiliensis) plummeted drastically in the last decades. The trend continues, as latex production dropped from 1046 metric tons (c. 1153 US short tons) in 2001 to 634 metric tons (c. 699 US short tons) in 2005 (Acre 2008:72). During that time, agricultural production (manioc, corn, bananas, rice, beans, sugar cane, and other products) and the extraction of woods and forest products (Brazil nuts, açai fruit, Copaiba tree oil, and other products) grew fast and superseded by far the extraction of rubber (Acre 2008:72-73).

4.2 NATIVE POPULATIONS

Acre has a total of 13,312 Indians living on reserves (Acre 2008:59). They are divided into fourteen ethnic groups (Acre 2008:59). The thirty-four Indian reserves cover about 14.55% of the total area of Acre, adding up to 2,390,112.26 hectares (c. 5,906,096.17 U.S. acres) (see Figure 23) (Acre 2008:56; Acre 2006:107). Additionally, there are an estimated six hundred to one thousand Indians living in isolation (uncontacted) and about four thousand living in urban areas (Acre 2008:56).

The two native linguistic stocks with the most speakers in Acre and surrounding regions are Arawak and Pano (Acre 2008:55). Arawa is a third linguistic stock with a smaller number of speakers (Acre 2008:55). Madiha are the only Arawan speakers in Acre (Acre 2008:57; Dienst 2006).

4.3 MADIHA (KULINA) GROUPS IN ACRE

Pollock (1985:17) and Lorrain (2000:306 n.1) estimate that there is a grand total of 3000 Madiha. They live in Brazil and Peru. Haverroth et al. (2010:44) quote that about 2500 were living in Brazil in 2002. In Brazil, I am aware of groups in the states of Acre and Amazonas. In Brazil, they are located along two river systems. I was in contact with Madiha groups living along the Purus River and one of its affluents, the Chandless River.

In Acre, the Madiha people totaled 1317 individuals in 2008 (Acre 2008). They live on three reserves: Envira River Indigenous Territory (317 individuals), Pau River Indigenous Territory (127 individuals) and Upper Purus River Indigenous Territory (873 individuals) (Acre 2008:57, 58) (see Figure 23).

The Madiha in the Upper Purus River Indigenous Territory are spread across two municipalities: Manoel Urbano and Santa Rosa do Purus (Acre 2008:58). The fieldwork mentioned in this dissertation was conducted with the groups living in the Manoel Urbano municipality. They total just over 500 individuals.

From accounts I collected in the field, the Madiha living in the Upper Purus River region came from the Envira River region during the twentieth century. At the time of fieldwork, it appears that they no longer have regular contacts with their Envira River kin. They do maintain constant contact with Madiha located elsewhere along the Upper Purus River, such as across the border in Peru (see also Acre 2008:55).

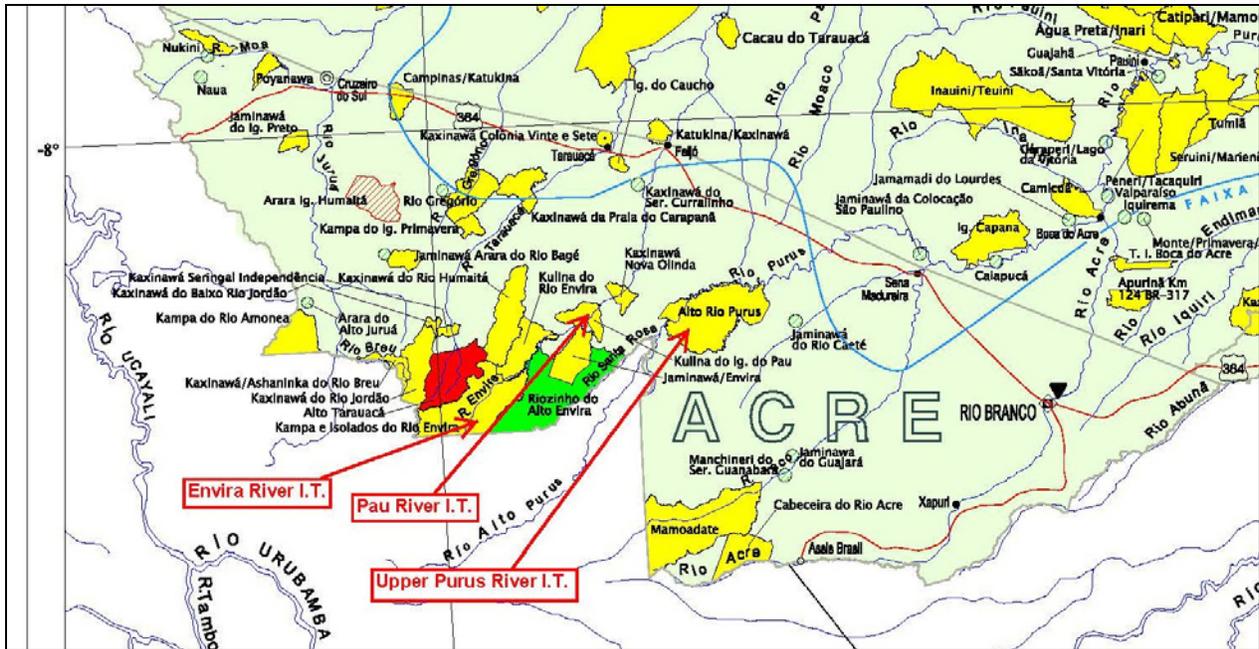


Figure 23. Map of Indigenous Territories in Acre, indicating Madiha Indigenous Territories (source: FUNAI 2006 [modified])

4.3.1 Ethnonym: Madiha or Kulina

The Madiha (or Madijá) are called Kulina (or Culina) when speaking in Portuguese and also in much of the literature written in Portuguese, Spanish and English. Unfortunately, the term “Kulina” has been applied to at least three different groups: two Panoan speakers and one Arawan speakers (Fleck 2007). I was in contact with the Arawan Kulina, who call themselves “Madiha”. The Arawan Kulina are almost certainly not related to the Panoan speakers (Fleck 2007). To avoid confusion and to respect the use of the ethnonym they use for themselves, I refer to them as “Madiha” in this dissertation.

The earliest references to groups called Kulina (or variant spellings) appear to be from the seventeenth century in Jesuit missionaries' accounts (Fleck 2007). These groups were located close to the Amazon River (Fleck 2007). They do not seem to refer to the Madiha (Arawan Kulina). References to Kulina groups living in the Juruá River and Purus River basins emerge in the second half of the nineteenth century (Fleck 2007). These groups may be Arawan speakers. However, word lists are lacking in many cases, making it difficult to ascertain linguistic affiliation (Fleck 2007).

The Madiha are a very marginally studied group. There is only a handful of unpublished dissertations and theses, and about the same amount of published articles. Most of the authors admit difficulty to learn and become proficient in the native language, simultaneously explaining that most villagers do not speak any other language. Ethnographers have not been very successful to approach women or younger people. Most works are based on intense relations with a select number of bilingual informants, usually male. My field experience reflects this situation identically.

4.3.2 Juruá River region

William Chandless, traveling up the Juruá River in 1867, mentions Kulina (“Culinos”) living inland. He says they are a numerous group who do not use canoes and come to the river banks when the turtles lay (Fleck 2007). Chandless thinks that they might be related with the Jamamadi (“Jamamadys”) (Fleck 2007). As the Jamamadi are Arawan speakers, it is possible that these Kulina are Madiha. Pollock finds Chandless' brief description coherent with the memories of older informants and “is probably accurate” (Pollock 1985:22).

Linguistic evidence that the Juruá River Kulina were Arawan speakers comes from Albert Courboin's account published in 1901 (Fleck 2007). Courboin cites five words from these Kulina ("Curinas"). Three of these can be found in Silva and Montserrat's (1984) Kulina – Portuguese dictionary (*dori, dsoppineje, tocorime*) (Fleck 2007). I recognize two of these words from my fieldwork. According to Fleck (2007), there is little doubt that the people Courboin encountered are the ancestors of the present-day Arawan speaking Kulina (i.e., the Madiha).

Other early twentieth century accounts by foreigners and Brazilian military and government officials mention Kulina groups living in the Upper Juruá River and tributaries, but do not provide linguistic data (Fleck 2007).

Constant Tastevin, a Catholic priest, personally met the Kulina ("Kurina") living in the headwaters of the Erú River, possibly in the early 1920s (Fleck 2007; Pollock 1985:22). He mentions them living in a communal house. He explains that their "proper name" is "Madija" (Fleck 2007). He collected a vocabulary and concluded their language was Arawakan (Fleck 2007). (At the time, Arawa was not classified as a separate linguistic family from Arawak).

Tavestin also noted that the Kulina on the Muru river had been pushed further south onto the Envira River and Purus River by the rubber tappers who arrived on the Muru River in 1890 (Pollock 1985:22).

Just before this, Tavestin had sorted out, in collaboration with Paul Rivet, that there were two groups called "Kulina" which were unrelated and which spoke different languages (Fleck 2007). They later confirm this, stating that the Kulina or Kurina who call themselves Madiha currently live between the Erú (Eiru) and Gregório rivers, and formerly lived between the Envira and Taruacá rivers (Fleck 2007). These are all tributaries of the Juruá River, very close to one another.

A short description of the Kulina (“Curinas”) living in the Upper Gregório River was provided by João Braulino de Carvalho in 1931. Carvalho was a physician working in the Brazil-Peru border commission from 1920 to 1927 (Fleck 2007). He describes them living from small-scale agriculture of manioc, maize, sweet potato, plantain/banana, and peanuts. He also mentions that a large group was working for the rubber boss José Pedro de Souza on his rubber estate “Ituxi” at the mouth of the Gregório River (Fleck 2007; Pollock 1985:22). Carvalho collected a word list that he analyzed with Curt Nimuendajú, concluding that the language was Arawakan (Fleck 2007).

In the 1970s, Abel O. Silva (also known as Kanaú) begins to work with Madiha living on the Anjo River, which is close to the Envira River. He variously refers to them as Kulina or Madijá. He lived with them for five years (Silva A. N.d.). He appears to have worked in collaboration with CIMI, a missionary organization of the Catholic Church for Indigenous peoples. He also co-authored some grammars and dictionaries with Ruth Montserrat (Montserrat & Silva A. 1986; Silva A. & Montserrat 1984).

A. Silva (N.d.) states that the Madiha were originally inland forest-dwellers and that they were once much more numerous. He explains that they were reduced by disease and destruction of their habitat caused by the rubber explorers, on both the Brazilian and Peruvian sides of the border. During this period, they moved towards the river banks and changed their lifestyle. They became rubber workers and subsistence agriculturalists and hunters. A. Silva’s descriptions indicate that Madiha became nomadic as a response to the disease outbreaks and the invasions of the Rubber Era.

They originally lived in communal houses. According to a description given by a shaman in the Igarapé do Anjo village, who had lived in one of these houses as a boy, the houses

measured 50m x 20m (c. 54.7 US yards x c. 21.8 US yards). Up to four nuclear families lived together, each with their own cooking fire. A. Silva explains that Madiha abandoned this form of architecture during the period of constant nomadism that began with the population reduction caused by the extraction fronts. The communal house was replaced with the smaller stilt houses used by the rubber tappers, which are less difficult to build, more ephemeral, and easy to abandon during a raid. He adds that the communal house also lost its purpose with the clanic destructuring and segmentation of extended families caused by the population decrease. A. Silva also indicates that Madiha no longer paint their whole bodies and now only paint their faces. Informants explained to him that they used to paint their bodies when they were “Madija coroje maittaccadsamacca” (“naked Man of the past”).

Lorrain (2000) conducted fieldwork in the Kulina Indian Territory of the Middle Juruá River, in the state of Amazonas between 1988 and 1991. Her research includes discussions regarding gender relations and economic and cosmic reproduction.

Haverroth et al. (2010) conducted two field trips in 2008 and 2009 to survey the Madiha groups living on three Indian reserves in the municipality of Feijó, in Acre state. They collected native classifications of plants and recorded some of their uses, especially those with medicinal applications. Their brief ethnographic descriptions of the living conditions and practices match my observations of the Upper Purus groups identically. The authors’ descriptions of healing and shamanism also coincide identically with Pollock’s (1988, 1985) descriptions for the Upper Purus groups. The authors’ also confirm the same situation of lack of training and resources for the lay health monitors (*agentes indígenas de saúde*, or AIS) and their relatively low legitimacy in the village for dealing with health issues (2010:49). Regarding government services, the

authors explain that health and sanitation lack a specific public policy that is adequate to the Madiha groups' socio-cultural and environmental profile (2010:53).

4.3.3 Purus River region

The earliest reference to the Madiha groups living in the Upper Purus River basin is possibly by José de Lima Figuerêdo (Fleck 2007). Figuerêdo was in the region in the early twentieth century and published his findings in 1936 and 1939 (Fleck 2007). He mentions the Kulina (“Curina”) living on the Santa Rosa River, a tributary of the Upper Purus River that forms part of the Brazil-Peru border and is just east of the Envira River. He collected a word list which demonstrates that the language is clearly Arawan (Fleck 2007).

Pollock estimates that Madiha on the Purus River have led an itinerant life since the 1920s, moving from rubber estate to rubber estate and performing menial labor for minimum returns (Pollock 1985:23).

Patsy Adams and Arlene Agnew, missionaries from the Summer Institute of Linguistics, begin to work with the Madiha (Madijá) in Peru in the 1950s. Initially they publish their work using the ethnonym “Culina” in the 1960s (e.g., Adams 1962). In the 1980s and 1990s, they begin to refer to the groups as “Madijá” (Fleck 2007).

The Madiha of the Upper Purus River were briefly studied in the late 1970s by Seeger (Seeger & Vogel 1978 quoted in Silva D. 1997) and Viveiros de Castro (1978 quoted in Silva D. 1997).

Pollock (1985) conducted dissertation research between 1981 and 1982 among Madiha living in Maronaua village, in the Santa Rosa do Purus municipality, which lies a little further upriver from my fieldwork. Pollock (1985) studied the native medical system. His dissertation

focuses on how native notions of illness and treatment are related to notions of personhood. At the time of his fieldwork, he says that there were only two Madiha villages on the Purus River in Brazil. These are Maronaua, his fieldwork location, and Santo Amaro, which lies at the mouth of the Chandless River and which I visited several times. He refers to the Madiha as “Culina” in his dissertation (1985) and earlier writing (e.g., 1988), switching to “Kulina” in later publications (e.g., Pollock 1996).

Pollock explains that Maronaua village was established in the 1960s. Older residents of the village remember their childhood in the forest, where they lived “without clothes or metal pots” (Pollock 1985:23). The families moved to the rivers to seek work on the rubber estates, moving back and forth along the rivers for about thirty years (Pollock 1985:24).

The population coalesced at Maronaua in the early 1970s when a priest from Sena Madureira, Padre Paulino Baldassari (now very elderly, and whom I met in Sena Madureira city and then again in Santa Júlia village), built a school house in the village (Pollock 1985:24-25). At the time of Pollock’s fieldwork, a succession of CIMI missionaries had been living in the village, unsuccessfully attempting to teach villagers literacy in the native language (Pollock 1985:24).

D. Silva (1997) lived from March to May 1996 in Santa Júlia village conducting fieldwork for his master’s thesis. He explains that the village is built on the spot of an extinct rubber estate of the same name (Silva D. 1997:7). The village chief at the time was Benedito, who was still there during my fieldwork. D. Silva studied Madiha music, especially singing, and how it is related to the development of personhood. He did not speak the native language.

D. Silva traveled to the village on the “vaccination boat” (*barco de vacinação*) that was transporting three CIMI missionaries, a government health worker with the vaccines, and an

Italian man, in addition to the boat pilot. The CIMI missionaries spoke the native language. His fieldwork occurred a few years before the implementation of FUNASA delivery. D. Silva mentions the “cordial division” of activities between the CIMI missionaries, who worked with Madiha, and the CPI/AC workers, who worked with Huni Kuin (Kaxinawa) (Silva D. 1997). The CPI/AC is a secular NGO (see next chapter).

D. Silva repeats the claim that Madiha were previously one of the most numerous groups in the region and that they used to live inland before the arrival of the rubber migrants (Silva D. 1997:13). He explains that they fled to the rivers’ headwaters where rubber estates could not be established in order to escape the extermination raids known as “*correrias*” (*fleeing*) (Silva D. 1997:14). This is when they began to live on the river banks (Silva D. 1997:14). According to D. Silva (1997), Madiha used to live in communal houses, grouping several families. Now, they live in stilt houses, imitating the style of rubber tapper houses. He explains that a household is composed of a male head [and wife] living with sons-in-law [and daughters] and grandchildren. Marriages are uxori-local between cross-cousins (Silva D. 1997:15). They moved to the river banks for trade (salt, gunpowder, oil, fishing hooks, clothes, etc.). The goods were initially supplied by the rubber bosses through the *aviamento* (supply) debt peonage system and later through trade with river merchants (*marreteiros*) (Silva D. 1997:14). D. Silva cites Viveiros de Castro, who explains that, “when they were wild Indians (*caboclos brabos*) [sic], they say, they fled into the center; tamed, they returned to the river banks to work for the bosses. The river bank is the locus of civilization for the Kulina” (Viveiros de Castro 1978 quoted in Silva D. 1997:14, my translation).

Zwetsch (1993 quoted in: Silva D. 1997:16) also explains that Madiha nomadism is a response to the changed social environment caused by the arrival of the rubber migrants and the persistent quest for fair trade relations. Zwetsch says that,

There was a time when the Madija moved around a lot, always searching for the “good boss” (*bom patrão*), the one that would supply them with salt, ammunition, clothes, knives, machetes, fishing hooks, fishing line, nets, in exchange for certain services the Indians could provide. But, because the exploitation was intense, the Madija would leave and go away, not allowing themselves to be dominated by the unequal relations. This resistance is a characteristic of this people and even today is felt in their relationship with external agents, whether missionaries, FUNAI agents, merchants or anybody else who hires their services or establishes relations with the community (Zwetsch 1993, quoted in D. Silva 1997:16, my translation).

Different from Huni Kuin, Madiha are barely permeable to the invaders’ culture and do not seek to assimilate with the invader (Silva D. 1997:16). D. Silva cites Viveiros de Castro (1978) who repeats this impression, saying that Madiha do not identify with the rubber tappers, contrary to the Huni Kuin (1997:16). The Madiha that D. Silva studied travel very little to the city (Silva D. 1997:16). They do not speak much Portuguese and do not express much interest in learning. He says that only older people can speak Portuguese with some fluency due to their contact with the rubber industry in the past (Silva D. 1997:17). These statements continue to be true according to my fieldwork observations.

D. Silva explains that Madiha allied with their Huni Kuin (Kaxinawa) neighbors in 1984 to ascertain territorial claims and to petition jointly their title to the land with FUNAI (Silva D. 1997:14). During his fieldwork, the land claim was in its final stages of recognition (Silva D. 1997:14). At the time of my fieldwork, the land was officially demarcated as Indian Territory.

Stefan Dienst (2006) wrote a grammar of the language. He lived in Apui village. He was remembered by Sico, the Apui school teacher, who spoke to me about him (Dienst 2006).

4.3.4 Madiha native medicine

4.3.4.1 Native medicine: disease categories

Pollock explains that Madiha have two major disease categories. “External” diseases are those that have publicly visible symptoms, e.g., on the skin. “Internal” diseases are those with internal symptoms of discomfort or pain (Pollock 1985).

External diseases are considered mild and are believed to have an identifiable physical origin, such as a cut, bruise or insect bite. They are treated with plant medicines. Introduced infectious diseases with skin symptoms, such as measles or smallpox, are included in this category (Pollock 1985).

Internal diseases are believed to have a mystical origin. They can be treated only by the shaman. Plant medications are ineffective. Infants with internal diseases are usually diagnosed with *epetuka'i*, which is caused by a parental food taboo violation. It is caused by the parents' consumption of male animals that are underground spirits (*tokorime*) (Pollock 1985:122). It is an illness of the child's digestive system, signaled by abdominal pain and diarrhea.

Adults with internal disease are usually diagnosed as victims of sorcery (*dori*). *Dori* is a substance in the bodies of shamans, who are always men (Pollock 1985). The substance can be mystically introjected into an enemy, where it becomes lodged, remaining there like a stone. The stone causes sickness and can be fatal. Some forms of *dori* disease are incurable (Pollock 1985). Bacuzzi, an elderly former shaman in Santo Amaro village, bitterly told me once that his *dori* had been depleted by enemies in other villages and this is why he was no longer able to cure.

Pollock mentions two other diseases categories, but which his informants were very unsure about and which no identifiable cases were reportable. These are sicknesses that result from fright and from an aphrodisiac that men secretly apply to women's hammocks and which is

potentially poisonous. The poison sickness can be cured only by ayahuasca shamans. Pollock's Madiha informants claimed that only their neighboring Pano Indians (e.g., Huni Kuin) had knowledge of poisons and had this kind of shaman (Pollock 1985).

4.3.4.2 Native medicine: treatments

External diseases are treated with plants. The leaves are applied directly to the location of the sore. The leaves may be crushed, boiled or chewed. The curative potential of the plants derives from their strong smell. Certain industrial medications, such as mercurochrome, are valued because of their strong smell and red coloring. Mercurochrome is applied directly to wounds (Pollock 1985).

Madiha also value injections highly. This is because the injection delivers the curative substance directly into the flesh (Pollock 1985). In contrast, oral medications are potentially effective only for certain digestive disorders that are not caused by sorcery or taboo violation, and for relieving certain internal pains (Pollock 1985).

Plants and industrial medications are not considered effective for treating *dori* and *epetuka'i*. Only the shaman can cure these diseases. The shaman extracts the pathogenic substance by sucking repeatedly at the area of the patient's body where the disease is lodged, usually where the pain is strongest. The process is identical for adults with *dori* and for children with *epetuka'i* (Pollock 1985).

D. Silva (1997) also notes that Madiha are skeptical about the efficacy of oral medications. He provides an account in which oral antibiotics he provided for a sick child were disdained. The son of Sapo, shaman of Santa Júlia village, was very sick. D. Silva gave him some medications and explained how to take them. When he visited the boy two or three days later, he found the bag of medications intact hanging on the wall. He questioned Sapo, who

claimed that the boy was indeed taking the medications but that he was not improving (1997:21). When the health missionaries stopped at the village two weeks' later on their way back to the city, Sapó admitted that the boy had not been taking the medications because he vomited the first time he took them and the mother did not insist (Silva D. 1997:21).

Pollock explains that industrial medications are only sought for external diseases or for internal discomforts before the diagnosis of *dori* or *epetuka'i* (Pollock 1985:131). Such medications are believed to be ineffective for the latter diagnoses (Pollock 1985:132). Pollock also explains that surgery is believed to have the function of attempting to remove *dori*, as physicians do not know how to perform shamanic extraction (Pollock 1985:132). This description is coherent with my own field experience. For example, when I met Adão on my first trip, the nurse explained to me that he had Hepatitis B. He had a large inflated abdomen and the health workers were exasperated trying to persuade him to go for surgery in Rio Branco. He steadfastly refused, claiming that the shaman had already removed the "stone" (*pedra*). He died very shortly afterwards.

4.3.4.3 Native medicine and cosmology

Madiha cosmology recognizes five levels: two sky levels (*meme etseni* and *meme tsueni*), a celestial aquatic level (*patso dzamarini*), ground level (*nami*) and underground level (*nami budi*) (Silva D. 1997; Pollock 1985:59).

The sky level has two echelons. The lower level (*meme etseni*) is where the clouds drift and the birds fly. Above this is the blue and black sky (*meme tsueni*) where the stars are. These levels do not have much cosmological significance (Silva D. 1997; Pollock 1985). Just between the two sky levels, there is an aquatic sky level (*patso dzamarini*), which has large lakes and rocks. When the rocks are struck, the water from the lakes splashes down as rain upon the

ground level. This level is the home of the culture heroes who created the world. The heroes are remote beings, no longer involved in the affairs of humans (Pollock 1985).

Humans, plants and animals live on the ground level (*nami*). The spirits or souls of dead (or unborn) humans and animals live in the underground level (*nami budi*). The underground level is identical to the ground level, with forests, rivers, animals and villages. The people in the underground villages lead a similar life to those in the ground level. These people are not the dead humans from the ground level, but essential socially virtuous beings who are summoned during the healing rituals (Pollock 1985:59-60).

Shamans use tobacco snuff to see the underworld and interact with its inhabitants. When humans die in the ground level, the shaman conducts the soul to the underground level. There, the soul is eaten by the peccaries and transformed into a peccary. Souls of dead people that have not been led to the underground level (e.g., witches/sorcerers who have been denied proper burial) are left to wander the ground level for several days until they are eaten by a jaguar and become transformed into one (Silva D. 1997; Pollock 1985). Shamans also periodically summon the souls of the dead up into the ground level, where they are reincarnated as peccaries, thus ensuring the availability of game for the men to hunt (Lorrain 2000:297; Silva D. 1997; Pollock 1985).

The spirits in the underground level play an important role in the healing ritual and are also implicated in the cause of *epetuka'i* disease. Except for shamans, men are excluded from the healing ritual. The ritual occurs at night, with a circle of women surrounding the sick person, who sing the songs and who present the healing spirits with manioc beer (a taming substance) and tobacco snuff. The shamans (always men) come in from the forest into the village clearing dressed in palm fiber costumes, embodying the spirits from the underground. They approach the

sick person, drink the manioc beer, snuff the tobacco, and proceed to discover and suck out the pathogenic *dori* substance lodged in the victim's body. The shamans work individually, coming out from the forest and returning to it one by one. They also sing as they work (Pollock 1985:125-129).

5.0 HEALTH MISSION DELIVERY MODEL

In this chapter I explain the missionary form of organization of biomedical health care delivery for the Indigenous populations. I present first the history of biomedical care services for Indians in Brazil and after that, some details about the delivery model at the time of fieldwork.

Generally speaking, health care for Indians has practically always consisted of medical mission delivery. Most of the health work has been assistentialist, implementing a dependency on infrequent and unpredictably staffed traveling teams of medical professionals. Health care is itinerant and relies on imported tools, skills and personnel. There has been a persistent circumstance of lack of continuity and reliable regularity of visitations.

Little has been achieved regarding the formation and continued support of native cadres of resident health workers, and the strengthening or creation of a local infrastructure of health care delivery. Very little public health interventions at the infrastructural level have been implemented in the villages, for instance regarding nutrition improvement. Water and waste sanitation engineering efforts have been unsuccessful. Most preventive work appears to have been focused on vaccinations. Immunization efforts appear to have been successful, achieving high coverage rates.

5.1.1 SPI period (1910 – 1967): areal health missions

The Indian Protection Service or SPI (*Serviço de Proteção ao Índio e Trabalhadores Nacionais*) was created in 1910. It was the first government organ for Indian affairs in Brazil. The SPI had an integration policy that sought to pacify and acculturate the Indian populations. The SPI was a dependency of the Ministry of Agriculture, which sought to sedentarize Indian populations and to transform them into rural laborers. The SPI did not institute a systematic health care delivery system for the Indigenous populations that were not included in the pacification process and, at best, only conducted sporadic emergency rescue operations (Brasil 2002:7).

The Ministry of Health created an aerial health mission service in the 1950s to provide care for remote rural and Indian populations. The health missions flew to distant locations to offer vaccinations, dental care and control of tuberculosis and other infectious diseases (Brasil 2002:7).

5.1.2 FUNAI period (1970s - 1999): ambulatory health teams

The National Indian Foundation or FUNAI (*Fundação Nacional do Índio*) was created in 1967, with the dismantling of the SPI (Brasil 2002:7). FUNAI was mandated with a very broad scope of duties regarding Indian welfare.

FUNAI instituted the missionary health care delivery model of Ambulatory Health Teams or EVS (*Equipes Volantes de Saúde*), based on the previous aerial missions model (Brasil 2002:7). The health missions provided sporadic health services in the Indigenous communities. They offered primary care and vaccinations, and they supervised the work of the local resident

health workers. These local health workers were typically non-Indigenous nursing aides or other individuals with only very basic biomedical qualifications (Brasil 2002:7).

Decreasing funding and poor organization led to a gradual reduction in FUNAI health services. The health missions visited the communities less frequently or not at all. Local health personnel had to work untrained and unequipped to deal with the wide range of health issues. Most local health care actions were reduced to elementary curative and first-aid care (Brasil 2002:8).

During these years, religious missionary organizations and civil non-governmental organizations (NGOs) also provided sporadic forms of health care for the Indigenous populations, in the context of the absence of a reliable FUNAI service. Increasing Indigenous activism in the later decades of this period also led to the creation of Indigenist NGOs that concurrently developed forms of health care delivery and participated in the training of local Indigenous residents as lay health monitors (*agentes de saúde*) (Brasil 2002:12).

In the region of the Upper Purus River, for several decades, the civil NGO *Comissão Pró-Índio do Acre* (CPI/AC) was a key player in providing primary health care in the villages of several Indigenous groups and also for training Indigenous residents as lay health monitors (*agentes de saúde*) (e.g., CPI/AC 1999). Mostly, the NGO derived financial resources from international organizations, such as Oxfam or The Rainforest Foundation, according to documents I was able to access in their archives and from conversations with employees. For a very brief period, around the time of the transfer of Indian Health to FUNASA (see next item), they received funds from that organization, which outsourced health care delivery to them.

The CPI/AC developed a long-standing relationship with Huni Kuin (Kaxinawa or Cashinahua) groups living along the Upper Purus River. The NGO organized a bilingual

schooling system, promoted the composition of native historical chronicles and also the recording of traditional knowledge, amongst other actions (e.g., Medeiros Kaxinawa, 2006; Sales Kaxinawa 2006). Many individuals from these groups are bilingual, politically active and outspoken. They are competent with digital technologies.

The Catholic Church also provided health care for certain other regional groups through its Indigenist missionary arm CIMI (*Conselho Indigenista Missionário*). Notably, this was the case of the Madiha (Kulina) (see Silva D. 1997; Pollock 1988, 1985). CIMI operated in a different form than CPI/AC. For example, the missionaries attempted to alphabetize the population in the native language, instead of Portuguese (Pollock 1985). They also generated less impact upon the native culture. As a consequence, Madiha individuals today are poorly schooled in Portuguese literacy and much less competent than other Indigenous groups to engage in political debates and claims.

Pollock conducted his fieldwork with Madiha during the FUNAI period. He states that, “FUNAI essentially ignores the two large Culina villages on the Purus River, Santo Amaro and Maronaua, and instead relies on missionaries in each village to provide minimal services” (1988:30). He explains that, “Maronaua supported a missionary couple, agents of the Conselho Indigenista Missionário (CIMI), who served as the only regular source of Western medications for the village” (Pollock 1988:31). He clarifies that, “CIMI also functioned as an advocate for Culina in dealings with FUNAI over medical issues, though FUNAI functionaries told me they expected CIMI to manage health issues without help” (Pollock 1988:31).

Pollock depicts an unappealing portrait of what little government health services were delivered in the Madiha villages. I will quote two passages for their graphic description:

The Brazilian government has made efforts to vaccinate children in indigenous groups in the area against several diseases, visiting villages every few years, but it has been relatively unsuccessful with the Culina. During the one government visit to Maronaua that I witnessed, two health

workers who spoke no Culina gruffly ordered Culina who spoke no Portuguese to round up all children who had not been vaccinated in the past. Those children who did appear came more out of curiosity than compliance, and were roughly grabbed and jabbed with the hypodermic. Parents quickly shooed their children away to avoid this frightening, poorly understood procedure after only two or three terrified children were injected (Pollock 1988:30).

Pollock pursues the point with a second example,

FUNAI is responsible for arranging medical treatment for Indians who make their way to Rio Branco, or, in emergencies, for those who can travel to the air strip, which is a trip of several days downriver from Maronaua. Nonetheless, the government has virtually no direct impact on the health of Culina in their villages. Even hospitalization is unwelcome. Culina know of at least two cases in which individuals who were taken to Rio Branco for medical treatment never returned to their villages. No one was afraid of dying in Rio Branco; the issue in these cases is the Culina's belief that FUNAI simply will not assist people in returning to their villages (Pollock 1988:30).

5.1.3 FUNASA period (1999-2010): Base Post health teams

5.1.3.1 Incorporation of Indian Health

The National Health Foundation or FUNASA (*Fundação Nacional de Saúde*) was first created temporarily in 1990 and formally established in 1991 (FUNASA 2006:8-9). This was during the Fernando de Collor presidency. FUNASA is a public health organ of the Ministry of Health. It initially centralized, incorporated, and took over functions (and personnel) of older separate public health organs, such as SUCAM (a malaria control organ), the national plan for polio eradication, the national program for immunizations, the epidemiological surveillance system, and the government laboratories (FUNASA 2006:8). The functions of FUNASA were gradually increased with the subsequent years, to include such activities as the oversight of water sanitation engineering projects, urban waste management and providing drinking water in public schools and rural areas (FUNASA 2006).

FUNASA was first called to act in Indian Health in 1991 to address a health crisis among the Yanomami (FUNASA 2006:9). Maria da Conceição da Silva Leitão, who was administrator of the Upper Purus River DSEI during 2004-2005, told me in an interview that the crisis had

achieved international press coverage, demanding immediate attention. It appears that the concept of establishing special territorial districts to provide health care for Indigenous groups emerged from this case. The concept was officially proposed and debated in two Indian Health conferences convened by the Ministry of Health (Brasil 2002:8).

FUNASA officially took over Indian Health from FUNAI (*Fundação Nacional do Índio*) in 1999 (FUNASA 2006:15), following several years of organizational incoherence and omissions regarding responsibility for Indian health welfare. FUNASA incorporated FUNAI's personnel, resources and budget for Indian Health. The National Health System or SUS (*Sistema Único de Saúde*) had been created in 1990 with the purpose of unifying all government health services and delivery for the Brazilian population under the single oversight of the Ministry of Health, whereas FUNAI is a dependency of the Ministry of Justice (FUNASA 2006:8).

With a law (*Lei 9836, 23 de setembro de 1999*), Indian Health was congressionally established as a subsystem of the National Health System (SUS) (FUNASA 2006:15). The law had been preceded a month earlier by a presidential decree outlining the general guidelines of the new subsystem (*Decreto n° 3156, de 27 de agosto de 1999*). This was during the presidency of Fernando Henrique Cardoso. Since it is a subsystem, Indian Health shares certain resources and services with the National Health System. It is not an entirely parallel delivery system.

5.1.3.2 DSEI delivery model: Base Posts and CASAI

FUNASA instituted the territorial district organization, known as Special Indigenous Health Districts or DSEI (*distrito sanitário especial indígena*) a week later through an administrative order (*Portaria Funasa n° 852, 30 de setembro de 1999*). The DSEI delivery model is detailed in a report from the Health Ministry's Commission for DSEI Autonomy (*GT Portaria 3034/2009/MS, Brasília, Ministério da Saúde, 23/01/2009*).

The regulation establishes thirty-four Special Indigenous Health Districts or DSEI for the whole of Brazil (Brasil 2009:2). Each DSEI organizes and executes the delivery of health services for the Indigenous communities in its territorial jurisdiction (Brasil 2009:3). Each DSEI is regionalized into smaller units, called Base Posts (*Pólos Base*) (Brasil 2009:3). Also, every DSEI has (or should have) a nursing facility, known as a House for Indian Health or CASAI (*Casa de Saúde do Índio*).

The DSEI is a referral model for the flow of patients (see Figure 25). Each village has a resident lay health monitor (AIS), who is Indigenous. There are numerous villages in the jurisdiction of each Base Post. The Base Post is the headquarters for the traveling health teams and also oversees or provides health care for villagers who have been referred to an urban clinic or hospital. In the city, the patient is lodged in a CASAI and receives treatment or consultations in the clinics and hospitals of the National Health System (SUS).

The DSEI of the Upper Purus River (*DSEI Alto Rio Purus*), where I conducted fieldwork, provides care for the Indigenous population of eastern Acre, parts of the south of Amazonas state and one Indigenous group in Rondonia state. It is composed of six Base Posts: Pauini, Boca do Acre, Assis Brasil, Sena Madureira, Manoel Urbano and Santa Rosa do Purus (see Figure 26). I visited four of these Base Posts in preliminary fieldwork. The CASAI is located in Rio Branco city, the capital of Acre state, where all the major hospitals are located. The native groups in western Acre receive services from a different DSEI, the DSEI of the Upper Juruá River (*DSEI Alto Rio Juruá*), which shares the same CASAI in Rio Branco city.

A Base Post building is a health establishment, according to the Commission report (Brasil 2009:13). It is the reference center for patients sent from villages or small rural clinics (Brasil 2009:13). A Base Post provides health care and integral access to care for the Indigenous

population. The Base Post functions are: to organize the activities of the traveling health teams; to support reference and counter-reference actions; to implement health education actions; collect and report data on health indicators; to participate in epidemiological research; to accompany sanitation engineering interventions; to support health professionals' permanent training (*capacitação continuada*); to train lay health monitors or AIS (*Agentes Indígenas de Saúde*); to stimulate Indigenous social control (*controle social indígena*); to promote interdisciplinary health actions; to support and to promote the integration of native medicine (*medicina tradicional indígena*) (Brasil 2009:8, 14).

There are two types of staff in a Base Post: health professionals and technicians, and service and transport staff. The health professionals form a multidisciplinary health team or EMSI (*Equipe Multidisciplinar de Saúde Indígena*). In principle, an EMSI health team consists of: physician, nurse, dentist, nutritionist, psychologist, social worker, pharmacist, nursing aide, dental clinic aide, lay health monitor or AIS (*agente indígena de saúde*) and lay sanitation monitor or AISAN (*agente indígena de saneamento*) (Brasil 2009:19). The support staff are: driver, boat pilot, clerk, cleaning staff and radio technician (Brasil 2009:19). The quantity of each type of worker is unspecified (Brasil 2009:19; see Brasil N.d. for job functions of each category of worker).

A CASAI is a health establishment in the capital city of the municipality. It provides support for Indigenous patients referenced to high and medium complexity treatment facilities in the National Health System (i.e., public hospitals) (Brasil 2009:16). A CASAI provides full board and accommodation, with permanent nursing services, for Indigenous patients and their accompanying family members. The CASAI staff makes appointments for the patients and assists them during consultations, tests and hospitalization (Brasil 2009:16). The CASAI also

provides transport for patients. In principle, a CASAI has the following staff: nurse, nutritionist, social worker, driver, clerk, nursing aide, cleaning staff, and cook (Brasil 2009:19). The quantity of each type of worker is unspecified (Brasil 2009:19). According to the report, the CASAI should: provide patients with access to the reference units; support and promote the integration of native medicine (*medicina tradicional indígena*); support health professionals' permanent training (*capacitação continuada*); and stimulate Indigenous social control (*controle social indígena*) (Brasil 2009).



Figure 24. DSEI referral model (source: Brasil 2012a)

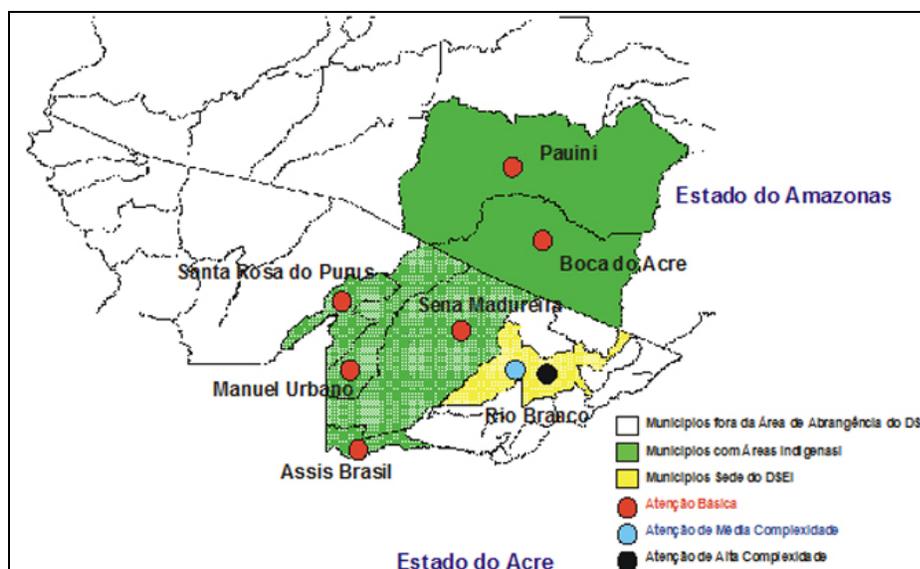


Figure 25. Upper Purus River DSEI (source: Brasil 2012b)

5.1.3.3 National Policy for Indian Health

FUNASA incorporated the National Health Care Policy for Indigenous Populations (*Política Nacional de Atenção à Saúde dos Povos Indígenas*) in 2002, dictated by the Ministry of Health (*Portaria GM/MS n° 254, 31 de janeiro de 2002*) (FUNASA 2006:18; Brasil 2002).

The policy establishes that Indian Health must be “differential” (*diferenciado*) (Brasil 2002:6). This means that Indians are entitled to government health services that are different from those available to the rest of the Brazilian population. “Differentiality” is defined as health care delivery that contemplates the cultural, epidemiological and operational specificities of Indigenous populations (Brasil 2002:6). The policy mandates the development and use of alternative technologies that adjust “conventional Western forms of service organization” (Brasil 2002:6, my translation).

The policy specifies that personnel must be trained to work in an intercultural context and that health care must articulate with native medical systems (*sistemas tradicionais indígenas de*

saúde) (Brasil 2002:13). The authorities must sponsor ethical research and ethical health actions in Indigenous communities and promote social control (*controle social*), amongst other directives (Brasil 2002:13).

The health teams of each DSEI are composed of physicians, nurses, dentists, nursing assistants and the Indigenous lay health monitors or AIS (*agentes indígenas de saúde*) (Brasil 2002:14). Additionally, the teams must systematically incorporate the participation of anthropologists, educators, sanitation engineers and other specialists (Brasil 2002:14).

The policy establishes that primary care in the communities is offered by the Indigenous lay health monitors (AIS) and by the visiting health teams (Brasil 2002:15). The next stage of care is the Base Post (*Pólo Base*). If the Base Post is in an urban area, then the patients should be derived to the local health clinic for the general population (Brasil 2002:15). All subsequent referrals are to the existing health facilities of the National Health System (SUS). In such cases, patients are to be lodged in CASAs and receive all necessary forms of support (e.g., interpreters, special diets, use of hammocks, nursing care) (Brasil 2002:15).

5.1.3.4 Outsourced delivery

In Acre, FUNASA never delivered health care directly. Instead, delivery was always outsourced to other organizations. FUNASA's role was largely as payor, planner and to provide administrative oversight and advice to the institutions responsible for delivery. FUNASA did not use personnel from its own cadre of staff, except for administrative positions. All health care workers were hired by other institutions or organizations. FUNASA owned some equipment, such as some boats and trucks, but also relied on hiring or borrowing equipment from other sources.

In the first years of FUNASA administration, the existing health teams of CPI/AC were hired to provide health services in the villages and to deliver training courses for lay health monitors (*agentes de saúde*) (e.g., CPI/AC 1999). I am not aware if other organizations were also involved during this brief period.

From 2000-2004, FUNASA outsourced health delivery to the Indigenist organization Union of the Indigenous Nations or UNI-AC (*União das Nações Indígenas do Acre*) (e.g., see UNI 2002). This (now defunct) entity was a pan-ethnic organization composed of representatives from the diverse native ethnic groups in Acre. This type of arrangement between FUNASA and Indigenous organizations appears to have been somewhat more successful in other parts of Amazonia (e.g., Garnelo & Sampaio 2005, 2003), but was discontinued in Acre amidst bitter accusations of mismanagement of funds and unfulfilled contracts (Pérez Gil 2007; Evangelista et al. 2006; Iglesias & Aquino 2005).

Since 2004, FUNASA only contracted services in Acre with the municipal governments (Evangelista et al. 2006). The municipal governments hired (or lent their own) physicians, dentists and nursing staff, and also rented or purchased (or lent their own) equipment and transport means. That is, health professionals working in Indian Health in the Upper Purus DSEI were not FUNASA employees but local municipal employees. This is why health workers were typically only hired on very short term temporary contracts and why so many of them were on “loan service” (*serviço prestado*) from other municipal health units.

FUNASA never integrated native medicine into its delivery services. FUNASA never trained staff systematically for work in an interethnic context. These are unachieved objectives of the National Policy.

5.1.3.5 End of FUNASA period (2010)

FUNASA organized several conferences on Indian Health over the years in order to share experiences and to establish guidelines for future actions (FUNASA 2006). The conferences were attended by Indian representatives as well as health technicians and administrators (FUNASA 2006). Numerous reforms emerged from these conferences, including the eventual recommendation to remove Indian Health from FUNASA and to create a special autonomous organ within the Ministry of Health, which is currently in operation at the time of writing.

The creation of the Special Secretariat for Indian Health or SESAI (*Secretaria Especial de Saúde Indígena*) in 2010 marks the end of the FUNASA period of administration of Indian Health. This was during the presidency of Luis Inácio Lula da Silva. SESAI was created by the Presidency in March 2010 (*Medida Provisória no 483, 24 de março de 2010*) and its functions and attributions were detailed in a Ministry of Health executive order in December 2010 (*Portaria no 3965, 14 de dezembro de 2010*). The process of transfer from FUNASA to SESAI was in its earliest stages as I was leaving the field and did not have any practical effects on delivery at the time. FUNASA continued to administer the DSEIs in Acre state for about a whole year after I left the field.

6.0 MEDICAL MISSION TRIPS: TWO SOCIAL SPACES

Here I present the ethnographic description and analysis of social spaces in health or medical missions. The descriptions are derived from participant observations, filmed observations and semi-structured interviews. The fieldwork shows that health mission workers participate in at least two social spaces, sometimes three. They alternate behaviors and inhabit at least two types of physical space.

During a health mission trip to a Madiha village or settlement, the workers in the FUNASA health missions are in one another's presence continually. They rest, eat, sleep and work together. Their roles and statuses change dramatically during the day, according to a work schedule. They follow a time and work schedule. The observations of their behavior shows that their interactions with one another change throughout the day even though they are among the same people and in roughly the same physical spaces. Also, their behavior with the patient population is different from their behavior with one another. Interactions with patients also change throughout the day.

A social space is defined by the actors' rights and duties (or interests), and by the forms of use of empirical resources (or the purposes or function).

The two basic social spaces are the domestic space and the work place. In each social space, the health workers carry out different behaviors with one another and with the patient

population. The two social spaces tailgate the two types of physical spaces inhabited by health mission workers.

The boat is the physical space for the workers' domestic activities, such as relaxation, meals and sleep. The domestic social space is usually on the boat. The boat is the living, travel and storage unit for the health mission workers. This is the space for domestic conviviality. The boat is also the work place for the boat pilots and the cook.

The work place for health workers is located in the patient population's domestic space. The space of health care delivery is the Madiha village or other settlement. The health mission workers set up their equipment and provide consultations and health work from a geographical location that is physically situated in the patients' domestic settlements. In the work space, their behaviors show hierarchy, task and knowledge specialization, and a focus on technical procedure. The work space is usually set up in the school house. Otherwise, they may occupy a portion of a villager's compound, or establish themselves in a family's temporary camp, or somewhere else. The workers say that they provide health work inside the boat for exceptional reasons (e.g.. electricity access, spontaneous consultation, delivery while in motion on the river).

There is another social space, not discussed in this dissertation, which is the office in Manoel Urbano city. No health delivery is provided in the office building. There is a planned delay of approximately thirty days on land between each trip. This period is called the "recess" (*recesso*). The recess includes a short vacation period right after a trip. After the vacation, the staff then return to work in the office until the next trip.

Here I begin with the presentation and discussion of empirical materials from my fieldwork during a trip to the villages. I will present the entirety of activities and interactions for one whole day. The purpose of describing the events of a whole day in chronological order is to

recreate how the fieldworker experienced the day, in the same order and same juxtaposition of events. The fieldworker's experience of the field sites and of the health work matches the time and type of exposure of a transient professional, such as many physicians and dentists. The fieldworker lived with the health workers on the boat and accompanied them during activities in the villages and other settlements, adhering to their schedule.

After the journal description, I will explain that the health mission workers occupy two social spaces during a trip: the domestic space of conviviality and the work space of health care delivery.

Now I will present a description of the day's events in a narrative style using a journal format. I will separate the narrative into episodes to highlight the switching of social space and behaviors according to schedule.

6.1 JOURNAL DESCRIPTION: MARCH 18, 2010

Date: Thursday, March 18, 2010.

Location: Santa Júlia village, Upper Purus Indigenous Territory, Brazilian Amazon.

6.1.1 Early morning on the boat: Updating field journal

Start of description of day ~ It is about 7:30 am. The morning is drizzly. It began raining yesterday afternoon and continued on and off throughout the night. This is the midst of the rainy season in the Amazon.

We arrived in Santa Júlia village yesterday afternoon. The health team's work in Apui village had been completed very quickly because only two or three families were there. So, the boat left right after lunch. We spent the afternoon in Santa Júlia setting up the equipment in the school house.

Benedito, chief of Santa Júlia, called several young men to help carry the equipment from the boat up to the school house. This made the task much lighter. Nobody had to carry more than one load up the cliff. Benedito is an accomplished hunter. He wears the large tooth of an alligator he slew on a necklace.

Yesterday, the health workers spent a couple of hours cleaning and preparing the classroom. From my observations, Eduardo (physician) is more helpful than the physician I had met in an earlier trip in 2008. I saw Eduardo washing and sweeping the floors and the furniture together with the two nursing technicians. The dental surgeon, Mateus, is also very helpful.

I take some time after breakfast to record yesterday afternoon's events in my journal. After updating my journal, I climb up to the school house to observe the medical consultations and nursing activities that are about to start.

6.1.2 Early morning in the school house: Introductory meeting

It is about 9:30am. The health care workers and Júnior (boat captain) are on the porch of the school house. Some villagers are assembled. Others are arriving along the paths. Most of them are women with small children or infants. Many of the women have small babies in their arms or are pregnant. They sit on the floor, close to one another. A few stand. There are also some adolescent boys. They stand together at the back, lazing their elbows on the verandah railing. There are very few adult males. The villagers speak to one another in Madiha language.

Eduardo (physician), Mateus (dental surgeon) and Júnior (boat captain) stand around on the porch. I guess that they are waiting for more people to arrive before beginning with the meeting. The men are absent. They are away on a fishing expedition. Ana Lucia (nursing technician) comes out of the classroom and tells Júnior to go back down to the boat and bring back the television and DVD player. She asks Ibiraci, lay health monitor (AIS) from another village, if everyone is in the village today. He responds affirmatively.

The physician, dentist and Ibiraci (AIS) line up in front of the audience of villagers. The physician and dentist stand up straight. Ibiraci leans on one of the beams. The two nursing technicians peer at the meeting from the classroom doorway. I have my video camera in hand and stand among the audience with the goal of filming the speakers.

The health team usually begins its work in a village with some form of public meeting. The purpose is to inform villagers of the activities and services available for that particular visit. New professionals and other participants are presented during this meeting. The composition of a health team can vary on any particular visit. There is a high turnover of physicians and dentists. Their posts are very often vacant. The physician and dentist on this trip are “loan service” employees. They are employed by the city council and have been “lent” to FUNASA.

The meeting is also often used to provide lectures (*palestras*) on issues of health prevention and health education. This is practically the only type of health education action that is offered to villagers, besides individual communications between professionals and their patients. The speakers do not offer health education messages today.

In the other villages during this trip, Mônica (nurse) was leading the meeting by explaining that everyone would receive a vaccination against a “new type of flu” (“*uma nova gripe*”) [H1N1] that she told them was very dangerous. She was not present during this meeting

because she had traveled yesterday afternoon to attend an emergency crisis. Mônica and Jorge (boat pilot) had to conduct an emergency rescue for a young girl whose childbirth delivery had become complicated. The girl had been in labor for several days. Mônica and Jorge took the girl to Manoel Urbano city on an aluminum boat borrowed from construction workers drilling a well here in Santa Júlia.

Eduardo (physician) starts to speak to the villagers in Portuguese. He says that there is a dentist with them this trip, in case anyone wants to have a tooth pulled out. He points to the two nursing technicians saying “You know these”. He then (inaccurately) presents me to the villagers as a journalist from Uruguay. He (mistakenly) tells them that I’m there to do a report on them.

The women and adolescents look at him, but it is not evident to me from their faces that they understand what he is saying. I get the impression that many are not giving him much attention. Most Madiha are monolingual and do not understand Portuguese. This is especially the case of the two groups of people in this meeting: women with small children and adolescents.

The physician ends his speech announcing that Ibiraci will now translate for anyone who didn’t understand. Ibiraci remains silent and doesn’t move. The physician turns to him and calls his attention, “Ibiraci”.

Ibiraci begins to say some things in Madiha language to the audience. A woman asks him a question. He answers. She asks something else. He answers. She begins to speak again. While she is speaking the physician interrupts Ibiraci to tell him to let the audience know they can have a tooth pulled out. Ibiraci looks at him, says nothing, and turns back to continue to speak with the woman in Madiha, gesticulating with his hand. Other people speak out in Madiha.

6.1.3 Early morning in the school house: Spatialization of health work

After this meeting, the work begins inside the classroom. As I saw elsewhere, most consultations are offered together in the same room. Under these conditions, medical consultations, dental procedures and most health work is a public activity that is performed in full view of other individuals.

Desks and chairs are arranged to create two or three sites of activity and some waiting areas. Usually, there will be a site for the physician to provide consultations for basic primary care diagnosis and treatment. There will be a site for the nursing staff. Their activities include vaccinations, measuring child growth, and prenatal screening. When possible, the dentist also sets up a consultation area alongside to provide dental treatment.

Today there are two sites of activity within the room. Eduardo (physician) is offering medical consultations along one wall and Ana Lucia (nursing technician) is measuring children's heights and weights. The dental equipment is not set up in the school this time because the boat pilots could not make the electricity reach the school.

6.1.4 Mid-morning in the school house: Medical consultations

The set up for medical consultations has a distinct physical layout. The physician always sits at a desk. He has some basic instruments for measuring vital signs and the prescription pad. Several boxes (coolers) with medications are next to him. A nursing technician is sometimes available to assist the physician. The lay health monitor (AIS) or some other man is usually called upon to act as an interpreter. The interpreter sits on a chair to the side. Nuclear families (spouses and children) are usually attended together. They sit facing the physician.

Today, Eduardo (physician) sits at a school desk with his notepad for prescriptions. He also has a stethoscope and sphygmometer (blood pressure monitoring instrument) on the desk. Ibiraci (AIS) sits on a chair to the side. He will translate. Three or four boxes with medications are lined up facing him. Viviane (nursing technician) stands behind the physician. She gets the medications from the boxes when the physician writes the prescription. She also helps with other tasks. A woman with three children (one of them nursing at her breast) sits facing the physician.

6.1.5 Mid-morning in the school house: Child growth and development screening

The nursing staff also arrange their work space. They often have a portable foldable bed opened out. It is used to measure the height of infants or for prenatal controls of pregnant women. Next to the bed, or on top of it, they keep the coolers and boxes with the vaccines and injection materials. They usually have some chairs for patients.

This morning, Ana Lucia (nursing technician) is sitting at a school desk. A height ruler is laid open on top of the portable bed. She is waiting to begin.

6.1.6 Mid-morning in the school house: Fluorination of children

The sound of forró music (a popular bawdy Brazilian genre) suddenly blasts through the school. Júnior must have connected the television and DVD player. I go out to see. A number of people are standing in front of the television. They are watching a live concert. The health team provides the DVDs as a form of entertainment while the patients wait for consultations. Villagers look at the screen mesmerized. There is no electricity in the villages and villagers do not have many chances to view television or DVDs there. The cameras focus frequently on the scantily clad

busty female dancers swaying their hips and breasts. The young adolescent men seem especially focused on the images. According to the subtitles, the band is called Dejavu (Déjà Vú).

The dentist and Rafaela (dental assistant) come out to the porch where the people are watching the television. They are holding some plastic bags. They begin to hand out dental kits to everyone. Each kit contains a toothbrush and toothpaste.

Rafaela (dental assistant) begins to grab children by the arm and assemble them together into choir formation. Women reprimand the children in Madiha. The children are very docile and let themselves be moved around by Rafaela.

The dentist then comes up to a small girl with a toothbrush in his hand. She automatically opens her mouth. He begins to brush her teeth with a red gel. She is very docile. He does this with another small girl. The second girl cries. She doesn't like it.

I believe this action is group fluorination. The dental assistant allowed me to copy into my field diary the official list of dentist procedures while we were traveling to Boaçu village a few days earlier, on March 16. The list cites “collective action of topical application of fluoride gel” (*ação coletiva de aplicação tópica de flúor gel*) as one of the procedures. My notes for March 23 in Ipiranga Nova village describe an almost identical interaction. Around 9:00 am, after the physician has delivered the introductory speech, my notes state that the dental assistant begins to hand out toothbrushes with fluoride to the audience watching the DVD in the school house. Simultaneously, the dentist begins to check each person's mouth. At this moment, the dentist comments to me that he wonders how he can promote fluorination.

6.1.7 Mid-morning in the village: Villagers' domestic activities

I decide to take a walk around the village to see what other activities are going on while the health workers begin the consultations. The rest of the village is very deserted right now. There appears to be nobody in several houses. Most people must be in the school or somewhere else. Overall, there are not a lot of people in the village today. Mostly, I have only seen some women and small children doing chores. Mateus (dental surgeon) told me that about seventy people (i.e., about half of the residents) are not here.

The following observations do not apply to the health mission workers. They describe Madiha villagers performing domestic activities, simultaneous to the health care delivery actions in the school.

Two very small girls in one of the houses see me filming. They start to play around and pose for the camera. A woman is grinding some corn in the yard of another house. Chickens are pecking the ground near her feet. She takes some cornmeal in a dish and winnows in the wind. A chicken chases a rival away. I film a woman carrying an empty aluminum pot. She is going to fetch water from one of the springs. Madiha, like the riverine farmers (*ribeirinhos*), dam little streams of clear run-off ground water that trickle from the sides of the cliffs. They use the dams for bathing, collecting drinking water and washing clothes. Palm-leaf huts are built around the small pools for shade and privacy.

Some children are coming up the steps from the beach towards the village. A little girl has a bottle of water strapped around her head and a bag of fresh fish in her hand. A barefoot boy in wet clothes climbs up behind her with a fishing net draped around one of his shoulders. He too carries a bag of fresh fish. He looks at me filming them and says something to the other children.

A slightly larger boy carrying a wooden canoe paddle awaits them at the top, also barefoot and dripping wet. He takes the little girl's load and she quickly runs down the cliff.

As I return to the school house I see a young woman cleaning fresh fish in the cooking area of a house. She scrapes them, chops them into large pieces and places the parts in an aluminum pot for boiling. She already has another pot of something simmering over the smoldering fire.

6.1.8 Mid-morning in the village: Water sanitation engineering project

The village does not look all that different from the last time I was here in 2008. The houses are arranged in a line along the cliff overlooking the river. Benedito's (chief) compound, though, seems larger and is now fenced. Cattle and other livestock graze in the pens. The school house is in worse shape. Most of the desks and chairs are missing. The wooden floor is rotting. There is a large hole in the tin roof in one corner. The school building was built in 2002 by the Acre state government, according to a plaque on the front porch.

A major difference in the village layout, though, is the sanitation engineering project that FUNASA is erecting. Some construction workers are drilling a well in the village and refurbishing the old sanitation construction. The drill is very noisy. They have already built a tower with two enormous water tanks. The well is projected to provide drinkable water. A brand new large gasoline-powered electricity generator is already housed in a little cage near the future well. The old sanitation construction has been unusable for years. The workers repainted the walls and replaced the taps, shower heads and tiles. They also removed the toilet bowls and substituted them for squatting basins.

Four men are working on the engineering project. They are living on a barge similar in size and shape to the one rented by FUNASA but much less well-kept and they have much less luxuries. The drilling of the well is very noisy and the refurbishment of the sanitation construction takes weeks of work. It provides some entertainment for villagers, who stand and watch the construction workers. The construction workers do not interact with the villagers.

As soon as we emerged together from the cliff yesterday and first saw this new construction, Ana Lucia (nursing technician) turned to me and spontaneously commented, “Money thrown to the bushes” (“*Dinheiro jogado no mato*”). I instantly agreed with her. The skeletons of failed water and sanitation engineering projects from the past already blotch the landscape of several villages. One can trace the increasing amount of funds and newer technologies implemented in each failed project by observing the decaying remains. Early projects involve simple shallow wells and small water tanks, later projects involve bigger sanitation constructions (showers, toilets, taps) and larger tanks. None of them lasted.

This well also failed to provide drinking water, we learned a few days’ later. The well was abandoned.

6.1.9 Mid-morning in the village: Updating field journal

Before returning to the school, I write some spontaneous thoughts in my field journal. I wonder how to interpret Ibiraci’s affirmative response that everyone was in the village when the nursing technician asked him this morning. Most of the men, which are about half of the village, are not here. Perhaps this example of ambiguity of communication may not seem significant but communication is influential in medical interviews.

Whether everyone is in the village matters for the health team. The delivery model states that health care is provided from the villages. Such a delivery model would expect most people to be in the village when the boat arrives. It presumes a much more sedentary population. Overwhelmingly, according to my observations, Madiha are very mobile. Madiha itinerancy generates a number of logistic strains and inconveniences for health team delivery. In any village at a given time, a number of family units are likely to be absent.

6.1.10 Late morning in the school house: Medical consultations

The physician sits at the desk, with Ibiraci (AIS) sitting by his side. A family group consisting of a woman with children sits facing him. Viviane (nursing technician) rummages through the equipment boxes, looking for something.

A little while later, a different family group is consulting with the physician. Viviane prepares an injection. The lay health monitor (AIS) gets up out of his chair and moves to the patient's chair. He lifts up a small girl and places her face down upon his lap. The nursing technician exposes the girl's buttocks and injects her with a substance. The girl shrieks and writhes to get away. The injection must be painful. I guess that it is possibly antibiotics.

6.1.11 Late morning in the school house: Influenza A (H1N1) immunization

Ana Lucia (nursing technician) is wearing gloves and stands next to the vaccines and immunization equipment. Some young boys and other people stand near her. A boy sits quietly in a chair while she deftly vaccinates him. He grimaces but shows little other reaction.

The World Health Organization had declared a global epidemic of the H1N1 influenza virus a few months' earlier. The Ministry of Health in Brazil ordered a universal immunization of all the Indigenous peoples. All the Madiha villagers were required to receive the mandatory vaccination in this trip.

6.1.12 Late morning on the boat: Oral health treatment

I return to the boat around 11:00 am. The dentist and his assistant have mounted a small clinic on the deck. The equipment is borrowed from the municipal dental clinic in the city. The Base Post does not have sufficient or adequate dental equipment.

Both workers use disposable aprons, hair nets, gloves and masks. The other health professionals usually do not use any special clothing, except for gloves. A fan is blowing a breeze in their direction. This creates a cool and comfortable environment for the patient and workers. Perhaps more importantly, it keeps away the pium-flies (*Simulium amazonicum*) and other insects that swarm over the river surface.

The patient is a woman. A man and two children sit close by.

6.1.13 Late morning on the boat: Boat crew work and leisure

The cook is in the galley (kitchen) mixing a fresh salad for lunch.

Meanwhile, João (boat pilot) is fishing in the back. He is using a fishing line and hook. He has already caught a number of fish. I notice that many of the fish have feelers.

The boat pilots usually do maintenance and cleaning work while the health team is stationed in a village. They also help to carry equipment. They may be asked to help with other

problems. The Base Post boat pilots also transact and exchange with villagers and with riverine farmers (*ribeirinhos*), such as for livestock, tools or other items.

6.1.14 Noon on the boat: Lunch

It is now almost noon. Lunch will be served shortly. Júnior (boat captain) is laying out the dishes and pots on the wooden blue box. The health workers have returned from the school.

The dentist and physician hover towards the blue box. Meanwhile, Ana Lucia (nursing technician) packs the unused vaccines back into the freezer. Rafaela (dental assistant) sweeps the deck floor. I film snippets of the actions.

Sapo's (shaman) voice is heard loudly. He comes down the cliff. He climbs into the boat and greets everyone in Madiha language saying, "*Niha*" ("Hello"). He carries a plate of fresh fish. He is barefoot and wears a torn and stained t-shirt with the logo of a political party. A young boy climbs in behind him. The boy is also barefoot and wears a torn t-shirt with the flag of Acre state. Sapo takes the fish to the galley (kitchen).

The food is laid out on the box buffet-style. The workers individually serve themselves.

Another man and some boys come down and also climb into the boat. Sapo sits on a chair away from the people having lunch, on the opposite side of the deck. The other man takes a chair next to him. The boys sit close to them on the railing or remain standing. The men and boys stay there and remain silent.

After all the boat passengers have finished eating, one of the nursing technicians gets up and serves a plate of food to Sapo and the other man. The cook puts all the remaining food into a single large pot and hands it to one of the boys. The boys quickly snatch the pot and move a little further away on the beach. They ravenously dig into the food.

6.1.15 Noon on the boat: Informal interview with physician

I move towards Eduardo (physician) for some conversation. I want to gauge his sense of the political economy of medical knowledge. I tell him I am curious to know his opinion about BMI (Body Mass Index) tables. I also want to know if he perceives selectiveness in health surveillance and reporting. I tell him that I am suspicious that the politicians in Rio Branco city are hiding a dengue epidemic going on right now. Mateus (dental surgeon) gives his opinion. He says that there is a lot of “fashion” (*moda*) in public health. I am also curious about Eduardo’s university experience.

6.1.16 Noon on the boat: Nurse arrives with laboratory technician

Just as we are finishing lunch, the aluminum boat arrives. Mônica (nurse), Jorge (boat pilot), Cláudio (boat pilot), and another passenger unknown to me, climb into the health boat. The nurse immediately introduces the man to me and we shake hands. His name is Jefferson (laboratory technician). Mônica explains that he is here to take blood samples.

I immediately notice his attire and gold jewelry. He is dressed in relatively smart casual clothing. He is wearing a short-sleeved polo shirt and knee-length bermuda shorts. This clothing is inadequate for river travel. I silently ponder whether he is very resilient to pium-fly bites or if someone failed to advise him to dress in long-sleeved clothing. He has a large gold watch, a thick gold necklace, a gold bracelet around each wrist, and thick gold rings on both hands. His glitzy jewelry seems out of place. Nobody else on the boat wears jewelry. He quickly lights up a

cigarette and begins to smoke on the deck. Lighting a cigarette in front of everyone is also anomalous. The health professionals do not smoke and the boat pilots are not allowed to smoke on the boat.

People move closer to the nurse to hear her news. She explains that the girl rescued the day before gave birth on the aluminum boat, about one and a half hours after leaving Apui village. The baby was born dead. The nurse acted as midwife. The mother was still taken to the Manoel Urbano city clinic to be treated for infections because of the long time her amniotic sac had been broken. The clinic had also detected a high VDRL (syphilis) count, so she was also being treated for that.

Eduardo (physician) continues the conversation with the nurse. He suggests that all women with risky pregnancies should be sent to Manoel Urbano city after a certain week of pregnancy. Mônica (nurse) immediately responds, “But there it escapes from us” (“*Mas aí foge de nós*”). She means that the Base Post does not have competence to provide care in the city. Mateus (dental surgeon) tells her that she should write a recommendation in her report to FUNASA. She responds that she has made such recommendations many times in the past, but nothing has come of it.

Yesterday, the workers had spent the afternoon talking about pregnancies and birthing styles in the school house after they finished cleaning and preparing the classroom. Eduardo gave explanations regarding caesareans, hysterectomies, muscle fibers and other anatomical descriptions. The conversation was prompted by the urgent rescue of the girl at that time. I learned that Madiha women give birth sitting on a hammock with a hole through which the baby is said “to fall” (*cair*). I heard Sapo (shaman) once say it that way speaking in Portuguese. A pan

underneath the mother collects the blood and tissues. Madiha do not like the health mission workers to participate in childbirth.

Between cigarette puffs, the newly arrived man engages the other workers in a conversation about Indians and their consumption of pharmacological substances. He comments on their consumption of liquor. He says that their resistance to liquor merits “scientific study” (*estudo científico*). He also narrates his experiences with some native plants, such as coca (*Erithroxylum coca*).

6.1.17 Afternoon in the village: The men have returned from the fishing expedition

The workers go up back to the village to continue work. There are a lot more people in the village now. The men have returned from fishing. Although most villagers go barefoot, some of the men wear rubber boots.

A different DVD is now playing. The band is called Explosão do Forró (Forró Explosion). The subtitles present the song “*Meu Tesão*” (“My Erection”). There are much more people watching now. Most of them stay standing. Some climb or recline on the railings. João (boat pilot) is speaking with one of the construction workers on the side. He adjusts the DVD player cables now and then, when the image or sound falters.

At the construction site, just behind the school, the builders continue to bore the well.

6.1.18 Afternoon in the school house: Medical consultations

The physician continues with his consultations inside the classroom. A woman with children sits facing him. He speaks with Ibiraci (AIS) about one of the girls. Viviane (nursing technician) is standing close to the medication boxes.

6.1.19 Afternoon in the school house: Newborn screening

In the nurses' area in the classroom, Mônica (nurse) pricks the heel of a tiny baby and places drops of blood on some sheets of paper. Mônica is wearing an apron and hairnet, as well as surgical gloves. Ana Lucia (nursing technician) holds the baby. Ana Lucia is wearing a dark blue t-shirt promoting the H1N1 vaccine. Meanwhile, people continue to walk in and out. Children play. A boy is shooting darts into the ground with his toy blowpipe.

6.1.20 Afternoon in the village: Villagers' domestic activities

I decide to take another walk around the village to observe the activities. These observations are villagers' activities, simultaneous to the health actions in the school and boat.

I pass by a house under construction. The palm leaves for the roof have been cut and are laid out on the ground. The scaffolding structure of the house is in place. I then pass by some naked small children playing. In one of the bathing huts on the side of the cliff, a woman and a young child are lathering themselves with soap. I take a walk along one of the paths that lead out from the village into the forest. These paths usually lead to the gardens. The path is very muddy

today. Luckily I am wearing rubber boots. I am awed by the colossal size of the trees. I turn back after a while.

On my way back, I see a herd of sheep scourging the riverbank for sparse clumps of grass. Sheep here do not have wool. They only have rough tufts of hair here and there. A canoe with two women, some girls and a scrawny dog paddle up to the beach. The girls jump out and swim to the shore giggling. One of the women climbs up the steps with a basket bound to her head. The other woman carries a machete, paddle and basket. A girl carries a bucket on her head.

6.1.21 Afternoon on the boat: Oral health treatments

I return to the port as the afternoon starts drawing to a close. On the health boat, the dentist and his assistant are attending patients. Soon after this, they halt and pack away the materials.

6.1.22 Afternoon on the boat: Boat crew leisure

Four men are playing cards on the sanitation construction worker's boat. The construction workers have finished their labor for the day. João (boat pilot) and Jefferson (laboratory technician) are with them. Jefferson smokes incessantly and drinks black coffee while he plays. The men play "Pifi", a speedy card game.

I start to organize my field materials on the FUNASA health boat. I update the journal with new entries. I upload digital materials (film recordings, photographs) to my netbook. I check them one by one. I then back up the files in an external hard-drive. I delete the files from the camera. I then plug in all the appliances to recharge the batteries. I am able to use the electricity on the boat.

6.1.23 Late afternoon on the boat: Informal interview with dental assistant

At around 7:00 pm, I approach Rafaela (dental assistant) to ask her about her training. She tells me she has three degrees. She tells me that she started to work in health care for Indians during the UNI period. [UNI was an Indigenous NGO that administered health care delivery between 2000 and 2004.] She says that in the early days Madiha would run away and hide in the forest when the health workers arrived at a village. She tells me that the workers are lucky now that villagers come down to receive dental care on the boat. She says villagers come down because they know her. She also said that in the past there were more people and there was more food in the villages. Madiha didn't travel around so much or drink liquor.

6.1.24 Late afternoon on the boat: Informal conversations between workers

The other workers have returned to the boat. I hear them talk about dangerous fish. I listen and learn that I was probably bit by a candiru (*Vandellia cirrhosa*) fish on my heel one week ago, while I was swimming in the port in Manoel Urbano city.

Eduardo (physician) spontaneously approaches me. He asks me if “Mankind comes from monkeys” (“*homen vem do macaco*”)? I am not sure what to say or why he is asking me this. My guess is that he must think I know about biological evolution theory because I am an anthropologist. He tells me some stories of unpleasant authoritarian and vengeful professors he had in Cuba. I respond by expressing my views about university pedagogy.

6.1.25 Evening on the boat: Dinner, relaxation, sleep

Dinner is laid out on the blue box after it is already dark. Light is provided by some light bulbs. Only a couple of light bulbs are ever lit at the same time because they immediately attract hordes of insects.

Mônica has brought some DVDs with films to watch. We arrange ourselves to watch the movie. I hand out some chocolates. Few people stay awake until the end of the film. Several retire to their hammocks. A couple sleeps in a tent on the roof. When the film is over, the rest of us clear the deck of the furniture, wipe the floor and lay out the mattresses and mosquito nets.

The mosquitos make an annoying sound throughout the night, but at least they don't penetrate my mosquito net. It takes me a while to get used to the loud choppy thwacking of the electricity generator. The sound violently stabs the night but eventually I fall asleep. Night after night, I do not fail to feel that is a unique privilege to be able to spend the night on the Purus River in the midst of the Amazon forest. ~ *End of description of day.*

6.2 TWO SOCIAL SPACES IN HEALTH MISSION WORK

The preceding journal description based on participant observations shows that the health mission workers spend their time in two social spaces. One social space usually occurs on the boat and the other usually occurs in the school house or other Madiha settlement location. In each social space the health mission workers engage in patterned behaviors that differ for each space. Each social space is composed of distinct differing role behaviors. The counter-role of

each role that the worker occupies in one social space can be located in the same space or in another space.

6.2.1 The Health Boat: the health missionaries' domestic social space

The boat is a social space for relaxation, meals and leisure. Generally speaking, the boat is a physical space for domestic conviviality. There, the people on the boat simultaneously and collectively carry out recreational activities, meals, and rest.

The boat is also a place for work, but work that does not involve interactions with Madiha villagers. The boat crew (boat pilots and cook) have their work related to the boat and services. The health workers carry out clerical work and stock management. Health procedures are an exception. Work that involves interactions with Madiha villagers usually occurs in the villagers' domestic space.

Participants' behaviors on the boat show some shared features. Two salient characteristics are uniformity and independence of action. This is especially the case for activities that are not defined as work, such as leisure, meals and rest. Uniformity means that there is little differentiation of action during many activities on the boat. Many of the activities involve actions that are fairly identical between participants. Independence means that many of these activities can be performed by any number of participants, including just one person alone, because one participant's actions are independent from another participant's.

Overall, these interactions show that workers associate with one another as independent equals during leisure. Usually, participants do not specialize or differentiate their behaviors very much during recreation activities. For instance, each worker follows a similar set of actions at meal time. Also, movie viewers behave in a generally identical manner to one another during the

movie exhibition. In many cases, people could be added or removed from the activity without alteration to the others' behaviors and without impairment to the activity. The others' behaviors would be the same regardless of whether there are more or less people. Many of the leisure activities could be performed by a single person.

Thus, non-work activities seem to involve only one role in that space. There is usually no counter-role that is co-present. The participants do not really interact with one another during these activities, in terms of their actions. A better description would be that they each carry out the single role simultaneously to one another. They do interact verbally, but not in terms of their physical actions.

An exception to this pattern occurs with games, such as card games or domino. In this case, the players form teams and depend on one another's actions to execute their own actions. The behaviors still appear very uniform. There are little differences in the behaviors of each player. However, the games rest upon only very slight differences in behavior, such as the difference between throwing an Ace or a Queen onto the table, which have a crucial meaning for that context. Thus, games do not involve a single role.

The card and domino games are also an exception because they are gendered. I only observed men play these games. Other recreational activities, including other games (e.g., playing ball on the beach), are not gendered.

Another exception occurs with the order of serving oneself food. The order follows professional rank. Often, the boat crew (boat pilots and cook) will wait to help themselves to the buffet until after the health workers and guests have served themselves first. The behaviors at meal time are still identical between commensals but a difference occurs in the sequence of action. In this case, role difference between commensals is not shown by differences in the

actions, but in the order for carrying out the actions. The sequential difference indicates the commensal's relative role as a service staff members (boat worker) or health team worker or guest (passenger). That is, guests and transient professionals eat first, while the boat crew eats after them.

The Madiha villagers only appear on the margins of these leisure interactions, if at all. When present, they are silent spectators and bystanders that sit and wait on the sidelines. The health workers do not include villagers in their leisure activities.

The villagers are also not included in the boat meals, even when they are physically present quite close to the workers. In the account provided above, even though Sapo had arrived with a gift of fresh fish for the cook, it did not secure him a reciprocal plate of food until after the workers had eaten. The hungry boys who also patiently wait for food only receive the pot of left overs after every one on the boat has finished eating.

The account of verbal interactions on the boat includes an example of the health workers' spontaneous conversations when villagers are not present. In their conversation about the hospitalization of women with risky pregnancies, all of the health workers position themselves as legitimate trustees of the villagers' bodies. They seem to take this status for granted.

The laboratory technician confidently engages the other boat passengers and crew with bold remarks about a perceived radical otherness of Indians' bodies and other comments regarding his experiences with Indians' substances. The laboratory technician had just arrived on the boat and this was his first trip to the Madiha villages. He may have taken for granted the boat as a social space of continuity with Manoel Urbano society, compared with the Indians' society.

Generally speaking, the boat is a social space of ethnic homogeneity. Most of the people on the boat are usually local residents. They have lived on nearby riverine (*ribeirinho*) farms or

in the city. They are almost always ‘national Brazilians’ or ‘Whites’ (*brancos*), as they call themselves, as opposed to ‘Indians’ (*índios*). Physicians, dentists, and guests are usually also Brazilians.

In terms of social practices and knowledges, life on the boat is an extension of life in Manoel Urbano city or in the riverine (*riberinho*) farms. The passengers and crew spend a lot of their time talking about mutual acquaintances from the city. The language spoken on the boat is Portuguese. The food menu is local Brazilian cuisine (rice, beans, manioc flour, stew and salad). The entertainment options on the boat also reflect local popular tastes, such music genres, films on DVD and games.

6.2.2 The Madiha villages and settlements: the health missionaries’ work space

The other social space inhabited by the health mission workers is the space for health care delivery. That is, the other social space is their work space. This social space is almost always located in or very close to the Madiha villagers’ domestic social space. The health missionaries’ work space is implanted in the midst of the patients’ domestic space. The workers unload the equipment and set up delivery in the villagers’ social spaces. Health care is provided as a transferable good that is transported intact from the city and implanted in each Madiha village and settlement.

Usually, the physical space for health care delivery is the school house, in the larger villages. In the smaller villages with no school house, it is in a family house. The health workers also make house visits and they also stop at temporary camps along the river. Delivery is not usually provided from the boat, even when this is more convenient.

Delivery in the work space emulates the stationary health clinic. Each team of health workers sets up their equipment in a fixed location and patients wait their turn for consultations. All three specializations (medicine, dentistry and nursing) usually use the same building and set up work stations alongside one another. Health care procedures occur simultaneously, following a single schedule, usually in the same physical space. Today, dental care was set up on the boat.

The health workers' behaviors in the work space differ from their behaviors in the domestic space of the boat. They differ in that they require a co-present counter-role. The health workers' actions require a response from other participants. Most of the actions of each type of actor are interdependent with the actions of the other types. This is different from the boat where most social actions are fairly identical and independent, except for those identifiable as work.

Workers' interactions with one another in the work space are highly differentiated. There is a detailed task and rank specialization, such that each worker performs a unique action. The observations of interactions in the work space show that there is a hierarchy and specialization of labor. The professionals (physician, dentist and nurse) have a leading role. They interact with the patients directly and occupy the central body positions. Their assistants have a role that is ancillary to the professionals'. The assistants interact mostly with the professional and organize the supply and stock of utensils. The assistants rarely interact directly with the patients during procedures, except when assisting the professional.

Secondly, the health workers integrate the villagers into their actions in this space. That is, they interact with the villagers. Their interactions with villagers are patterned and conform to a very restricted set of repetitive actions and sharply defined roles. In these interactions, the villagers appear to occupy a counter-role to the workers' because they appear subjected to the actions of the workers.

The workers' actions in the work space are oriented to the delivery of biomedicine. Biomedical procedures here involve the use of imported technologies and the application of a foreign body of knowledge, which the missionaries transport with them from the port of departure and implement in the delivery location.

The replication of stationary clinic behavior routines is discernible in this social space. There appears little adaptation of the health care behavior routines to the population. The specific social conditions of the patient population and the geographical conditions of delivery do not impinge heavily on behavior routines compared with the urban stationary clinic, except in the sense of a limited number of procedures and tools.

The performance of standardized technical procedures signals the foreignness of the procedures in this context. With the exception of medical consultations, most of the other health procedures occur in silence. Workers perform procedures upon patients in an assembly line fashion, one after the other and without pause, with generally very little oral communications between the parties. The workers arrange the furniture in ways that ease their work and the manipulation of patients' relevant body parts.

Medical consultations are mostly verbal and make use of a translator. Usually the interpreter is a lay health monitor (AIS), but it may be another bilingual man. I never saw a woman called upon to translate. The interpreter has no training in medical interpretation. The health workers know very little of the Madiha native medical system or language.

Patients in this social space appear relegated to a role of non-instrumental subordination. They are still and silent. They speak only when spoken to and they usually do not move their bodies during the health procedures. This behavior pattern coincides with the interests of the health workers and with the model of the powerless biomedical patient. Villagers behave in this

same way when they enter the domestic space of the health workers. For instance, in the boat, the villagers also stay still and silent. (In contrast, observations of villagers doing their daily chores and activities show that among themselves they are lively.)

6.2.3 Schedule of work and domestic interactions

Table 1 presents a chart of the main activities recorded for the whole day. I have separated health care interactions from domestic (non-work) interactions. The social space is determined by time slot, physical space and purpose of action. There is a scheduled division of forms of interaction.

The health team works throughout most of the daylight hours. The workers interrupt the work routine for meals and leisure moments on the boat. Leisure moments and interactions are shared with the boat pilots and the cook. The boat pilots sometimes find an additional moment to relax while the health workers are conducting health procedures.

In the following section, I will repeat the description of each health care episode and leisure interaction in detail in order to compare behavior patterns in accordance with the research questions and indicators.

Table 1. Two social spaces: health care and leisure interactions, March 18, 2010

	Health care interactions (village)			Leisure interactions (boat)
	Medical team	Dental team	Nursing team	
<i>Early morning</i> (600-800)				Breakfast
	Introductory meeting	Introductory meeting		
<i>Mid-morning</i> (800-1030)	Medical consultations	Distribution of kits & fluorination of children	Child development monitoring	
<i>Late morning</i> (1030-1200)	Medical consultations	Oral health treatments (boat)	Influenza A immunization	Boat crew leisure
<i>Noon</i> (1200-1400)				Lunch; Interview with physician; Nurse arrives with laboratory technician; Conversations between workers
<i>Afternoon</i> (1400-1800)	Medical consultations	Oral health treatments (boat)	Newborn screening	Boat crew leisure
<i>Late afternoon</i> (1800-1900)				Interview with dental assistant; Conversations between workers
<i>Evening</i> (1900-2100)				Dinner, movie, sleep

6.3 INTERACTIONS IN THE WORK SPACE

I will now begin the detailed analysis of standard health procedures. I will describe and analyze each of the health care interactions that were mentioned in the description of March 18, 2010. I have regrouped the interactions for analysis. I have assembled all the medical interactions together, then the oral health interactions and, finally, the screening and prevention work. Each of these three types of interaction is carried out by a different team of workers (see Table 1).

In this section, I will provide first a description of the interaction, narrated on the basis of a digital film recording. I will then evaluate the utility and counter-role orientation of the health workers and other actors based on the utility and counter-role indicators. I will also assess photographs for utility and counter-role indicators. I will conclude this section with a discussion of the data according to the indicators and research questions.

6.3.1 Early morning: Introductory meeting

6.3.1.1 Description of interactions

Film shot 01: The physician stands in the center of a semi-circle composed of the dentist, lay health monitor (AIS) and two nursing technicians to both of his sides on the school's open porch. They stand facing a sitting audience of villagers. The audience is mostly composed of only women with babies and small children. There are some young adolescent boys with them too.

The physician speaks in Portuguese to the audience, explaining the services that each member of the health team is offering. He remarks that there is a dentist on this trip and that he

will clean and also pull out teeth. The physician points to the nursing technicians, saying “You know these”. He presents the anthropology student filming the action from behind the audience as a journalist doing a report on the villagers. When he finishes, he informs them that Ibiraci (AIS) will translate for them “in the language” (*na língua*).

The lay health monitor (AIS) remains resting on a post and begins to speak in Madiha language to the audience. A woman exchanges questions with him. The other villagers generally seem to be indifferent to the speeches. They possibly do not understand much, if any, of the physician’s words.

6.3.1.2 Indicators

Orientation: intentionality

Body positions: The health workers and lay health monitor (AIS) all stand. The physician is in the center of the health workers. *Substances:* There is no transfer of substances in this interaction. *Knowledge and communications:* The physician communicates in Portuguese to the audience. The lay health monitor (AIS) translates his words to the audience when he is finished.

Utility: functionality

Tools: There is no use of tools in this interaction. *Technical skills:* No technical skills are demonstrated in this interaction.

Patient behavior

Orientation: The patients show a subordinate orientation. They remain seated and distant from the party of health workers. *Utility:* The patients (audience) have a non-instrumental utility. Only one woman interacts with the AIS.

Analysis

In this interaction, the physician occupies the central instrumental role and the AIS has a supplementary instrumental role. They both have a dominant body posture orientation relative to the audience's. The other health workers also stand, but are not instrumental. The patients have non-instrumental behavior and subordinate orientations in general. One woman is an exception.

The physician's and the AIS's actions presume a counter-role, occupied by the patients. The functionality of the action is established by the communications, and there is no use of tools. The orientation of the other health workers (dentist and nursing technicians) doesn't show a counter-role. They do not communicate. The functionality of their behavior mirrors the patients' (i.e., they listen). They do not use tools.

6.3.1.3 Utility and orientation in photographs

The photographs of two introductory meetings in July 2008 show a similar spatial distribution of protagonists (see Figure 26 and 27). The health workers' orientations are different from the audience's.

Figure 26 shows an introductory meeting in Santo Amaro village. There are two rows of actors. The two people sitting close to the chalkboard are the physician and the nurse. To their right, close to a window, is the village chief and the village lay health monitor (AIS). The row of people facing the physician and dentist, with their backs to the camera, is the audience of villagers. The village chief and lay health monitor (AIS) sit separately.

Figure 27 shows an introductory meeting in Santa Júlia village. Participants are seated in a circle, but the dental clinic assistant, nurse and dentist have a desk in front of them. To their left is the shaman, the chief, the lay health monitor (AIS) and another young man.



Figure 26. Introductory meeting, Santo Amaro village, July 2008 (Photo: C. Frenopoulo)



Figure 27. Introductory meeting, Santa Júlia village, July 2008 (Photo: C. Frenopoulo)

6.3.2 Mid-morning medical consultations

6.3.2.1 Description of interactions

The following four film shots are portions of a single medical consultation.

Film shot 02: The physician sits at a desk. He holds a pen and prescription pad. He has a stethoscope around his neck. To the left of him is another desk with some papers. The lay health

monitor (AIS) sits on the other side of the second desk. The lay health monitor (AIS) rests an elbow comfortably on the desk. A woman with a nursing infant sits on a chair opposite the physician, slightly distant. Two small boys stand next to her. Nobody is speaking. The nursing technician is looking for something in the medication boxes aligned to the right of the physician. Everyone seems to be waiting for her. The physician stretches out of his chair to touch the baby on the back.

Film shot 03: The nursing technician is standing next to the physician's desk. They are checking or trying to start a digital sphygmometer. Meanwhile, the woman (patient) continues to nurse her baby. The boys are a little restless. A third boy is standing with them. The lay health monitor (AIS) sits at the desk waiting, resting his chin on his elbows.

Film shot 04: The physician is writing in the prescription notepad. He asks the lay health monitor (AIS) a question. The nursing assistant is crouching. She is looking for something under the medication boxes. The woman and boys wait silently.

Film shot 05: The physician is crouching down facing a little boy. He is listening to his chest using a stethoscope. He winks his eyebrows and smiles when the boy looks at him. The woman and the other boys turn around to look at them. The nursing technician is crouching on the floor gathering objects from under the medication boxes.

6.3.2.2 Indicators

Orientation: intentionality

Body positions: The physician sits at a desk in the first three shots. He is physically distant from all other participants, separated by the desk. The work space seems to be organized around him. He is the center. He reaches across from the desk to examine the baby in the woman's arms. The

physician only leaves his seat in the last shot, when he examines a small boy. The nursing assistant stands, crouches, and walks about. She is physically separate from the physician-patient-interpreter seated triad. She interacts most with objects in the boxes. *Substances*: There is no transfer of substances in these shots. *Knowledge and communications*: There are no communications in these shots.

Utility: functionality

Tools: In one shot, the physician and nursing technician manipulate a sphygmometer. In another shot, the physician uses a stethoscope. In several shorts, the nursing technician manages the boxes with the supplies. *Technical skills*: The physician uses the stethoscope.

Patient and lay health monitor (AIS) behavior

Orientation: The patients and lay health monitor (AIS) have a subordinate orientation. In most shots, they are seated surrounding the physician. They are silent throughout. They are still, though the boys are restless. In one shot, the physician is with a small boy. In that shot, the physician is in the subordinate orientation. *Utility*: The patients and lay health monitor (AIS) do not have instrumental functionality. They do not use any tools or use technical skills.

Analysis

In this interaction, the physician and nursing technician behave according to the utility and orientation indicators of the health worker behavior model. The workers are instrumental and dominantly oriented in the interaction. The patients and lay health monitor (AIS) are not instrumental and are subordinately oriented.

The health workers' actions presume a counter-role, occupied by the patients. The physician's actions are oriented towards the patients directly and also to the lay health monitor

(AIS). The nursing technician's actions are oriented towards the physician. The health workers' use of tools and resources establish the functionality of the action; in this case, a medical consultation.

6.3.3 Late morning medical consultations

6.3.3.1 Description of interactions

Film shot 06: The lay health monitor (AIS) gets up from his chair next to the physician. He approaches the girl and the woman sitting in front of the physician. The girl is sitting on the woman's lap. The woman stands up. The lay health monitor (AIS) sits on the chair. Meanwhile, he is gripping the girl with one hand. The lay health monitor (AIS) takes the girl and lays her face down on his lap.

The nursing technician stands next to them. She is holding a syringe in one hand. She is wearing gloves. The nursing technician pulls down the girl's skirt and exposes her buttocks. Four adult women and nine children in the room turn to look. A boy comes over to take a close look. The physician stretches out of his chair and points to the location on the girl's buttock for the injection.

The nursing technician sterilizes the skin with a cotton swab and applies the injection with her other hand. She introduces the needle with one hand. Then she switches hands to press the liquid into the girl's buttock. A few more people are in the classroom and looking at the action. The girl immediately begins to cry and howl as the liquid is pressed into her. The nursing technician removes the needle and swipes the wound with the cotton swab. The girl continues to cry. The onlookers walk away. The lay health monitor (AIS) stands up and gingerly sits her on the chair. The physician writes in his notepad.

6.3.3.2 Indicators

Orientation: intentionality

Body positions: The nursing technician stands above the girl and bends over to apply the injection. *Substances:* A substance flows from the health worker to the patient. *Knowledge and communications:* The physician points to the location for the injection.

Utility: functionality

Tools: The nursing technician makes use of a syringe and other materials. *Technical skills:* The nursing technician has the relevant skills.

Patient and lay health monitor (AIS) behavior

Orientation: The girl is subordinate. She lies face down on the lap of the AIS. The AIS is dominant. He is seated when holding the girl. *Utility:* The girl is not instrumental. She is held by the lay health monitor (AIS). The woman with her is also not instrumental. The lay health monitor (AIS) has an instrumental role. He helps to position the girl for the injection and holds her.

Analysis

The nursing technician and the lay health monitor (AIS) behave according to the utility and orientation indicators of the health worker behavior model. They are dominantly oriented and instrumental. In this interaction, the physician is barely instrumental. The patient is not instrumental and is subordinately oriented. She is held down by the lay health monitor (AIS).

The nursing technician's and lay health monitor's (AIS) actions presume a counter-role, occupied by the patient. The nursing technician has a counter-role in the patient and another in

the physician. The nursing technician's use of a tool establishes the functionality of the action as a therapeutic (or preventive) action. The physician's act of pointing to the location for the injection is oriented towards the nursing assistant, establishing her in a counter-role role as ancillary.

6.3.4 Afternoon medical consultation

6.3.4.1 Description of interactions

Film shot 07: The lay health monitor (AIS) sits in his chair. A small girl is sharing the chair with him. The physician sits to his side, at a desk. The patients are on his other side. The nursing assistant stands facing him. She is on the other side of the physician's desk.

The lay health monitor (AIS) bends and approaches a little girl (new patient). She is seated in the chair facing the physician. An older woman is standing next to her, resting her hand on the back of the chair. A boy stands next to her on the other side. The lay health monitor (AIS) asks her some questions. He turns to the physician as he sits back up. He transmits something to the physician.

The physician assents and immediately starts looking through some papers on his desk. The nursing technician is standing next to the physician with a brown envelope in her hand. The physician detains his sight on a page. He then turns to the lay health monitor (AIS) and tells him to ask the girl something. The lay health monitor (AIS) responds affirmatively. The lay health monitor (AIS) does not relay the question to the girl. The physician accepts his response.

The physician sets aside the papers he was looking through and begins to write in his prescription pad. The nursing technician picks up the papers.

6.3.4.2 Indicators

Orientation: intentionality

Body positions: The physician is seated centrally. The nursing assistant stands and has access to the supply boxes. *Substances:* There is no transfer of substances. *Knowledge and communications:* The physician asks question to the lay health monitor (AIS) about the patient.

Utility: functionality

Tools: The physician has an instrumental role. He revises some files. He uses the prescription pad. The nursing technician has an instrumental role. She takes care of the files. Her actions are ancillary to the physician's. *Technical skills:* The physician and nursing technician make use of the files.

Patient and lay health monitor (AIS) behavior

Orientation: The patient is seated facing the physician. She is with an adult and others. The lay health monitor (AIS) is seated with the physician and patient on either side. *Utility:* The patient has a non-instrumental role. She responds to the questions from the lay health monitor (AIS). The other persons with her are also not instrumental.

The lay health monitor (AIS) has an instrumental role. He asks questions and relays responses. His actions are ancillary to the physician's. He has a counter-role for the physician.

Analysis

This interaction shows the health workers behave according to the utility and orientation indicators. The lay health monitor (AIS) also behaves the same way. They have instrumental roles and dominant orientations. The actions of the nursing assistant and lay health monitor

(AIS) are ancillary to the physician's. The patient is not instrumental and is subordinately oriented.

The physician's actions presume two counter-roles: the nursing assistant and lay health monitor (AIS) who are ancillary to him, and the patient who is the subject of his questions to the lay health monitor (AIS). The health workers' use of tools and resources establish the functionality of their actions. The physician creates medical records and reviews their contents. The nursing assistant controls access to these files.

6.3.4.3 Utility and orientation in photographs

The photographs of three medical consultations show a similar spatial distribution of protagonists (see Figures 28-30). The three photographs illustrate the difference in the roles according to spatial distinctions. The physician is seated centrally at a desk with the tools to create medical records. The nursing technician and AIS respond to the physician as counter-roles. The nursing assistant stands to his side. The interpreter sits midway between the physician and patient.

Figure 28 was taken during the trip that is recounted in this dissertation. It shows Eduardo (physician) sitting at a desk with his notepads and files. The patient (a young man) is sitting facing him. Viviane (nursing technician) is standing to the left of the physician. Sabino, acting as interpreter, is sitting a little distanced, to the right of the physician. In this interaction, the physician is measuring the blood pressure of the patient with a sphygmometer.

Figures 29 and 30 were taken in 2008. The physician is behind a desk in both photographs. The patients sit facing him. Figure 29 shows a nuclear family group receiving a consultation simultaneously. In both photographs, Sabino acts as interpreter. He is seated a little

distant, to the side of the physician. These photographs also show onlookers standing or sitting nearby, as the medical consultations are not private interactions.



Figure 28. Medical consultation, Nova Ipiranga village, March 2010 (Photo: C. Frenopoulo)



Figure 29. Medical consultation, Santa Júlia village, July 2008 (Photo: C. Frenopoulo)



Figure 30. Medical consultation, Boaçu village, July 2008 (Photo: C. Frenopoulo)

6.3.5 Mid-morning dental care: distribution of kits

6.3.5.1 Description of interactions

Film shot 08: A large number of children are standing and sitting on the school porch. There are some women and some young males there too. Some people are watching a musical DVD blaring out on a television. Other people talk and play.

The dentist and dental assistant come out from inside the classroom. They carry some plastic bags in their hands. They walk towards the children. They begin to hand each child a small bag. The children silently accept the packets.

Film shot 09: The dental assistant begins to attempt to line up children on the porch. She positions them facing her. She is wearing surgical gloves. She is smiling throughout. She gives a packet to each child. The dentist is standing near her. He fumbles to open a plastic bag. When he opens it, he starts to pull out some smaller bags. He begins to give packets to the children. Women are standing in the back, against the railing. They are with some of the smaller children and infants.

Some children take the kit and begin to walk away. Some women standing in the back prod some children. They push them to go up and receive a bag. The children near the dental assistant stay standing together. She is assembling them. The children stand, each holding a kit. The dentist continues to distribute kits to children.

6.3.5.2 Indicators

Orientation: intentionality

Body positions: The dentist and dental assistant stand. They bend slightly to reach the children's arms. *Substances:* There is no transfer of substances. *Knowledge and communications:* There are no communications.

Utility: functionality

Tools: The dentist and dental assistant distribute some kits. *Technical skills:* The health workers do not use the kits.

Patient behavior

Orientation: The children are assembled together. They stand. *Utility:* The patients are not instrumental. They wait their turn and accept the kits.

Analysis

This interaction shows the health workers behave generally according to the utility and orientation indicators. They do not manipulate tools. They have an instrumental role and dominant orientation. The actions of dentist and dental assistant are identical and independent.

The patients are not instrumental. Patients may not be subordinately oriented, as they are standing. Some are prodded by women.

The health workers' actions presume a counter-role. They act as donors and the patients as recipients. The health workers are not oriented as counter-roles to one another, but as equals performing the same role. The health workers do not use tools in this interaction and so the functionality of the interaction is not evident. They distribute kits, but the actions do not reveal the purpose.

6.3.6 Mid-morning dental care: fluorination of children

6.3.6.1 Description of interactions

Film shot 10: A little girl is standing among a group of small children assembled in choir formation. Women with small infants stand behind them. They are facing the dentist. He moves close to the children and bends down. He begins to brush the inside of the little girl's mouth.

Film shot 11: The dentist is crouching next to a little girl (second patient). He brushes her teeth. He has a tube of red gel in his other hand. She is surrounded by the children. Women are in the back.

The girl cries. She tries to turn away her head. He moves it back to the previous position. He continues to brush. He finishes brushing. He hands the brush to a woman. He says something in Madiha language to the woman. She immediately takes hold of the crying child.

Film shot 12: The dentist is crouching down. He brushes the teeth of a little girl (third patient). He holds a tube of red gel in the other hand. The girl is surrounded by children. A row of women is behind them.

The dental assistant arrives. She has more kits. She hands a kit to a boy. The dentist finishes brushing. He stands up. The girl moves away.

6.3.6.2 Indicators

Orientation: intentionality

Body positions: The dentist crouches to the height of the little girls. He manipulates one girl's head. The dental assistant stands. *Substances:* The dentist uses a red gel on the children.

Knowledge and communications: The dentist speaks in Madiha language to a woman.

Utility: functionality

Tools: The dentist uses toothbrushes and a red gel. The dental assistant distributes some kits.

Technical skills: The dentist uses the brushes.

Patient behavior

Orientation: The patients are in subordinate orientation. They are docile. *Utility:* The patients are not instrumental.

Analysis

This interaction shows that the dentist does not always behave according to the utility and orientation indicators. The dentist has an instrumental role, but is not always dominantly oriented. He lowers himself to the height of the patients. He also speaks a phrase in the language of the patients. The dental assistant behaves according to the utility and orientation indicators. She has an instrumental role and a dominant orientation. The patients are not instrumental and appear docile.

The dentist's actions presume a counter-role for the patients. The dental assistant's actions also presume a counter-role for the patients, though different from the dentist's. The two workers occupy roles that are independent from one another. The dentist's use of tools establishes the functionality of his actions. The dental assistant does not make use of tools and so the functionality of her actions is not evident.

6.3.7 Late morning dental care: surgery

6.3.7.1 Description of interactions

Film shot 13: The dental team is on the boat. Furniture and luggage have been piled up on the deck to clear away a small work space for them. The space is about 3 meters x 2 meters (approx. US 3.3 yards x 2.2 yards). A man sits on a plastic red chair up against the rim of the deck. A boy and girl sit together on another plastic red chair next to him. The electricity generator creates a loud noise in the background.

The patient (woman) is lying flat on her back in a reclining chair. The dental surgeon is seated next to her. He is wearing a mouth mask, hair net, gloves and disposable apron. He has his hands inside the open mouth of a woman (patient). Her mouth is located at a comfortable reach. The patient is immobilized and sometimes rubs her leg against the other leg. The dental assistant stands on the opposite side of the patient. She is wearing a mouth mask, hair net, gloves and a white t-shirt above her other colored t-shirt underneath. She stands near a plastic chair with some dental instruments and materials arranged on the seat. A fan blows air on everyone.

The dentist has a metal instrument in his hand. He reaches out to the dental assistant, who picks up a small object from the white chair and holds it for him. He dips the instrument into the

object and then into the patient's mouth. The patient is generally immobile, but sometimes she scratches one leg against the other, perhaps attempting to drive away pium-flies.

Film shot 14: The patient (man) is lying flat on his back in a reclining chair. The dental surgeon is seated next to him. The surgeon has his hands inside the man's open mouth. The man's mouth lies at a comfortable reach. The surgeon is dressed in disposable clinic apparel. The dental assistant walks around the small space on the other side of the patient. The assistant is also dressed in disposable surgical gear.

The dental assistant fetches something from a small table with dental instruments and materials. The table is almost behind her, a little to her side. She hands the object to the dentist. He takes it and pries the patient's mouth with it. The dental assistant shakes the box in her hand and puts it back on the table. The patient is very still.

The two plastic red chairs behind the dental assistant are empty now. The fan continues to blow air on the patient and workers. The electricity generator makes a loud noise.

Film shot 15: The patient (same man) is lying flat on his back in a reclining chair. The dental surgeon is seated next to him. The surgeon has his hands inside the man's open mouth. The man's mouth lies at a comfortable reach. The surgeon is dressed in disposable clinic apparel.

The patient is still. The dentist raises his head and looks at the dental assistant. He points to the table with dental equipment. She goes to the table and fetches a cylinder. She picks up some metal tweezers, pulls out a cotton swab and offers it to him. He places the swab in the patient's mouth. He presses the pedal on some machinery on his side and then sits up straight, waiting.

The boat captain is sitting on the side of the deck, looking at the action.

Film shot 16: The patient is lying face up. His mouth is open. The dentist is seated next to him. The physical layout of objects is the same as in all other shots.

The dentist uses a pointed instrument on the man's teeth. He puts down the instrument. The dental assistant immediately picks up another tool from the white chair. She dips into a cylinder and hands it to the dentist. He uses it and then returns it to the dental assistant. He then picks up the other instrument he was using.

The boat captain is standing on the far side of the deck looking at the action. The cook is sitting next to him. She is only looking vaguely at the action, or perhaps at something outside the boat.

6.3.7.2 Indicators

Orientation: intentionality

Body positions: The dentist works seated. The patient's mouth is situated within his reach. The dental assistant stands and moves among the stock of materials. *Substances:* The dentist uses substances on the patient. *Knowledge and communications:* There are no verbal communications.

Utility: functionality

Tools: The dentist and dental assistant use specialized tools and materials. *Technical skills:* The dentist and dental assistant show qualified use of tools. They manipulate exchanges of tools wordlessly.

Patient behavior

Orientation: The patient is lying face up, within the dentist's reach. *Utility:* The patient has a non-instrumental role. The patient is immobile.

Analysis

This interaction shows the health workers behave according to the utility and orientation indicators. They have instrumental roles and dominant orientations. The actions of the dental assistant are ancillary to the dentist's. The dental assistant understands the surgeon's gestures or needs without verbal interaction. The patient has a non-instrumental role and subordinate orientation, amenable to the worker's actions.

The dentist's actions presume a counter-role for the patient. The dental assistant's actions show her role as interdependent with the dentist's. The dentist's use of tools establishes the functionality of his actions as surgery. The dental assistant's use of tools establishes the functionality of her actions as assistant to the dentist.

6.3.8 Afternoon dental care: surgery

6.3.8.1 Description of interactions

Film shot 17: A woman (new patient) is lying face up. The dentist is seated next to her. He is wearing disposable surgical apparel. The dental assistant is on the other side of the patient. She is also wearing surgical apparel. The physical layout of objects is the same as in all other shots.

The patient is immobile. The dentist is holding an instrument attached to a machine. He uses it inside the woman's mouth. The dental assistant is cleaning or sharpening something. She has a scalpel and a glass pane. She rubs the scalpel against the glass repeatedly.

A boat pilot is perched outside the side planks behind them. He is folding back up a yellow plastic sheet. The sheet is lowered when it rains.

6.3.8.2 Indicators

Orientation: intentionality

Body positions: The dentist works seated. The patient's mouth is situated within his reach. The dental assistant stands on the other side. *Substances:* No substances are used. *Knowledge and communications:* There are no communications.

Utility: functionality

Tools: The dentist and dental assistant use specialized tools and materials. *Technical skills:* The dentist and dental assistant show use of tools.

Patient behavior

Orientation: The patient is lying face up, within the dentist's reach. *Utility:* The patient has a non-instrumental role. The patient is immobile.

Analysis

This interaction shows the health workers behave according to the utility and orientation indicators. They have instrumental roles and dominant orientations. The actions of the dental assistant are independent from the dentist's. The patient has a non-instrumental role and subordinate orientation, amenable to the worker's actions.

The dentist's actions presume a counter-role for the patient. The dental assistant's actions show her role as interdependent with the dentist's. The dentist's use of tools establishes the

functionality of his actions as surgery. The dental assistant's use of tools establishes the functionality of her actions as assistant to the dentist.

6.3.8.3 Utility and orientation in photographs

The photographs of two dental interactions in 2008 show a similar form of interaction between protagonists (see Figures 31 and 32). Both photographs illustrate the difference in the roles according to spatial distinctions and actions. The health workers' positions presume a counter-role. The dentist interacts directly with the patients and the dental assistant's role is interdependent with the dentist's. The functionality of their action is determined by the manipulation of tools. The dentist performs fluorination and surgery on the patients. The dental assistant controls the materials.

Figure 31 shows the dentist placing a mouthpiece with fluoride gel into the mouth of a young boy. The dental clinic assistant stands to her side, with materials in her hand. The children appear passive in the photograph.

Figure 32 shows the dentist conducting clinical dental work upon a patient in the school house. The dentist is comfortably seated next to the patient. The dental clinic assistant stands next to the materials and supplies, which she manipulates. In this photograph, the two health workers are wearing disposable surgical attire.



Figure 31. Fluorination of children, Santa Júlia village, July 2008 (Photo: C. Frenopoulo)



Figure 32. Dental treatment, Santa Júlia village, July 2008 (Photo: C. Frenopoulo)

6.3.9 Mid-morning screening and prevention: Child growth and development monitoring

6.3.9.1 Description of interactions

This interaction is simultaneous to the mid-morning physician consultation. The child examined by the nursing technician is part of the group that is consulting with the physician (see film shots 02-05). The two health actions occur in the same room (classroom) and at the same time.

Film shot 18: A small child is lying on its back. It lies on a fold-away bed. The bed is set up on one side of the classroom. The nursing technician stands beside the bed. The bed lies at a height that is comfortable for her reach while standing. A digital scale for measuring weight is near her, on the floor.

The nursing assistant adjusts a T-shaped aluminum ruler. The ruler is spread open flat on the bed to measure the child's height while the child is lying down. She adjusts the foot-rest until it reaches the child's feet. She then lifts up the child and stands him back on the ground. He quickly scurries back to a woman [see film shots 02-05]. She is consulting with the physician. She is with other children.

The nursing technician bends over a desk with some papers. She writes annotations on some blank forms.

6.3.9.2 Indicators

Orientation: intentionality

Body positions: The nursing technician works standing. *Substances:* There are no substances in this interaction. *Knowledge:* There are no communications.

Utility: functionality

Tools: The nursing technician makes use of a ruler. *Technical skills:* The nursing technician uses the ruler. She writes annotations.

Patient behavior

Orientation: The child is placed at a height that is comfortable for the health worker's reach and sight. *Utility:* The patient has a non-instrumental role.

Analysis

This interaction shows the health worker behave according to the utility and orientation indicators. She has an instrumental role and dominant orientation. The patient has a non-instrumental role and subordinate orientation, amenable to the worker's actions.

The health worker's actions presume a counter-role for the patient. The health worker's use of tools establishes the functionality of her actions as child height measurement.

6.3.9.3 Utility and orientation in photographs

The photographs of two interactions to determine child growth and development in 2008 show a similar form of interaction between protagonists (see Figures 33 and 34). Both photographs illustrate the difference in the roles according to spatial distinctions and actions. The health workers' orientations presume a counter-role for the patient. The orientation to their co-worker is variable.

In Figure 33, the nursing technician adjusts the base of the ruler to the child's feet. The nurse assists her with positioning the child on the table. The child is immobilized. Both health workers interact directly with the patient. Their roles are identical and not interdependent with one another.

In Figure 34, the nursing technician stands and reads the scale. The nurse is seated at a desk and enters the data in her files. The child is held by its mother, for a reading of their joint weight. (The mother would be subsequently weighed alone to subtract the weight of the infant from the joint reading.) The nurse is seated while the nursing assistant interacts with the patients. Their two roles are interdependent to one another. The functionality of the health workers'

actions is determined by the manipulation of tools. In both photographs, the nursing assistant determines height and weight. The nurse creates medical records.



Figure 33. Measuring height of child, Santo Amaro village, July 2008 (Photo: C. Frenopoulo)



Figure 34. Weighing a baby, Santo Amaro village, July 2008 (Photo: C. Frenopoulo)

6.3.10 Late morning screening and prevention: Influenza A (H1N1) immunization

6.3.10.1 Description of interactions

Film shot 19: The nursing technician is standing. She is wearing surgical gloves and has a large needle in her hand. She is next to a cooler that contains vaccines. A boy is seated beside her on a chair. Some other people are next to them, looking. A boy is standing right next to him. A young man is standing behind them. A woman with a nursing infant and an elderly woman are standing on the other side.

The nursing technician bends over towards the seated boy. She lifts his sleeve, sterilizes the skin with a cotton swab and injects the vaccine. The boy grimaces. She removes the needle and places the cotton swab over the wound. The boy keeps hold of the cotton swab while she drops the used needle in a hard yellow carton box.

The boy slowly gets up, twisting his head and arm to inspect the wound.

6.3.10.2 Indicators

Orientation: intentionality

Body position: The nursing technician stands. *Substances:* The nurse injects the boy with a vaccine. *Knowledge and communications:* There are no communications.

Utility: functionality

Tools: The nursing technician uses a syringe and other instruments for vaccination. *Technical skills:* She shows the relevant skills.

Patient behavior

Orientation: The boy is seated. His upper arm is within the nursing technician's reach. *Utility:* The patient has a non-instrumental role.

Analysis

This interaction shows the health worker behave according to the utility and orientation indicators. She has an instrumental role and dominant orientation. The patient has a non-instrumental role and subordinate orientation, amenable to the worker's actions.

The health worker's actions presume a counter-role for the patient. The health worker's use of tools establishes the functionality of her actions. The substance flow indicates a preventive (or therapeutic) act.

6.3.10.3 Utility and orientation in photographs

The photographs of two immunizations in 2008 show a similar form of interaction between protagonists (see Figures 35 and 36). Both photographs illustrate the difference in the roles according to spatial distinctions and actions. The health workers' positions presume a counter-role. The nursing assistants interact directly with the patients and the interpreter has a role that is interdependent with the nursing assistants'. The functionality of the nursing assistants' actions is determined by the manipulation of tools. The nursing assistants inject a substance into the patients.

Figure 35 shows the nursing technician standing and bending over to inject the vaccine into the child. The child is displeased, clasped in place by Sabino. The hand of another health worker can be seen offering the child some candy.

Figure 36 shows the nursing technician standing while immunizing a seated adult woman. The woman grimaces slightly.



Figure 35. Immunization of child, Santo Amaro village, July 2008 (Photo: C. Frenopoulo)



Figure 36. Immunization of adult woman, Santa Júlia village, July 2008 (Photo: C. Frenopoulo)

6.3.11 Afternoon screening and prevention: newborn screening

6.3.11.1 Description of interactions

Film shot 20: The nurse is seated. She is wearing disposable surgical attire. She has a gown, gloves and mouth mask. The nursing technician is standing next to her, holding a very tiny baby in her arms. The baby cries incessantly.

The nurse sterilizes the sole of the baby's foot. She presses the baby's heel until it turns purple. She removes a scalpel blade from its packaging. She pricks the baby's heel with the tip of the blade. The baby howls agitatedly.

The nurse holds the heel with one hand, maintaining the pressure. With her other hand, she gently pats the droplets of blood with a piece of paper. The paper is a printed blank form with some round circles and other boxes. The nurse smears the blood drops onto the paper circles.

Film show 21: (close up) The nurse is seated. She is wearing disposable surgical attire. The nursing technician is standing in front of her. The nursing technician is holding a baby (same patient) in her arms. The baby cries desperately.

The baby's heel falls at the nurse's eye level. The nurse pats a sheet of blot paper against the heel of a tiny baby. She is collecting some blood drops.

6.3.11.2 Indicators

Orientation: intentionality

Body position: The nurse is seated. The nursing technician stands and holds the baby.

Substances: The nurse extracts blood from the patient. *Knowledge and communications:* There are no communications.

Utility: functionality

Tools: The nurse makes use of surgical materials. *Technical skills:* The nurse shows relevant skills. The nursing technician holds the baby for the nurse, exposing the heel.

Patient behavior

Orientation: The patient is confined. *Utility:* The patient is not instrumental.

Analysis

This interaction shows the health workers behave according to the utility and orientation indicators. They have instrumental roles and dominant orientations. The nursing technician's actions are ancillary to the nurse's. The patient has a non-instrumental role and subordinate orientation, amenable to the worker's actions. The patient is displeased.

The nurse's actions presume a counter-role for the patient. The nursing assistant's actions reveal a role that is interdependent with the nurse's. The nurse's use of tools establishes the functionality of her actions as blood sample collection.

6.3.11.3 Utility and orientation in photograph

The photograph of a newborn screening collection of a blood sample in 2008 shows a similar form of interaction between protagonists (see Figure 37). The photograph illustrates the difference in the roles according to spatial distinctions and actions. The health worker's orientation presumes a counter-role for the patient. The functionality of her action is determined by the manipulation of tools. She is collecting a blood sample.

In Figure 37, the nursing technician brings the paper close to the baby's heel to collect blood drops. The mother holds the infant. The lay health monitor (AIS) is standing very close to them, looking at the action.



Figure 37. Newborn screening, Santa Júlia village, July 2008 (Photo: C. Frenopoulo)

6.4 INTERACTIONS IN THE DOMESTIC SPACE

I will present now descriptions of the health mission workers' behaviors in non-work interactions (e.g., leisure, meals). I will describe non-work interactions with one another and with villagers. I will use this material to compare with the observations of health care interactions.

In the domestic social space, the health mission workers show a high degree of uniformity in their interactions with one another, which is different from the rigid role differentiation observed in health care interactions. During leisure interactions, the behavior patterns are relatively identical and usually do not imply role interdependence. The workers' actions appear generally undifferentiated.

In this section, I will use materials from participant observations recorded in field diaries and some film shots that were taken randomly. I will provide a short description and then comment on each of the actions and interactions, in a manner similar to the preceding analysis of filmed health care interactions. I will also include some photographs.

6.4.1 Breakfast

I have no journal notes or film shots for breakfast on March 18.

6.4.2 Boat crew leisure: line fishing

6.4.2.1 Description of interactions

Film shot 22: Late in the morning, João (boat pilot) sits on a little stool in the stern (back) of the boat. He sits with a fishing line in his fingers. A bucket with some fish is next to him.

6.4.2.2 Indicators

Fishing with a line is a solitary activity and can be performed on the boat and at any time during the day. The boat pilots (men), and also the cooks (women), frequently spend leisure time fishing. They sit alone with a line and usually collect a bucketful of fish very quickly.

With this activity, no type of counter-role is implied in the actions. There is no interaction with villagers or with other co-workers involved in this leisure activity. The activity requires little equipment: line, hook, bait and a bucket. The equipment establishes the functionality of the actions.

6.4.2.3 Utility and orientation in photograph

The photograph of boat crew relaxing in 2008 shows a comparably similar form of behavior (see Figure 38).

In Figure 38, the cook and João (boat pilot) sit in the stern (back) of the boat for a relaxation moment. They are not fishing in this photograph, but their posture exemplifies the form of behavior. A counter-role is not presumed in this behavior.



Figure 38. Boat crew leisure, Santo Amaro village, July 2008 (Photo: C. Frenopoulo)

6.4.3 Lunch

6.4.3.1 Description of interactions

Film shot 23: Lunch is about to be served. The physician, dentist and boat captain stand around waiting near the blue wooden box. Ana Lucia is packing vaccines back into the freezer. Rafaela is sweeping the deck.

Sapo (shaman) comes down to the boat. He is dressed in ragged clothes. He is carrying a plate of fresh fish. He walks to the galley (kitchen) in the back and takes the fish to the cook. A few boys have come down too. They stand and sit on the sanitation construction workers' boat. The cook starts to hand pots with food to the boat captain. He sets out the food on the blue box.

Sapo returns from the back and goes to sit on a plastic chair at the front of the deck. Another man has come down from the village. He stands near Sapo. A few boys have climbed in and stand between Sapo and the man. The man sits on a plastic chair. The small boys stand near him. They remain silent all the time.

The health mission workers begin to eat. They sit close to each other on the other half of the deck. After all the workers have eaten, Ana Lucia stands up and fills two plates with food. She gives one to Sapo and another to the other man. The cook puts the remaining food into one large pot. She gives the pot to one of the boys. The boys rush off with the pot to a better location for eating. A number of boys scramble to eat from the pot.

6.4.3.2 Indicators

In this interaction, the health mission workers' actions to serve themselves food and to eat do not imply a counter-role. Their behaviors are generally identical. The workers eat from a buffet.

Each worker helps himself or herself. The individuals take a plate, serve themselves and then find a spot to sit. The use of tools establishes the functionality of the action.

This interaction vignette also shows a social division with villagers during meal time. The health mission workers do not associate with the villagers during meal time. The villagers sit separately, on the other side of the deck, and silently wait. The villagers do not serve themselves food. They are served later by a worker after the health mission workers have finished eating.

The villagers appear to occupy an alternative role at meal time on the boat. They do not act in the same way as the health mission workers. Their role as commensals is interdependent with the health mission workers' roles. The villagers need the workers to serve them food. The cook's action positions the villagers as donation recipients. Comparatively, the health mission workers do not require the actions of the villagers. The workers' roles are independent.

The spatial separation segregates the two groups. The health mission workers sit together near the food on one half of the deck. Meanwhile, the villagers silently stay close to one another, waiting about two or three meters (or yards) away.

6.4.3.3 Utility and orientation in photograph

The photograph of some young boys eating from a pot of food in 2008 shows a similar form of behavior (see Figure 39). The boys received the food only after the health mission workers had finished eating.

In Figure 39, some young boys hungrily eat from a pot on the beach, a short distance away from the boat. The pot contains left-overs from the evening meal served on the boat.



Figure 39. Boys eating from pot with evening meal left-overs, Boaçu village, July 2008 (Photo: C. Frenopoulo)

6.4.4 Conversations when nurse returns with laboratory technician

6.4.4.1 Description of interactions

From journal: Just after lunch, Mônica (nurse) and Jorge (boat pilot) arrive back from Manoel Urbano city on a small aluminum boat. A man climbs up into the boat behind her. She introduces him to me. We shake hands. His name is Jefferson. He is a laboratory technician (*bioquímico*). He will perform some blood tests. I later learn that he extracts blood samples for screening and detection of HIV, Hepatitis B and syphilis.

The day before, Mônica had conducted an emergency rescue for a girl in one of the villages. The girl had been four days in labor to give birth. Mônica and Jorge rushed the girl to the small infirmary in Manoel Urbano city. The folks gather around Mônica to hear her story. She explains that the mother delivered the baby in the aluminum boat while they were on their way to the city. Mônica helped with the delivery. The baby was born dead. They continued to the

trip to the city. The girl is now in the hospital. She is being treated for infections, since the amniotic bag broke four days ago.

The physician comments with Mônica that women diagnosed with risky pregnancies or births should be taken to give birth in Manoel Urbano city, at a certain week of their pregnancy. She looks at him and responds right away, “But there, it escapes us” (“*Mas aí foge de nós*”). She explains that the Base Post has no jurisdiction for the city health services. They can only monitor and intervene in events in the villages or nearby areas. The dentist is listening and recommends the nurse to write up something about this in her reports to FUNASA. She explains that she has done so but has never gotten a response.

Mônica moves away. I notice people gathering around the newly arrived man. Between cigarette puffs, the laboratory technician is engaging the others in a lively description about Indians and their unique resistance to liquor. He comments how he is marveled that Indians can drink so much yet remain so strong. He says that it merits “scientific study” (“*estudo científico*”). He goes on to comment about the coca leaf plantations of the Ashaninka [a populous native ethnic group in western Acre]. He explains that coca numbs the mouth. He finalizes his story referring to his single experience with ayahuasca [a medicinal brew used by numerous regional ethnic groups]. He says that he only drank it once in his life. He had bought it on the street in Cruzeiro do Sul city [in west Acre], after a night of partying and abundant alcohol consumption. He says that its only effects on him were to make him defecate copiously and to see things bendy.

6.4.4.2 Indicators

These conversations show interactions of workers with co-workers. There are two cliques, composed of a loose group of people surrounding a central speaker. The physician, dentist, nurse

and laboratory technician participate as equals in the interactions. The interactions do not show a counter-role, in the sense that all participants speak equally and without any order or precedence, though there is a central speaker telling a story and some participants are silent (e.g., the nursing technicians). The actions do not involve the use of tools.

Villagers are not physically present, but they are the topic of conversation. The workers' comments about pregnancies show the workers self-positioned as trustees of the patients' welfare. The physician's recommendation to transport and hospitalize women with risky pregnancies positions health workers in an instrumental role and dominant orientation relative to patients. The nurse's response to him does not question such role and orientation assumptions. Instead, she notices a bureaucratic impediment. The dentist also does not question this view and recommends the nurse to elevate a report in order to pursue a method to carry it out.

A laboratory technician is not often part of a health mission trip. This is this man's first trip to the villages. He has just arrived. His candid remarks about Indians might suppose that he seems to take for granted the ethnic homogeneity of the people on the boat and that they understand themselves as different from Indians.

6.4.5 Boat crew leisure: playing cards

6.4.5.1 Description of interactions

Film shot 24: Four young men play cards on the deck of the sanitation construction workers' boat. One of them has gold jewelry, smokes cigarettes and drinks black coffee. He is dressed in clean smart casual clothes. The other three wear a torn shirt or sleeveless jersey and board shorts. Two of them are construction workers, the third is João (boat pilot).

The man with a sleeveless jersey is dealing the cards. They speak something to one another now and then. They are using a large spool of thick cable as a table. The chairs and stools are assorted. Some chairs are from the Health Boat. The deck of the construction boat is bare. Some worn hammocks are strung on the far end, close to the stern (back).

6.4.5.2 Indicators

In this interaction, the behaviors of the actors are fairly similar to one another. However, some very minute differences in the actions have significance for the actors because they are playing a card game. There is role interdependence between the players. The cards and other material elements establish the functionality of the action.

Despite the minute differences in the meaning of certain behaviors in response to the rules of the game, the players' characteristics and their actions overall are very similar. For instance, the construction workers and the hired boat pilot dress similarly, speak similarly and act similarly.

Villagers are not present in this interaction.

6.4.6 Evening relaxation on the boat

6.4.6.1 Description of interactions

From journal: The mission workers and boat crew follow an identical routine every evening. They eat dinner, watch a movie on DVD and then go to sleep.

Dinner is served as a buffet on the blue box. As with other meals, people serve themselves in some loose order of job rank. The evening meal may have a desert (e.g., tinned

jam and cream) or a carbonated soft drink (soda pop). If village boys are waiting silently nearby at dinner time, they are given a pot with the leftover food after the workers have finished eating.

After the food and pots are cleared away, the workers begin to clear the deck for sleep. Furniture is stacked, stowed or put outside (e.g., on the roof, on the beach or hung over the side). The floor is swept and mopped. There is limited room to lay out mattresses on the floor. Some people sleep on the roof or in the cabin (always used as a storage room).

While some people prepare themselves or their beds, others set up some chairs to watch a movie on the television set. The clique intimacy of the health team is heightened at this moment of the day. This is the one time during the whole day when villagers are not likely to be on the boat. The chairs are placed facing the television. Some people watch the movie from a hammock. Very often, someone has some chocolates or sweets to share during the movie. Mônica has a small collection of popular movies on DVDs. The DVD player and television set are powered by the electricity generator. The generator is always left on at night to keep the freezers going. By the time the movie is finished, some people have dozed off already.

The late night is when workers can find a brief moment of solitude or privacy. Isolation usually becomes possible when individuals occupy their hammock or mattress. Hammocks, by design, can fold and envelop the individual to shut out external stimuli. Individuals who sleep on mattresses shield themselves inside mosquito nets. At this time, individuals may read a book using a flashlight or listen to music on a portable device (e.g., cell-phone). Other personal comforts include the use of pajamas, puffy pillow and sheets, and a blanket, which some of the nursing staff bring with them. (The men in the hammocks do not carry such comforts and usually sleep in their day clothes.)

6.4.6.2 Indicators

These interactions show the health workers and boat crew dining and relaxing after the day's work. Generally speaking, these actions do not imply a counter-role. The roles and positions seem mostly undifferentiated between individuals. The behavior of every individual is generally identical. Most of the actions are independent. There is equal access to the food, movie or small shared luxuries (e.g., chocolates). The exception is the order for serving food, as expressed earlier. The equipment involved in each set of actions determines the functionality.

This moment of the day is one of the rare times in which the villagers are not nearby (or perhaps not noticed). At other times, the presence of villagers in or near the boat is regulated through spatial segregation and behavioral difference. In the late evening, the conviviality and equality of the domestic social space seems heightened. At this time, the workers share small luxuries.

The late night also provides a brief and unusual opportunity for individually differentiated behavior. These behaviors occur when each worker is in his or her own bed. That is, when the social interaction is suspended. This is the only noticeable time in which every person acts differently and independently from the others. Some read, some listen to music, and so on (see Figure 40).

6.4.6.3 Utility and orientation in photograph

The photograph of the relaxation period after an evening meal in 2008 shows a similar form of behavior (see Figure 40). In this photograph, there is no social interaction. Each individual behaves in an autonomous and differentiated manner. The beds establish the space for this form of individual action.

Figure 40 shows the brief moment for individual privacy for boat crew and passengers at bed time. In this photograph, the man in the foreground is the physician. He is lying on a hammock holding a radio to his ear. Behind him, two nursing staff members have set up their mosquito nets, which enclose their mattresses laid out on the deck floor. The boat captain peers out from his hammock in the far back of the photograph.



Figure 40. Bed time on the boat, Boaçu village, July 2008 (Photo: C. Frenopulo)

6.5 RESPONSE TO RESEARCH QUESTIONS

6.5.1 Intentionality and functionality in the work space

It is now possible to provide a response to the two research questions on the basis of the preceding detailed descriptions of the interactions in the work space.

The first research question interrogates whether an actor's actions imply a counter-role. In such a situation, an actor's actions would be oriented towards other individuals as a matter of patterned behavior due to role identities and mutual interdependencies.

The observations show that this is the case for most of the health work interactions. Health workers act in ways that presume two counter-roles: the patients and their co-workers within a specific team. As predicted in the utility and orientation indicators, health workers occupy an orientation that has at least one counter-orientation. A health worker's orientation is expressed in a particular body posture relative to the other actors (e.g., sitting at a desk facing the patient, or standing close to the equipment and near the professional). Orientation is also expressed in communication flows (e.g., asking questions from patients and giving them advice), as well as substance flows (e.g., substances that flow from the health worker to the patient are preventive or therapeutic).

These actions do not occur reciprocally or indistinctly within the health care interaction. Each participant appears to have a very clearly defined range of behaviors. These behaviors also do not occur independently. When they occur, the other participants are simultaneously fulfilling their range of expected behaviors.

The second research question interrogates whether an actor's use of tools establish functionality for the actions. In such a situation, an actor's use of tools determines the purpose of the actions.

The observations show that this is the case for most of the health work interactions. Health workers use tools in almost all their interactions, with the notable exception of medical consultations. As expected from the utility and orientation indicators, most of the interactions

involve use of specialized biomedical technologies and the workers demonstrate a skilled use that suggests qualified training and certification.

Medical consultations use few tools. In those interactions, verbal exchanges establish the frame of interpretation of the interactions.

In consequence, the health workers' actions appear directed or aimed towards other actors who are present during the interactions and who occupy a counter-role. The actions are mediated through the use of tools that establish the purpose of the interaction, except for medical consultations.

6.5.2 Intentionality and functionality in the domestic space

It is now possible to provide a response to the two research questions on the basis of the description of the interactions in the domestic space.

I regret that I am not able to describe and analyze these interactions on the basis of film shots because I did not carry out systematic film observations in this space, since it was not part of my original research plan. I did not realize the importance of the domestic space of health missionaries until after I had returned from the field. Their domestic space is important to understand their capacity to act as health agents in a foreign village.

The first research question interrogates whether an actor's actions imply a counter-role. In such a situation, an actor's actions would be oriented towards other individuals as a matter of patterned behavior due to role identities and mutual interdependencies.

The observations show that this is not the case for most of the domestic interactions. In the domestic space, health mission workers act in ways that appear to presume no counter-role. In general, most of their activities involve a single role, iterable for each actor and independent

from one another. In most cases, there is no role differentiation. Actors are not interdependent. There is no functional cohesion between actors. The simultaneous concurrence of their actions cannot be described as interactions. They are really juxtapositions of individuals performing generally identical actions at the same time.

The exception to this is the order for serving oneself food from the buffet, games, and the brief moment of individual solitude in bed.

The sequential order for serving oneself from the buffet is related to the status of the individual either as boat crew member or as a health professional. The cook and boat pilots wait for the health care personnel to serve themselves first. There is an underlying status and role difference that explains the behavioral difference. Although the actions themselves are fairly identical, rank and job role difference is acknowledged when the boat crew waits for the health workers at meal time. The order for serving oneself food from the buffet also implies two interdependent roles: service staff (boat worker) and health care staff (boat passenger). The meal is a service provided by the boat staff as part of their work duties.

In general, the actions of each player in games are fairly identical. The game relies on only very minute differences, such as which specific card is thrown onto the table. However, these small acts have the greatest significance in the context of the rules of the game. The players may perform a wide variety of acts during the game (e.g., sipping coffee, scratching their arm, swatting a piim-fly or throwing a card onto the table), but only some of these acts carry significance or relevance for the sake of the game. Therefore, also in the case of the games, role interdependence occurs on the basis of an assortment of acts that have significance in the context of the game.

Games present a useful case to comprehend the hypothesis that agency is a value judgment according to each context. The interpretation of acts as signs of “strategy”, “adaptation”, “entrepreneurship”, “initiative”, and so on, all require a context of rules in order to assign such meaning to acts. Acts are “strategic” or “entrepreneurial” in the context of a background against which they stand out as different to expected or standard behavior.

From this it follows that the understanding that agency is associated with autonomy does not designate a quality of the actor or the behavior, but how each of these stand out when contrasted against a certain background. The judgment of “autonomy” is a relative evaluation. It is a value judgment that signals relative position.

Actors engage in multiple acts during interactions with other actors. Authors only highlight some of these in order to signal the presence of agency. Authors are imputing significance to those acts and omitting the evaluation of the other acts that actors also accomplish.

In the card game, the space for agency is restricted to the choice of a particular card to keep in one’s hand or to throw back onto the pile. Other acts are either not negotiable because they are bound by rules (e.g., whose turn is next) or they are irrelevant to the game (e.g., sipping coffee). In turn, the players’ intentions (e.g., choices, calculations) respond to an evaluation of their position within the game relative to the other players. That is, intention or interest for action is an index or judgment of relative position.

The purpose of the interaction determines the space for agency by determining the frame of interpretation of the acts. The purpose of the interaction regulates the distribution of roles and the relative meaning of behaviors. Therefore, the attribution of agency relies on a comprehension of the frame of relative evaluation of the value of the acts.

Consequently, the examination of games and buffet serving behavior shows that agency attribution implies role interdependence.

If so, this raises questions regarding the pattern of juxtaposed iterable independent behaviors that generally characterizes leisure activities in the health mission workers' domestic space. It would seem that there is no counter-role implied in their interactions with one another in the domestic space. This conundrum is resolved when their behaviors are observed in the context of their interactions with villagers in the domestic space. The villagers occupy the counter-role.

Generally speaking, villagers are not included in the health workers' leisure activities. When villagers interact with the health mission workers at these times, they occupy a different role. This form of segregation is poignantly manifest during meal times. The villagers do not behave in an identical way as the health workers during meal times, nor are they induced or invited to do so. They do not serve themselves food; they are served. They do not eat in the same physical space as the health mission workers; they sit and eat separately. They do not eat at the same time as the health mission workers; they must wait for the health mission workers to have finished.

The health mission workers act in a fairly identical manner during leisure activities because they are all occupying the same role. The counter-role is not found among them. Rather, the implicit (and sometimes explicit, such as during meals) counter-actors are the villagers.

Therefore, the health mission workers' leisure activities establish their identity difference with villagers. The domestic space is where the health mission workers emphasize their ethnic homogeneity and their status as foreigners. This is why the sanitation construction workers

participated in the card games. The construction workers occupy the same social class as the boat pilots.

The health mission workers' informal conversations in this space confirm that the villagers occupy the counter-role of the domestic space. When villagers are the topic of conversation, the health workers speak from a trustee status, debating on behalf of the villagers what is best for them. When they speak about the villagers' lifestyle, the workers emphasize the villagers' social difference, such as their birthing practices. When the newly arrived laboratory technician began to talk about Indians, what he had to say was how different they were. Otherwise, the workers also speak and gossip about mutual acquaintances from Manoel Urbano city or riverine farmers (*riberinhos*) in this space.

When I planned the research project, I did not anticipate the importance of the domestic space in a missionary enterprise. I realized later that this space is where missionaries enact their social similarity and also establish behavioral boundaries that affirm their difference with the targets of their missionary operation.

With this in mind, it becomes comprehensible that the health mission workers only engage in individualistic behaviors when they are in bed. This is the only time in which social interactions are suspended and there is no requirement to sustain the moral community with the other boat passengers.

The second research question interrogates whether an actor's use of tools establish functionality for the actions. In such a situation, an actor's use of tools determines the purpose of the actions. The observations show that this is the case for the domestic interactions.

In consequence, the health mission workers' actions in the domestic space do not appear directed or aimed towards other actors who are present during the interactions as a counter-role.

Instead, the counter-role appears to be occupied by the villagers; that is, actors who are not participants of this domestic space. The actions are mediated through the use of tools that establish the purpose of the interaction.

7.0 RESPONDING TO AN EMERGENCY

In this chapter I return to the episode of the baby's emergency, which opened the dissertation. I wish to provide details of the unfolding of the events in order to respond to the initial questions raised by the episode regarding the health workers' failure to acquire consent and to provide care.

I will contextualize the episode within the totality of the day's events to show how it lies within the schedule of other activities. During the day, the health workers also performed other health care interactions, before and after the baby's crisis. Even though all of these interactions occur outside of the standard planned activities, the workers largely follow the same pattern of behavior.

This was not a day for routine planned health work. The boat was scheduled to depart from Boaçu village and begin its journey onwards to another village, located on the Chandless River. On this day, the workers conducted health procedures in spontaneous physical locations, such as the boat and patients' homes.

In this chapter, I will follow the same presentation and analysis format used previously to discuss a day of varied activities. First, I will present a journal description of the entire day. Then, on the basis of filmed observations and journal entries, I will proceed to analyze the health team's response to the baby's crisis and their participation in other health work during the day. After that, I will describe and analyze recreational and other non-work interactions in the

domestic spaces. There are two domestic spaces mentioned here: the patients' house during the baby's crisis, and the boat.

7.1 JOURNAL DESCRIPTION: MARCH 21, 2010

Date: Sunday March 21st, 2010.

Location: Boaçu village, Upper Purus Indigenous Territory, Brazilian Amazon.

7.1.1 Early morning on the boat: Waking up

Start of description of day ~ The sharp invasive smell of cigarette smoke penetrates my nostrils and wakes me up. I can hear other passengers and crew members simultaneously emerge from their mattresses and hammocks. My mattress is wedged between a bench and some boxes with supplies, right in the middle of the deck.

The boat is docked at the port of Boaçu village. About one hundred Madiha live here. It is a medium sized village (74 individuals counted in 2008).

It is early. The air is still cool and the sun is not warm yet. Mist covers the river and hangs suspended over the morning forest. The infernal pium-flies are still not swarming. For me, this is the most pleasant time of the day.

On the boat, people clear away their sleeping gear quickly. They roll up their mattress or stow away their hammock. The deck needs to be freed from clutter. Space is literally limited and very cramped on the boat. Work and leisure activities are synchronized and scheduled throughout the day.

One by one, individuals wait for a turn to use the single small bathroom. Many people shower, change their clothes, brush their teeth and so on.

7.1.2 Early morning on the boat: Breakfast

The deck is rearranged for breakfast, setting out a table and some chairs and stools. The cook quickly brings out a thermal flask of sweet thick black coffee and lays it on the blue wooden box.

The cook on this trip is a young woman with a strong frame. She began to work on the health mission trips recently. This is her third trip. I was meeting her for the first time. She sleeps close to the kitchen and food supplies. She sleeps on a mattress. She gets up early. She makes fresh strong sweet black coffee first, local style.

Some crew and passengers are awake. They serve themselves a plastic cup with a sip of black coffee. Not long after, she starts to bring out the breakfast. Today's breakfast contains the usual ingredients. The cook also warmed up yesterday evening's left-over deer strips with onions. The animal was given by the Madiha man who hunted it. The breakfast includes maize bread (steamed maize flour), scrambled eggs, toast, biscuits, butter and raw coarse manioc flour. There is also a jug of heated milk.

There is a gender difference in the consumption of breakfast items. Women eat biscuits with butter. The men serve themselves plates of cooked food.

This morning, some villagers have come down to the boat. They sit silently on the sides, or in the adjacent boats and canoes moored at the port. Most of them don't speak or interact with anyone on the boat. They only sit and look. They interact among themselves.

A group of men comes to the boat together. The group includes the chief, the lay health monitor (AIS), the school teacher, and some other men. A couple of them instantly demand

coffee, speaking in Portuguese. The cook reaches out and serves each of the men a cup of black coffee and a hands them a packet of biscuits. They address Mônica, the nurse, and also speak with other people.

I comment aside with Rafaela (dental assistant) how villagers always show up at meal time and how they seem to like the food. I tell her that I heard many complaints about the food in the CASAI. (The CASAI is a nursing facility for Indians in Rio Branco city.) She agrees with me. She says that Madiha also complain about the food when they are taken to Manoel Urbano city for treatments. She says that they say that the food gives them diarrhea (*diarréia*) and stomach ache (*dor de barriga*). She thinks this might be because of the spices (*tempero*), since Madiha don't use spices. I ask her if they use salt. She says they cook without salt. She said that salt is used when eating. A pinch is put into the mouth with food every now and then.

Breakfast is finished. The cook and boat pilots clear away the pots and dirty plates.

I move over to sit next to Mateus (dental surgeon). I comment with him my desire to make a short film with health promotion and disease prevention messages to show to Madiha audiences using Madiha language narration. He thinks it's a very good idea. He says he is interested in health education.

Mateus goes on to tell me that he does not agree with the way most dental work is carried out on these kinds of trips. He says that the dentists usually only pull out teeth. There is no material for alternative interventions, such as reconstructions. Orthodontic replacements (false teeth) are not available in this Base Post or with the municipal government.

I comment with him that I had seen Rafaela (dental assistant) a little while earlier crouching on the back deck washing a man's clothes. I raise the remark because it is very

unusual to see someone wash someone else's clothes. He tells me that she is washing clothes for the laboratory technician.

7.1.3 Mid-morning on the boat: Blood extraction and vaccination

I hear a small child shrieking. I turn and see Jefferson (laboratory technician) binding a girl's arm tightly. He thrusts a, what seems to me like an excessively long and thick, needle into her slender limb. Two adults hold her down. He draws blood deftly and quickly releases her.

Meanwhile, Ana Lucia (nursing technician) had simultaneously shot her other arm quickly with an H1N1 influenza vaccine. The adults stand her on her feet. She begins to cry and looks away. Ana Lucia hands her a balloon.

7.1.4 Late morning in the village: Critical emergency call

Around 10:30 am somebody comes down the cliff to the boat. He informs Eduardo (physician) that a sick baby needs urgent attention. Eduardo was speaking with Jefferson (laboratory technician). The physician immediately grabs his briefcase and both men climb up the cliff together. Other people on the boat make their way up the cliff. I follow.

Up the cliff, in the village, I can see a large crowd gathering in a nearby house. I make my way towards the house. Jefferson (laboratory technician) is returning from the house. He approaches me. Sounding angry and indignant, he tells me to film the baby dying. He tells me to film how the villagers will not let the baby travel to the city for care. He claims they will later blame the workers for omission. I film some parts when I get there.

I continue towards the house. There is an unusual amount of people assembled in the house's cooking and common living area. I climb up and find a space among the crowd of spectators.

In one corner of the room a very young woman sits on a hammock. She is relentlessly placing the dull lips of a pale and yellowish baby upon her nipple. The baby won't suckle. Its head is drooping and it has tremendous breathing difficulties.

The young girl is surrounded by some older women.

I look outside. The physician and nurse are trying to convince a man of something. He constantly walks away from them. They pursue him. He continues to walk away from them.

I hear men explain to the workers that the baby is not strong enough to go on the trip to the city. They say that the workers must wait for the baby to begin to suckle again.

Jefferson (laboratory technician) and Eduardo (physician) are speaking to one another, standing beside the baby and mother. They are discussing the diagnosis. They agree that the baby is suffering from anemia. They think that a blood transfusion from the parents to the baby could save its life. I hear them express caution. First, they would need to test the blood to ensure that it does not coagulate. They will need blood samples from the parents. They conclude that they can only test the blood with a very crude method on the boat. Better equipment is available in the city.

Meanwhile, Mônica (nurse) continues to plead with the man. He continues to ignore her. I guess that he must be the baby's father.

Outside, Eduardo (physician) approaches Sabino. The Base Post staff very often relies on Sabino for communications and translations. He is a fluent Portuguese speaker. I hear Eduardo

(physician) carefully explain the biomedical model of blood circulatory physiology to Sabino in great anatomical detail. Sabino assents but doesn't speak.

Sabino now responds. He repeats the exact same thing that I heard other men say. He says that the parents think that the baby is too weak to travel and will not resist the trip. He says that the parents want to wait until the baby recovers and begins to nurse again. Then they will let it travel.

Some men repeat this to other workers. Some gesticulate as they speak.

7.1.5 Late morning in the village: Waiting

During the medical intervention to assist the baby, few visible ongoing therapeutic actions are performed. Only the mother relentlessly attempts to nurse the baby.

The professionals are irritated that the father and others will not allow the baby to be taken to the nearest city for emergency care. Under the conditions posed by the staff, transport would involve spending at least four hours on an aluminum boat under the scorching sun. This is assuming no obstacles, which are frequent.

I am still sitting inside the house. Down by the port, I see Mônica (nurse) and Jorge (boat pilot) whiz off upriver in an aluminum boat. Somebody tells me that they are going to make a phone call to request an emergency rescue. I had been told that there was a solar-powered public telephone in an Huni Kuin (Kaxinawa) village further upriver.

Jefferson (laboratory technician) keeps saying to the men that the baby will die.

One by one, the health workers gradually return to the boat, leaving the crowded house. After a while, I also return to the boat.

7.1.6 Noon in the village: Wake

Júnior (boat captain) climbs into the boat at 11:40 am. “The baby died”, he announces. “He’s up in the house.” Ana Lucia immediately climbs out and begins trekking up the cliff. I rush to get my stuff and go up. I can hear women wailing and singing songs. I arrive at the house. Women are crying and howling. I see the baby’s father weeping, but without making a sound.

The baby is laid out on the floor, wrapped in a purple blanket. People are coming in and out of the house. A circle of women and girls sit around the baby. Ana Lucia crouches and looks at the baby. She gets up and comments to me that this is probably why the parents wouldn’t let the baby travel. She says that they surely knew what to expect. A single-flame gasoline burner, used by Madiha as house lamps at night, is lit by the baby’s head. It looks like a substitute candle to me. There is much less people in the house now than when the baby was still alive and critically ill. Somebody takes the baby and places it inside the bedroom. People move towards the bedroom.

Viviane (nursing technician) arrives. She had been walking with Eduardo (physician) along the village path. The physician split off from her and walked back down to the boat. Viviane sees the baby. She quickly leaves, goes to the boat and promptly returns with three candles. Silently, she gives them to the mother. The mother takes them. The mother lights a candle at the head of the baby and another at the feet. She then blows out the gasoline burner. Ana Lucia sits inside the bedroom amid the wailing women. The baby’s mother sobs and plunges her face into a cloth. The father sits in a corner, brooding and silent. Outside, women are wailing very loudly on the porch and in the common room. Men cry and dry their tears, but they make no sound. I refrain from taking pictures and from filming due to my own sense of proper funeral behavior. I write some quick notes from the kitchen.

My emotions are very strong at this moment. I write down my thoughts in my journal. I feel indignant with the physician and laboratory technician. They had demonstrated such assertiveness only a short while earlier. They were so confident planning a risky blood transfusion with rudimentary equipment, convinced they could save the baby's life. They were angry and frustrated with the villagers for refusing their offers of biomedical care. But now they were nowhere near the site of grief and convulsion to offer sympathy or support. It seemed so callous to me. Their prior assertiveness now soured in my memory as vanity and arrogance. I simultaneously feel relieved and sympathetic towards Ana Lucia and Viviane for sitting at the baby's wake, and to Viviane for fetching some candles. Though they had not been able to do anything for the baby, they showed compassion for the family.

I remain some time sitting quietly in the wake. After a while I return to the boat. Walking back along the path, I realized that I would start my dissertation with this episode.

7.1.7 Noon on the boat: Hepatitis B antigen tests

When I get back to the boat, the laboratory technician is serenely working with his blood samples. He lays out disposable rapid screening test kits on a table. He is screening for Hepatitis B antigens (HBsAg). He is very methodical. He numbers each kit and every test-tube. He then takes a drop of clear plasma from each test-tube with the blood samples and drips it onto a kit. He quickly discards the blood samples. After a few minutes, he throws most of the kits away.

Suddenly, two kits show a positive result. The technician calls the physician and dentist to him. One kit has a darker stripe than the other. He asks them if they know what the color difference means. They don't. He tells them that the darker stripe belongs to the individual who

was the first infected carrier and who transmitted the infection to the spouse. The sample with the lighter positive strip is the spouse's.

7.1.8 Noon on the boat: Lunch

Shortly afterwards, lunch is served.

7.1.9 Noon on the boat: Return from attempt to call airplane

Not long after, Mônica (nurse) and Jorge (boat pilot) return from upriver. I am on the other side of the boat. I don't register well what Mônica reports back to the other workers. A plane never arrived, and I later deduce that the attempted rescue call had not been successful.

The health team performs no other health work in the village that day. The boat is scheduled to depart for another village in the afternoon.

7.1.10 Early afternoon on the boat: Preparing to leave for Maloca village

Around 4:00 pm, the boat crew begins to load the boat and to prepare for travel. Some men bring down the last boxes and materials that were still up in the village. Two boat pilots give some gasoline to a man.

Sabino comes onboard with a bag. He tells me that Mônica (nurse) asked him to accompany them to Maloca village and to the other villages to help with the translations. I remember that she had told me earlier that she liked to work with Sabino, stating that he spoke Portuguese well.

The boat is traveling this afternoon to Maloca village. It is a small village. There are only three or four houses. The whole village only has about thirty-five individuals, including babies and toddlers. Maloca lies on the Chandless River.

7.1.11 Mid-afternoon on the boat: Traveling on the river

Less than an hour later, the boat leaves port and begins to travel up the Purus River towards the mouth of the Chandless River.

Júnior (captain) most often steers the boat. The Base Post boat pilots may sometimes take turns at the helm, too. I sit in the cockpit to talk with Júnior. He tells me that his father rents the boat to the municipal government for the Base Post voyages. He says that the municipal government is always behind with payments; as much as four months. I ask him if he always works with his brother João on the boat. He tells me that a third brother (whom I have met) sometimes replaces one of them.

7.1.12 Mid-afternoon on the boat: Informal interview with nurse

Mônica (nurse) takes a seat on the starboard (right) side of the prow, close to me. I ask about her plans to complete a post-graduate specialization in public health. She tells me that she wants to do a two year course in Health and Management (*Gestão e Saúde*). It can be done through distance education and requires attending only a few in-person meetings in Rio Branco city.

She comments that her employment contract will expire the following month. Contract renewal is still uncertain. I learn she is being hired on one-year contracts, like most of the other Base Post staff. I share with her my thoughts that the practice of short contracts is detrimental to

service delivery. She agrees. She says that it requires a lot of investment to train incoming staff and to accumulate experience in order to be able to know every individual in a village. She says this happened with her. At first, she needed Ana Lucia (nursing technician) at her side to help her because she knew everyone. Mônica (nurse) also mentions that Madiha change their name frequently.

I add that I thought it wasn't good that the professionals are constantly changing. She agrees. She said they had had four physicians in the past year.

She tells me that the laboratory technician on this trip is on "loan service" (*serviço prestado*). He works for the municipal government. The Base Post was not able to schedule FUNASA's own laboratory technician. She is concerned because he is new and she does not want him to go alone without her to take blood samples in the other villages. He does not know anyone. It might lead to confusions.

Something had occurred with blood screening in the past. She said that there had been a muddle with blood samples on a previous trip, a while ago. The previous laboratory technician worked only briefly for FUNASA. Mônica told me that the VDRL (syphilis) test results were never made available to the Base Post.

I comment with the nurse about my desire to make a short health communication video in Madiha language. She likes the idea and apologizes that she is busy this trip and will not be able to help me.

7.1.13 Mid-afternoon in a Madiha settlement: Vaccination and medication delivery in a temporary camp

A while later, the boat pulls over somewhere along the river and moors at a Madiha temporary camp. Several people get off the boat and walk into the camp. The camp consists of a single construction made with thin cane scaffolding and palm leaf covering. A couple of hammocks hang from the thin posts. A lot of clothes and other household items are strewn around. The shelter is surrounded by papaya, manioc and other fruit trees that grow right beside it. A cleared path leads into the forest.

A young woman is preparing a bucketful of fresh fish and placing the pieces into a pot near the cooking hearth. Young children play around her. The health workers begin to talk with a man. Mônica (nurse) goes into a secluded corner of the shelter partitioned using cotton bedsheets. She emerges holding the hand of an elderly lady with a grown abscess or tumor on one eye. The lady has difficulty walking and quickly sits down. She smiles and is very friendly with the nurses who greet her. Mônica introduces her to me. Mônica tells me that she doesn't want to go to Rio Branco city for surgery on her eye.

Ana Lucia (nursing technician) quickly vaccinates the lady and the three children. Somebody explains to me that the young woman and man had been vaccinated in Boaçu village yesterday.

Walking back towards the boat, I notice a dirty and torn book lying on the shore. From the drawings I guess that it is a catechism. It could be written in Madiha language, according to my best guess. The book uses the orthography "Madijá". Perhaps the book was printed for the Madiha groups living across the border in Peru.

7.1.14 Mid-afternoon on the boat: Traveling past a canoe

The boat continues the trip. Jorge (boat pilot) is now steering the vessel. Soon, we navigate past a canoe with a Madiha family. The boat stops. The health team goes down to the canoe. I cannot see well what they are doing.

I sit next to Jorge on the cockpit. He tells me he was born on a rubber estate (*seringal*) but grew up in Manoel Urbano city. He says he has only traveled around the Manoel Urbano, Santa Rosa do Purus and Sena Madureira municipalities. He told me that he had been offered a job once to transport goods from Peru to be sold in a store in Acre. This was some fifteen years ago (i.e., mid 1990s). He says there was a lot of traffic along the river at the time. Many Peruvians were crossing the border with goods and wares. A permanent police guard and a fence in Santa Rosa do Purus (the border town) has now halted the traffic. I asked him if Indians (*índios*) still cross the border. He thought for a while and said that they go to Peru during the summer (i.e., dry season).

Jorge talks to me about Flávio, an anthropologist or anthropology student. I had heard about him before, the first day I arrived in the Base Post. A few people had asked me about him, apparently expecting that I may know him. Jorge told me that Flávio was not able to stay in a Madiha village his last time for more than fifteen days. He had stayed a month or month and a half in Apui village his first time. He returned sometime later with the goal of staying for three months but left after fifteen days.

7.1.15 Evening on the boat: Spending the night on the Chandless River

As the sun is close to setting, the boat turns and enters the Chandless River. This river is narrower than the Purus River. The tall darkening forest on both banks looms nearer to the boat, closing in on us. The sounds here are more noticeable, the silence more blunt. It feels as if we are entering never penetrated pristine forest.

At around 7:30 pm the boat moors at a wide beach on a bend in the river. We will spend the night here. Tomorrow we will continue on to Maloca village. ~ *End of description of day.*

7.1.16 Schedule of work and non-work interactions

Table 7 presents a chart of the main activities recorded for the whole day. I have separated health care actions from non-work interactions.

Table 2. Health care and non-work interactions, March 21, 2010

	Health work interactions				Non-work interactions
	Physician	Dentist	Nursing team	Lab technician	
<i>Early morning</i> (600-800)					Breakfast
<i>Mid-morning</i> (800-1030)			Immunization of girl on boat	Blood sample extraction of girl on boat	
<i>Late morning</i> (1030-1200)	Baby emergency		Baby emergency; and call for rescue airplane	Baby emergency	
<i>Noon</i> (1200-1400)				HBsAg tests (solitary work)	Wake; Lunch
<i>Early afternoon</i> (1400-1600)					Preparation for departure
<i>Mid afternoon</i> (1600-1800)	Delivery of medication		Immunization of elderly lady in temporary camp		Informal interview with nurse
<i>Late afternoon & evening</i> (1800-1900)					Evening meal and leisure on beach

7.2 DIFFERENCE BETWEEN PERMANENT AND TRANSIENT STAFF

7.2.1 Transitory and longer-term participation

The health workers' reactions to the baby's emergency suggest the possibility that the transient staff and the permanent staff each approach their relationship with villagers in a different way. The physician and laboratory technician's abilities appear focused on their technical skills and knowledge. Their attempts to save the baby are focused on technical issues relating to the baby's physiological condition and prognosis. They are also frustrated with the villagers' refusal to adhere to their advice and recommendations. In contrast, the nurse and the nursing technicians appear more sympathetic to the villagers' concerns and objections.

The difference between the two types of worker becomes manifest with the permanent staff members' participation as equals in an activity in the villagers' domestic space. The nursing technicians participate in the baby's wake behaving in the same way as the villagers. They implement a sameness that sharpens the contrast with the transient personnel's retreat to the boat.

The boat is the health mission workers' domestic space, where they affirm their sameness to one another and their difference with villagers. When the nursing technicians participate in the villagers' domestic space, they move into a space where sameness with villagers is affirmed. (A public mourning event has particular behaviors and is an infrequent event.)

In general, transient staff do not participate or participate less in the villagers' domestic space. In contrast, the permanent staff members sometimes integrate the villagers' domestic activities. From my observations, they behave in a similar manner to the villagers.

7.2.2 Different role configurations in each space

The events of the day show that the role configuration for each type of social space is different. In the health mission workers' work space, the counter-role is occupied by actors who are co-present in the location and with whom they physically interact, each carrying out the specialized behaviors. In contrast, in the domestic spaces, the counter-role appears to presume a type of actor that is absent from the physical location. It is a counter-role that exists by principle of contrast with the sameness that is affirmed between actors in the domestic space. When outsiders appear in the workers' domestic space, such as when villagers show up at breakfast time on the boat, the counter-role comes alive and villagers are treated in ways that show that they are considered to be different.

It also seems possible that villagers do not follow the same principles in their native forms of sociality. When the nursing technicians participate in the wake, they are not treated as if they are different. The villagers also make attempts to participate in the workers' domestic space, such as demanding breakfast.

7.3 ROUTINE AND NON-ROUTINE HEALTH WORK

In this section I will begin the detailed analysis of the health care interactions in the work space. Since this day was not a day for routine work, the health care interactions did not occur in the school house. They occurred on the boat, a village house and a temporary camp. These three physical locations are usually domestic social spaces. The observations will show that the health work interaction behaviors tend to follow the same pattern as in usual physical settings.

In this section, I will describe and analyze the health workers' behaviors in health care interactions that occurred spontaneously and also outside of the standard routine. This will provide a comparative case to contrast with routine interactions.

This section includes a description and analysis of the attempt to provide emergency care during the episode of the dying baby recounted at the start of the dissertation. This analysis will assist the interpretation of the event, in order to respond to the opening questions raised by the episode.

The interactions described here did not occur as part of the routine health work and so I did not collect systematic film shots. I took the decision to film the attempt to provide emergency care for the baby spontaneously as it was unfolding. Other film shots respond to a random interest to register the events. Therefore, some of the descriptions provided here are reconstructions from journal notes and from my memory.

7.3.1 Mid-morning on the boat: Blood extraction

7.3.1.1 Description of interactions

From journal: The girl strongly resisted the intervention. She tried to writhe her way out. She was pinned down by several adult villagers. They held down her bare arm outstretched for the laboratory technician to draw blood. The nursing technician vaccinated the girl in the opposing arm simultaneously. (I had not realized the nursing technician was preparing a vaccine while the girl was being immobilized.)

7.3.1.2 Indicators

Orientation: intentionality

Body positions: The laboratory technician is seated at a table, surrounded by his instruments.

Substances: Blood is extracted from the girl. *Knowledge and communications:* There are no communications in this episode.

Utility: functionality

Tools: The laboratory technician uses a large syringe to extract blood. He then transfers it to a grid with empty test tubes. *Technical skills:* The laboratory technician is swift and dexterous to introduce the needle and draw blood.

Patient behavior

Orientation: The girl is subordinately oriented. She is pinned down by a small group of adults and her arm is held outstretched for the laboratory technician's manipulation. She attempts to

resist the procedure but she is coerced by the adults. *Utility*: The girl is not instrumental. The procedure is performed upon her clamped body.

Analysis

From my memory, the laboratory technician's behavior matches the utility and orientation indicators observed in other health procedures. The worker has an instrumental role and dominant orientation. The worker is instrumental, using a syringe and extracting a substance from the patient. The worker has a dominant orientation as the patient's body part is exposed to the worker's manipulation. There are no communications during the act.

The patient is not instrumental and has a subordinate orientation (coerced).

The laboratory technician's actions presume a counter-role, occupied by the patient. His use of a tool establishes the functionality of the interaction as a screening act.

7.3.2 Mid-morning on the boat: Vaccination

7.3.2.1 Description of interactions

From journal: The girl strongly resisted the intervention. She tried to writh her way out. She was pinned down by several adult villagers. They held down her bare arm outstretched for the laboratory technician to draw blood. The nursing technician vaccinated the girl in the opposing arm simultaneously. (I had not realized the nursing technician was preparing a vaccine while the girl was being immobilized.)

7.3.2.2 Indicators

Orientation: intentionality

Body positions: The nursing technician is standing beside the girl. The girl's upper arm is within the nursing technician's comfortable reach. *Substances:* The nursing technician transfers a substance to the girl. *Knowledge and communications:* There are no communications in this episode.

Utility: functionality

Tools: The nursing technician uses a syringe to transfer the vaccine. *Technical skills:* The nursing technician is swift to introduce the needle.

Patient behavior

Orientation: The girl is subordinate. She is pinned down by a small group of adults. *Utility:* The girl is not instrumental. The procedure is performed upon her clamped body.

Analysis

From my memory, the nursing technician's behavior matches the utility and orientation indicators observed in other immunizations. The worker has an instrumental role and dominant orientation. The worker is instrumental, using a syringe and transferring a substance. The worker has a dominant orientation as the patient's body part is exposed to the worker's manipulation. There are no communications during the act.

The patient is not instrumental and has a subordinate orientation (coerced). She is held within the worker's reach.

The vaccination relied on restraints and confinement. As with the extraction of the patient's blood, although role performance was implemented according to the utility and orientation indicators, the patient was coerced into her role orientation. The worker showed skill and accomplished the goal act very efficiently. However, the patient was not able to resist the intervention. She was restrained in order to fulfill the role expectations.

The nursing technician's actions presume a counter-role, occupied by the patient. Her use of a tool establishes the functionality of the interaction as a preventive (or therapeutic) act.

7.3.3 Late morning in the village: Critical emergency call

There are eleven film shots of the interactions between health workers and villagers regarding the attempt to provide emergency care for the baby. They were filmed in the kitchen/common area of the house where the mother was sitting in a hammock. All the time, she was attempting to make the baby suckle. She was surrounded by onlookers. Older women were the closest to her.

Only three health workers participated in the emergency medical interactions: physician, nurse and laboratory technician. The shots show the health workers reviewing and diagnosing the baby's situation. They conclude the baby is suffering from anemia. The shots also show the villagers' simultaneous diagnosis of *epetuka'i*, a disease that affects infants. The workers then try to convince different villagers to persuade the baby's parents to accept transporting the baby to Manoel Urbano city. In view of the lack of parental consent, the health workers then discuss among themselves a potential emergency operation to perform in the location (blood transfusion). Finally, the nurse makes an attempt to seek a private aircraft.

The film shots are in chronological order. I will discuss the shots all together after presenting the descriptions.

7.3.3.1 Description of interactions

Film shot 25: The nurse is crouching down. She is folding the blanket over a very pale and swollen baby. The baby is held by a young girl, the baby's mother. The girl is sitting in a hand-woven cotton hammock in the kitchen/common area of a house. Next to the nurse, an older woman is also crouching by the mother and baby. The older woman is Terezinha, village midwife and wife of the village chief. Behind and in front of the mother in the hammock are other women and children. They sit and stand around, speaking to one another.

The baby's mother attempts to make the baby suckle. She stretches her nipple into the baby's mouth. The nurse turns and speaks in Portuguese to Terezinha, the older woman. She places a hand on Terezinha's arm as she speaks. She tells Terezinha to allow them to take the baby to a midwife (*parteira*) in Manoel Urbano city. Mônica tells her they will arrive in Manoel Urbano in four hours. Terezinha doesn't move. Mônica urges Terezinha to convince the mother to come. The girl looks around, but doesn't speak.

Film shot 26: The physician and laboratory technician are standing next to one another. They are standing beside the hammock with the mother and sick baby. Mônica is crouching next to the baby. (Terezinha is gone.) Young women with small children stand behind the mother in the hammock. An old man and other people sit on a bench near the mother and baby.

The laboratory technician, standing, is talking in Portuguese to the old man sitting on the bench. The nurse looks to the old man and asks him if he doesn't think it's better to take the baby to the city? The laboratory technician echoes the last part of the question to the man. The old man doesn't respond right away. He points to the baby and the mother's nipple. The mother crouches over and again attempts to stretch her nipple towards the baby's mouth. The man says the baby will not endure the trip. The nurse asks him back incredulously whether he thinks the

baby will not endure the trip. The laboratory technician tells the man that the baby will not endure if it is left here. He tells the man that if the baby stays here, it will die. The old man repeats his gestures and his words: after the baby gets better, it can travel.

The nurse stands up and moves away to the bedroom. The old man stands up and bends down next to the baby in her place.

Film shot 27: The physician and the laboratory technician have moved towards the baby. They are standing, but bending down to touch the baby. The baby rests in its mother's lap. The mother is seated in the hammock. The old man is standing between them, looking at the baby. Women and children, and some other people, talk and look on as spectators.

The physician and laboratory technician are touching the baby with bare hands. The mother continues to push her nipple towards the baby's dull lips. The old man turns and returns to sit on the bench. The mother is silent. She looks around.

The laboratory technician removes his hand and stands up straight. The physician feels the baby's abdomen and then stands back up.

Film shot 28: The physician is crouching, next to the baby. The laboratory technician is bending over again to touch the baby. The baby rests in the mother's lap. She is seated in the hammock. Women and children surround them.

The laboratory technician examines the baby's swollen abdomen with bare hands. The physician watches. The mother sits silently and looks around. The baby is still. The physician begins to caress the baby's small hand.

Outside of the camera's view, a woman says "epetuka'i" to another, who repeats the word out loud [at 0:15-0:17 sec.].

Film shot 29: The physician is crouching next to the baby. He has his hands on the baby's swollen abdomen. The baby is lying still, with its head drooping back, on the mother's lap. She is seated in a hammock. The laboratory technician is bending over to look. The nurse is standing next to the laboratory technician. Women and children look on.

The physician taps his hands against the baby's abdomen. He looks up and speaks to someone outside the camera's view. The laboratory technician bends down lower and pokes the baby's abdomen. As he stands up again, he comments something to the physician. The nurse looks on. The physician stands back up.

Film shot 30: The nurse approaches the baby. The baby is lying on the mother's lap. The mother is sitting on a hammock. They are surrounded by women, children and other people.

The mother tries to make the baby suckle. She keeps placing her nipple on the baby's lips. The baby does not respond, but it is breathing heavily. The nurse crouches down.

Film shot 31: The laboratory technician and the nurse are standing. They are next to the hammock with the mother and baby.

The laboratory technician looks around. The nurse adjusts her hair. Other people watch, speak and move about.

Film shot 32: The nurse is crouching down next to the baby. The baby lies still in its mother's lap. The mother is seated on a hammock. Children and some women are watching and speaking to one another.

The nurse appears to help the mother attempt to nurse the baby.

Film shot 33: The physician is crouching next to the baby. He has a medicine dropper in his hand over the baby's mouth. The baby lies still in its mother's lap. The mother is seated on a

hammock. The nurse and laboratory technician are standing behind the physician. Children and other people are watching and speaking.

The physician drops some liquid from the medicine dropper into the baby's mouth. The mother holds her nipple close to the baby's mouth. The physician then stands back up. The nurse looks on.

Film shot 34: The physician and laboratory technician are standing. They speak to one another. They are next to the hammock with the mother and baby. Women, children and other people are around them.

The physician gesticulates and gives the laboratory technician a physical description of an object. The physician lowers his voice and increases his gesticulation.

Film shot 35: The laboratory technician, the physician and the nurse are standing closely together. They are close to the hammock with the baby and mother. Other people are around.

They speak in Portuguese. The laboratory technician is explaining to the nurse a method for testing blood for a transfusion. The nurse questions the risks. The laboratory technician acknowledges them. The physician tells her that the baby will die if it stays here. She is willing to attempt the procedure if the parents agree. She responds that they have some materials on the boat.

7.3.3.2 Indicators

Orientation: intentionality

Body position: The laboratory technician and the physician are standing in most shots. The nurse stands as many times as she crouches. The laboratory technician never crouches. The nurse and

the physician crouch. The laboratory technician bends down almost as many times as the other professionals crouch. The physician bends down once.

Substances: There is only one transfer of substance in this medical interaction, when the physician administers medication in one shot. (Additionally, the mother tries to breast feed the baby.)

Knowledge and communication: The workers speak only Portuguese. When they speak to villagers, they speak to the presumed father or to other villagers to attempt to persuade them to help obtain the parents' consent to let the baby travel. They also repeat to the villagers the gravity of the situation. When the workers speak among themselves, it is about technical aspects of the baby's situation and a potential care strategy (blood transfusion). The nurse expresses that she will allow the procedure if the parents agree. Simultaneously, the films shots are very noisy because many people are talking to one another in the background in Madiha language. In one of these background conversations, two women mention the word *epetuka'i*.

Utility: functionality

Tools: There is virtually no use of tools in this medical interaction. The exception is the medicine dropper.

Technical skills: The physician and laboratory technician examine the baby with bare hands in three shots. The physician administers the medication using the dropper.

Patient behavior

Orientation: The patient is in its mother's lap. The mother is sitting in a hammock.

Utility: The patient (baby) is not instrumental. The baby is very still and unresponsive. The mother is also not instrumental. She allows the workers to approach, manipulate and medicate the baby.

Analysis

The workers' behaviors bear some resemblance to the utility and orientation indicators, but interactions conspicuously lack action and workers also lack dominance in the interaction. The health workers do not seem to occupy the role of instrumental health agents.

The workers do not show an instrumental medical role. There is practically no use of tools. There is little execution of procedures upon the patient's body. There are only brief examinations of the patient's body with bare hands. Only the mother makes repeated therapeutic attempts, trying to induce the baby to suckle.

The workers lack dominance in this interaction. They are not positioned in a comfortable or convenient body position. They crouch to approach the baby and spend as much time just standing nearby talking to one another. The workers appear to have access to a body of specialized medical knowledge.

The interaction shows an isolation and disconnection between the two parties. The health workers speak only Portuguese and can only communicate with a select number of villagers. The workers' communication attempts are centered on announcing that the baby will die. The workers are unsuccessful with their communication attempts to achieve parental consent for travel. The workers never speak with the mother. They mostly only repeat over and over to the villagers that the baby will die if it does not travel right away. All the while, they are surrounded by a dynamic buzz of villagers speaking in Madiha.

The health workers' actions only barely presume a counter-role occupied by the patient. The workers spend much time standing, speaking to one another or with some villagers. They interact only some of the times with the patient. The patient is the topic of their communications, but these occur mostly only between themselves and with a small number of villagers who understand Portuguese.

7.3.4 Noon on the boat: Hepatitis B Antigen tests

The work of the laboratory technician testing the blood samples using the rapid diagnostic kits does not involve an interaction with villagers. The laboratory technician performed this task alone.

7.3.5 Mid-afternoon in a Madiha settlement: Vaccination in a temporary camp

7.3.5.1 Description of interactions

Film shot 36: The nursing technician is bent over a seated elderly lady. The lady has difficulty walking. Two small children look on.

The nursing technician injects the woman with a syringe. The woman jolts. The nursing technician jokes, “wasp sting!” (“*ferrada de caba!*”). She quickly pulls out the needle and places a cotton swab on the wound. She asks the woman in Madiha language, “*Awatané?*” The woman responds angrily, “*Awatané?!!*” and raises her arm to hold the cotton swab. The nursing technician moves away.

7.3.5.2 Indicators

Orientation: intentionality

Body positions: The nursing technician stands near the patient. The patient's upper arm is within the nursing technician's reach. *Substances:* The nursing technician transfers a substance to the patient. *Communications:* The nursing technician speaks something with the patient in the patient's language and also jokes in Portuguese.

Utility: functionality

Tools: The nursing technician uses a syringe. *Technical skills:* The nursing technician is swift. The patient reacts with a slight manifestation of pain.

Patient behavior

Orientation: The patient is subordinately oriented. She is seated and unable to move with ease on her own. *Utility:* The patient is not instrumental.

Analysis

The nursing technician's behavior matches the utility and orientation indicators observed in other immunizations. The unusual exception is the worker's communication with the patient. Overall, the worker has an instrumental role and dominant orientation. The worker uses a syringe and transfers a substance. The patient is not instrumental (physically immobile due to her fragility) and located within the worker's comfortable reach. The patient's body part is exposed to the worker's manipulation. The worker communicates with the patient jokingly and also uses a Madiha phrase.

The nursing technician's actions presume a counter-role, occupied by the patient. The nursing technician's use of tool establishes the functionality of the interaction as preventive (or therapeutic).

7.3.5.3 Utility and orientation in photograph

Figure 41 is a photograph of the moment immediately prior to the immunization of the elderly lady. The nursing technician is standing, looking to her right. She is walking towards the elderly lady, who is seated in the background. The nurse is crouching just behind the elderly lady. A boy and a girl are in the foreground.

The photograph shows the spatial distribution of the actors. The nursing technician stands and will remain standing for the injection. The patient is seated and will remain seated for the injection.



Figure 41. Moment prior to immunization in temporary camp, Purus River, March 2010 (Photo: C. Frenopoulo)

7.3.6 Mid-afternoon in a Madiha settlement: Medication delivery in a temporary camp

7.3.6.1 Description of interactions

Film shot 37: The physician and a Madiha man stand on the prow of the boat. The boat captain is standing very close to them, looking. The physician holds a small plastic bottle of medicine.

The physician tells the man to take one spoonful, gesturing with his hand. He places the bottle in the plastic bag the man is carrying. The bag contains other medications.

The man says nothing. He turns around and bends over to pick up a bottle that contains about one-half liter (c. 17 US fl. oz.) of gasoline. The man walks off the boat carrying the bag of medications in one hand and the gasoline in the other.

7.3.6.2 Indicators

Orientation: intentionality

Body positions: The physician is standing. The patient is also standing. They are face to face.

Substances: The physician delivers a bottle with medications to the man. *Knowledge and*

communications: The physician speaks in Portuguese explaining dosage, gesturing as he speaks.

Utility: functionality

Tools: There is no use of tools in this interaction. *Technical skills:* No skills for using tools are observable.

Patient behavior

Orientation: The patient stands face to face with the health worker. Their body positions are identical. *Utility:* The man is not instrumental.

Analysis

The physician's behavior bears only some resemblance to the utility and orientation indicators. The physician conspicuously lacks dominance in the interaction and there is no interpreter. There is no use of tools. This is not a medical consultation. The man receives a substance (medication). Regarding orientation, the two men are positioned face to face. Both stand. The physician communicates to the patient. He speaks and he accompanies his speech with gestures. There is no response from the man.

The physician's actions presume a counter-role occupied by the patient, given by the direction of speech and the gestures. However, the patient's posture is identical to the physician's and the lack of response makes it unable to determine whether there is role distribution based on inequality. The physician's delivery of medication establishes the functionality of the interaction as therapeutic (or preventive).

7.4 INTERACTIONS IN THE VILLAGERS' AND WORKERS' DOMESTIC SPACES

In this section I will describe and analyze the interactions in the domestic spaces. On this day, health workers participate in two domestic spaces. They participate in the meal and recreation activities in their domestic space on the boat. Also, two nursing technicians participate in the villagers' domestic space when they sit with the mourners during the baby's wake.

7.4.1 Early morning on the boat: Breakfast

7.4.1.1 Description of interactions

From journal: The space on the deck is rearranged for breakfast. The cook quickly brings out a thermal flask of sweet thick black coffee and then the rest of the breakfast. Today's breakfast includes last night's deer strips reheated with onions. I notice a gender difference in the consumption of breakfast items.

A handful of villagers sit silently on the sides of the boat or in the adjacent boats and canoes. They just sit and look.

A small group of men enters the boat together: the village chief, the lay health monitor (AIS), the school teacher, and some other men. A couple of them instantly demand coffee ("café", which also means "breakfast"), speaking in Portuguese. The cook reaches out and serves each of the men a cup of black coffee and a hands them a packet of biscuits. They speak with the nurse and some other people.

When breakfast is finished, the cook and boat pilots clear away the pots and dirty plates.

7.4.1.2 Indicators

Workers eat from a buffet of several items (see Figure 42). Generally speaking, their behaviors are mostly identical. I note a gender difference in the items. Women eat biscuits, butter and coffee. The men eat other items.

Generally, the workers eat separately from villagers. This morning a group of men from the village had come to the boat just as breakfast was served. The men speak Portuguese. The health workers communicate with these men most often. The men demanded coffee (or

breakfast). In this interaction, both groups eat at the same time, but the cook serves the villagers a different meal.

The boat is surrounded by children, youths and others who sit silently and look at the actions in the boat. There is no interaction with these spectators.

The interactions replicate the observation that health mission workers tend to behave in similar ways in their domestic space, showing little role differentiation. Only a gender difference in the selection of food items is observable.

The observations also reinforce the possibility that villagers occupy a counter-role for the workers' behaviors in their domestic space. This time, the men obtained food simultaneously to when the health mission workers were eating. However, the cook's response was to give them a different set of items than what the health mission workers were eating. The other villagers, who remained sitting silently on the margins of the action, were not offered food.



Figure 42. Breakfast on boat, Boaçu village, July 2008 (Photo: C. Frenopoulo)

7.4.2 Noon in the village: Wake

7.4.2.1 Description of interactions

From journal: Júnior (boat captain) climbs into the boat at 11:40 am. “The baby died”, he announces. “He’s up in the house.” Ana Lucia immediately climbs out and begins trekking up the cliff. I rush to get my stuff and go up. I can hear women wailing and singing songs. I arrive at the house. Women are crying and howling. I see the baby’s father weeping, but without making a sound.

The baby is laid out on the floor, wrapped in a purple blanket. People are coming in and out of the house. A circle of women and girls sit around the baby. Ana Lucia crouches and looks at the baby. She gets up and comments to me that this is probably why the parents wouldn’t let the baby travel. She says that they surely knew what to expect. A single-flame gasoline burner, used by Madiha as house lamps at night, is lit by the baby’s head. It looks like a substitute candle to me. There is much less people in the house now than when the baby was still alive and critically ill. Somebody takes the baby and places it inside the bedroom. People move towards the bedroom.

Viviane (nursing technician) arrives. She had been walking with Eduardo (physician) along the village path. The physician split off from her and walked back down to the boat. Viviane sees the baby. She quickly leaves, goes to the boat and promptly returns with three candles. Silently, she gives them to the mother. The mother takes them. The mother lights a candle at the head of the baby and another at the feet. She then blows out the gasoline burner. Ana Lucia sits inside the bedroom amid the wailing women. The baby’s mother sobs and plunges her face into a cloth. The father sits in a corner, brooding and silent. Outside, women are wailing

very loudly on the porch and in the common room. Men cry and dry their tears, but they make no sound.

7.4.2.2 Indicators

Two health workers participated in the wake. They were both nursing technicians and are permanent residents of Manoel Urbano city. They have been visiting the villages for some years.

They participate in this interaction without any noticeable difference in behavior from the other women. They sat with the women surrounding the baby. The nursing technicians did not wail or sob, but sat silently. One of them brought some candles from the boat, perhaps out of sympathy.

The physician and laboratory technician did not participate in the wake. The nurse was away with a boat pilot attempting to summon an airplane.

These interactions show two health workers participating in a villager's event in the villagers' domestic space. At this time, they behave in a generally identical manner to the villagers. They sit with them in the circle of women and share the funeral behavior, except for crying. They are both permanent staff with a long-term participation in this job. They know the villagers personally.

Their actions contrast with those of the physician and laboratory technician, who remained on the boat at this time. The physician and laboratory technician have very little personal acquaintance with the villagers.

7.4.3 Early afternoon on the boat: Preparing to leave for Maloca village

7.4.3.1 Description of interactions

From journal: Around 4:00 pm, the boat crew begins to load the boat and to prepare for travel. Some men bring down the last boxes and materials that were still up in the village. Two boat pilots give some gasoline to a man. Less than an hour later, the boat leaves port and begins to travel up the Purus River towards the mouth of the Chandless River.

7.4.3.2 Indicators

The health team travels with a great deal of equipment on the boat. It has to be hauled up and down the steep cliffs at every village port. The boxes are heavy and uncomfortable. The Base Post has two boat pilots. Sometimes, the hired boat pilots may help (see Figure 43). The other health mission workers usually also carry light loads too. Young men from the village always help to carry the boxes up and down the cliffs.

In this interaction, the health mission workers tend to behave in a similar manner to one another. Most people carry a load. The boat pilots carry the heavy loads. The young men's behaviors are not distinguishable from those of the boat pilots. The young men carry heavy loads and they help to heave and push the boat in the same manner. This is one of few events in which the behaviors of health mission workers and villagers are identical, simultaneous and concurrent.



Figure 43. Boat captain carrying equipment into temporary camp, Purus River, July 2008 (Photo: C. Frenopoulo)

7.5 RESPONSE TO RESEARCH QUESTIONS

7.5.1 Intentionality and functionality in the work space

The events narrated for this day show the workers performing health work in other physical spaces instead of the school house or a villagers' house. On this day, they were not performing routine planned activities and so they did not set up work stations.

Despite the exceptional nature of the circumstances of care delivery, the detailed observation of the interactions shows that the workers behaved in a fairly identical manner to the behaviors observed for standard routine planned work. In non-routine interactions, the workers position themselves and approach the interactions following a similar format as in planned procedure.

It is now possible to provide a response to the two research questions on the basis of the description of these work interactions.

The first research question interrogates whether an actor's actions imply a counter-role. In such a situation, an actor's actions would be oriented towards other individuals as a matter of patterned behavior due to role identities and mutual interdependencies.

The observations show that this is the case for the health work interactions described above. Health workers act in ways that presume a counter-role for the patients. As predicted in the utility and orientation indicators, health workers occupy an orientation that has a counter-orientation. A health worker's orientation is expressed in a particular body posture relative to the other actor. Orientation is also expressed in substance flows and in the physician's one-sided communication attempt.

The second research question interrogates whether an actor's use of tools establish functionality for the actions. In such a situation, an actor's use of tools determines the purpose of the actions.

The observations show that this is the case for the health work interactions. Health workers use tools in almost all their interactions. As predicted in the utility and orientation indicators, the interactions involve use of specialized biomedical technologies and the workers demonstrate a skilled use that suggests qualified training and certification. In the medical encounter, instead, verbal communications establish the frame of interpretation of the interaction.

In consequence, the health workers' actions appear directed or aimed towards other actors who are present during the interactions and who occupy a counter-role. The actions are mediated through the use of tools that establish the purpose of the interaction, except for medical consultations.

With this in mind, now it becomes possible to consider the health workers' failed capacity and ability during the baby's emergency. Different from the model of agency as a

property, the observation of the interactions suggests that the core problem is that workers did not achieve an “agency relation” with the patients.

The workers’ possessed appropriate personal qualifications. For instance, the physician demonstrated knowledge of circulatory physiology. They also showed strategic initiative. For example, the laboratory technician suggested performing a blood transfusion using the rudimentary materials available on the boat. They also showed entrepreneurship; for instance, when the nurse rushes off to summon an airplane. In all these cases, they showed autonomy. These elements are usually taken as signs of agency in the model of agency as a property. Despite this, the health workers could not implement their agenda.

When their actions are considered in terms of the model proposed here, the main obstacle to their objectives appears the lack of coordination with the patient faction.

The nurse’s behavior is a little different from the physician’s or laboratory technician’s. She spends much time crouching next to the patient, laying her hand on the baby or on others and she speaks with the representatives of the patient from this physical posture. She physically bridges with the patients, instead of remaining separate as the laboratory technician does.

Later, she will take upon herself the patient faction’s concerns about the transport means and go off to seek an alternative mode of transport. At that point, she is implementing the patient faction’s intentions. That is, she is acting as an agent for the patient’s faction. This contrasts with the physician and laboratory technician, who insisted only on trying to convince the patients to accept their recommendations.

The nurse shows that her actions imply a co-present counter-role, whereas the physician and laboratory technician position the patient’s faction as an extension of their domestic role instead of as an “agency relation” counter-role.

7.5.2 Intentionality and functionality in the domestic spaces

The events narrated for this day show the health mission workers participating in a domestic activity in the villagers' domestic space in addition to activities in their own domestic activity on the boat. The day also includes a moment of labor sharing between villagers and health mission workers.

It is now possible to provide a response to the two research questions on the basis of the description of the interactions in the two domestic spaces.

The first research question interrogates whether an actor's actions imply a counter-role. In such a situation, an actor's actions would be oriented towards other individuals as a matter of patterned behavior due to role identities and mutual interdependencies.

The observations show that this is not the case for the workers' domestic interactions. In the workers' domestic space, health mission workers act in ways that appear to presume no co-present counter-role. The behavior patterns in the workers' domestic space at breakfast repeats previous observations. The workers tend to have generally undifferentiated behavior, except for gender. The counter-role appears when the villagers attempt to participate in domestic activities on the boat. The villagers are served a different meal. It seems that the villagers occupy the counter-role for the workers' domestic space, as was expressed earlier. In the workers' domestic space, the villagers are not integrated as equals.

The observations also show that a co-present counter role is not visible when workers participate in the villagers' domestic interactions. In terms of role differentiation, the nursing technicians' participation in the baby's wake shows that they blended in with the villagers and acted out the same role behaviors as the villagers. In the villagers' domestic space, two health mission workers acted in ways that are identical to the villagers'. That is, in the villagers'

domestic space, they behaved like the villagers. When they participated in the villagers' domestic activity, these workers did not act towards the villagers as if they were different and occupying a counter-role. Instead, they blurred their difference with the villagers in that space. They generally assimilated into the villagers' behavioral patterns. Though, their behavior was not entirely identical, as they did not cry and wail.

However, this pattern applies to the permanent staff, not to the transient staff. The physician and laboratory technician, who do not have a long-term association with the villagers, did not participate in the wake. The transient staff did not assimilate into the villagers' domestic activity as equals. Instead, in the case of the baby's wake, the transient staff returned to the boat, where villagers are assigned a role of difference and separation.

Therefore, when participating in the villagers' domestic activity, the permanent staff appear to have crossed over into the role they habitually assign to the villagers, while the transient staff remained in their role as ethnically different missionaries, retreating to the ethnically homogenous space of the boat.

With the loading of the boat, the villagers and the boat pilots occupy an identical role. Briefly, the young men from the village act in the same way as the boat pilots. Potentially, this behavior should be understood in the context of the boat pilots' work and not that of the health workers'.

The second research question interrogates whether an actor's use of tools establish functionality for the actions. In such a situation, an actor's use of tools determines the purpose of the actions. The observations show that this is the case for the domestic interactions.

In consequence, the health mission workers' actions in either of the two domestic spaces do not appear directed or aimed towards other actors who are present during the interactions and

who would occupy a counter-role. Instead, the counter-role appears to be occupied by actors who are not participants of that domestic space. When the workers participate in the villagers' domestic space, they assimilate with the villagers. When they participate in activities in their own domestic space, the villagers occupy the counter-role. In all these interactions, the actions are mediated through the use of tools that establish the purpose of the interaction.

8.0 INTERVIEWS

In this chapter I will discuss how workers in the health mission view their capacities and abilities to implement biomedical health care in the Madiha villages. In this section the goal is to describe and discuss the health workers' self-reported opinions about their roles and their relations in health care delivery in the villages. I will use information taken from semi-structured interviews and I will also discuss the three informal interviews that were conducted on the two days extracted from my second trip with them.

The semi-structured interviews occurred outside of a trip. The health team was stationed in the Manoel Urbano city Base Post at the time. They were preparing for an impending departure back to the villages. The interviews were conducted in a different physical space from the physical spaces of participant observations recorded previously. In the office space the actors were occupied in different role behaviors with one another and with Madiha villagers (who were not in the role of patients there).

The interviewees in the semi-structured interviews were all permanent staff of the Base Post health team. They are permanent residents of Manoel Urbano city. The Base Post had no appointed dentists or physicians at that time.

First I will present the results of the semi-structured interviews. I will condense the interview responses into two sections, each of which addresses a research question.

The first section addresses the question of whether actors orient their actions towards a counter-role. The responses show that the permanent staff members have a strong perception of the otherness of the patient population. The interviewees have a clear awareness of their lack of legitimacy to implement biomedical procedures in the villages. They understand that they require a certain status in the setting in order to implement biomedical health care actions. That is, they understand that their agency involves a particular capacity.

The second section addresses the question of how empirical resources establish the functionality of the workers' actions. The responses show that the permanent staff members have a strong perception that they require a set of particular instruments and materials in order to implement their work agenda in the villages. They perceive that the implementation of the work is dependent on this predetermined set of tools and skills. That is, they perceive that their agency requires certain abilities.

The informal interviews occurred during the journey. The three workers questioned in the informal interviews were the physician, the dental assistant and the nurse. The informal interviews show a potential difference in the permanent and transient staff members' approach to the work. The responses suggest that incoming staff may rely heavily on the set of skills and knowledges they acquire in medical school and in their practice in urban sites. As length of permanence in this job advances, staff members increasingly perceive the importance of the skills they acquire in the location of delivery and in contact with the target population. Eventually, the staff members with the longest duration in the job place emphasis on the quality of the personal trust relationships that they establish individually with patients and give less importance to their imported technical skills and knowledge in order to conduct the work.

8.1 SEMI-STRUCTURED INTERVIEWS

8.1.1 Health workers' actions are oriented to a counter-role

8.1.1.1 Perceptions of patient autonomy

Rafaela (dental assistant) described villagers as very reserved. She said that patients are not demanding during sickness episodes. They tend to keep to themselves during moments of distress. They do not approach the health workers. She said that they remain still (*quietinho*) and distant (*distante*). They stay still in a single spot (*cantinho*), observing (*fica observando*).

Rafaela was describing her experience of Madiha sick behavior. Pollock describes the Madiha “sick role” explaining that individuals with even a mild problem will behave “in a listless, pained manner, often taking to the hammock for a day or so, emerging only to eat, if then” (1985:69).

The interviewees described the villagers as very pliant and affable. For example, Ana Lucia (nursing technician) said that the villagers are very simple (“*São muito simples*”) and that they are very accepting and good people (“*Não faz questão por muita coisa. São gente boa*”). Similarly, Jorge (boat pilot) described them as humble and not demanding (“*São pessoas humildes. Não são exigentes*”). He said that they are not very aggressive (“*Não são muito agressivos*”). Ana Lucia likes them (“*Eu gosto deles*”) and Jorge expressed that workers and villagers mutually appreciate one another (“*A gente compreende eles. Eles compreendem a gente*”).

Interviewees expressed that they require a great deal of patience and must learn to exercise respect for patient autonomy. Ana Lucia, for instance, compared Madiha with non-Indians. She said that non-Indians are easier to interact with (“*Branco é mais fácil*”).

Comparatively, she said that the health workers need to explore what Madiha villagers want and to talk with them. If the villagers don't want something done one way, then the workers must do it differently. Jorge also concurred that dealing with Madiha requires patience.

The issue of respect for patient autonomy reappeared in interviews regarding Madiha native medicine. The health workers operate from a framework of mutual exclusion between the two medical systems. For instance, Rafaela explained that they respect (*respeita*) the villagers' native medicine. To illustrate what she meant, she said that villagers have their own healer (*pajé*) and their own medications. She clarified that the health workers respect a division (*divisão*) between the two medical systems and that the workers must respect the boundary (“*a gente tem que respeitar esse limite*”). She explained that the health workers resolve the health problem but do not interfere with the shaman's healing (“*a gente resolve o problema deles; ele faz a cura deles*”). In this way, the health workers carry out their procedures and simultaneously respect the partition (“*fazemos nossos procedimentos da alcance da gente e a gente respeita essa divisão deles*”).

Ana Lucia gave a similar description. She told me that they tell the villagers, “Do your type of work and we will give medications” (“*Faz teu trabalho e nós damos medicação*”). She said that the simultaneity of Madiha native medicine with the health workers' medicine works well (“*dá certo*”). She said that they haven't lost any patients due to that.

The health mission workers claimed that they do not impose their procedures and treatments. For example, Mônica (nurse) said that the workers must respect (*respeitar*) the villagers' native medicine (*medicina tradicional*). She gave me an example. She said that the villagers do not like the nurses or other staff to participate or to intervene in birth deliveries. She

told me that the nurses only intervene when a pregnancy or birth is especially difficult or hazardous.

Another example of the villagers' medical difference is their aversion to oral pills. Mônica mentioned that villagers often do not take the pills they are given or the way they are instructed. Mônica recognized that most villagers cannot read the prescriptions or the information on medication boxes. She recognized that it is insufficient to just hand them a plastic bag with medications. She said that she does not know how to solve this, except to keep exhorting the patients to take the pills as directed.

In general, the health workers do not know why the villagers do not take the pills. Only Rafaela reflected that pill aversion may be related to Madiha native medical knowledge. She suggested that they might not take the pills due to their beliefs in sorcery (*feitiço*). Like the other informants, she expressed that the only solution in such a situation is to have patience.

Faced with the otherness of the patients' medical knowledge, the workers cannot think of alternative ways to achieve adherence except to keep reiterating the strategy of verbal exhortation. They pursue repetition of the same technique, adducing a need to exercise patience.

In general, the workers do not explore the patients' comprehension of their health (or wellness) or disease (or illness) experience. For instance, I was surprised to learn how little the workers know about the Madiha native medical system, despite years of service. They also know very little to nothing about the native understandings of physiology and anatomy.

Two interviewees talked about a difference in "culture" (*cultura*). Mônica explained that villagers have different concepts of health (*saúde*) and disease (*doença*). She perceives that these concepts are reflected in daily practices. She gave the examples of villagers picking and then

eating head lice and that children walk barefoot over animal and human feces. She said that these conceptual differences encumber the health team's efforts.

Natália mentioned the case of the persistently failed sanitation engineering constructions. She explained that villagers will not use the constructions for such purposes due to their "culture" (*cultura*). She said, "They will not use that thing over there. And I am not going to interfere with their culture" ("*Eles não vão utilizar aquilo ali. E nem eu vou interferir na cultura deles*"). She said that, "like going barefoot", the villagers' lack of interest in the bathrooms, "is their culture, their way of living" ("*é a cultura deles, deles viverem assim*"). She noted that in her five years of employment she never once saw a villager use the constructions for bathing or for defecation.

Natália defended the health workers' non-interference with the villagers' otherness. For example, she thinks that the villagers' itinerancy should be respected. She said, "We are not going to ask them to stop being how they are. Because this is how they are. We have to respect that way of living; of constantly going here and there" ("*A gente não vai pedir que eles deixem de ser assim. Porque eles são assim. Tem que respeitar áquele jeito de viver; de ficar andando prá cá e prá lá*").

8.1.1.2 Acquisition of patient consent

Under these circumstances, the health workers strive to develop trust. From their descriptions, trust is developed through long-term interactions with villagers and also through engaging in villagers' activities.

The interviewees were permanent staff. They can claim both conditions. In the interviews, they compared themselves to the physicians and dentists, who stay for only very short periods of time and whom, interviewees explained, do not achieve the villagers' trust.

Rafaela, who has the longest time working with the villagers, said that it is not enough to treat problems, but to know how to treat them (“*não só tratar os problemas ali, como saber tratar*”). She explained the importance of long-term convivial interactions (*convivência*) with the villagers to establish good relations. She repeated herself, saying that the staff learned “through ongoing convivial interactions” (“*na convivência*”). She explained that Madiha become very attached to the workers (“*se apegam muito à gente*”). Rafaela said that a worker has to change perspective “180°”, so that the Madiha will develop the trust (*confiança*) to approach them.

Mônica, for instance, also explained that long-term participation is necessary for service improvement. She explained that work with Madiha requires long-term participation in order for them to develop trust (*confiança*) in the workers. She said that with long-term participation, the health workers can get to know every individual villager. With time, the workers can develop appropriate modes of interacting with the villagers.

It seems that the importance of long-term convivial interactions is more relevant the longer a worker’s accumulated experience. Some interviewees draw attention to the difference between the way villagers respond to the permanent staff compared with how they respond to the transient staff (physicians and dentists). Jorge explained that villagers respond to the workers whom they know, but not to the newcomers. He said that, “A physician will summon an Indian, but he won’t come. If we summon him, he’ll come” (“*Um médico vai chamar um índio, ele não vem. Nós chama, ele vem*”). Jorge said that villagers have more trust in the workers who live in the region, than in those who live elsewhere (“out there”) (“*Eles tem mais confiança com a gente que mora aqui mesmo, que os que moram lá fora*”). He said that villagers will not trust a new person coming from elsewhere (“outside”) as much as the workers they see all the time in the

villages (“*Vem pessoal de fora, não vão ter confiança como àqueles que tão todo tempo em área*”).

Jorge explained that the constant turnover of physicians affects the villagers’ trust in them. The high turnover of physicians harms the villagers because they lose trust (“*Prejudica os Kulina porque perdem a confiança*”). He explained that as soon as the villagers begin to trust a new physician, the person leaves (“*Depois que começa pegar confiança com médico, vão embora*”). One physician is removed, another replaces him (“*Tira um, mete outro médico*”). They are constantly swapping (“*só trocando, trocando*”). In contrast, Jorge noted that the permanent staff are constantly interacting with the villagers throughout the day (“*você tá lá tododia toda hora*”).

Rafaela told me of a case where she saved the life of a baby. She used the example to stress the difference between the behavior of physicians and of the permanent staff. The baby was dehydrated. The physician was administering rehydration solution to the baby on the boat. He would not let the mother take the baby up to the village so the shaman could remove the sorcery (*feitiço*). As soon as the physician went into the cabin where medications and materials are stored, the mother snatched the baby and ran up the cliff. Rafaela then followed her and administered the solution to the baby in its house. The next day, the baby was better.

The interviewees also explained that long-term interactions with the other permanent staff also mark a difference in their relations with one another, compared with new incoming staff. Rafaela said that constant living together (*convivência*) with other workers on the boat and in the Base Post office creates a “family” type of relation (“*tipo uma família*”). She said that it is as if the boat were “one’s own house” (“*a casa da gente*”), where one must share with all (“*compartilhar com tudo*”).

Jorge was explicit to evaluate the difference in the behaviors of the permanent staff with their co-workers compared with the behavior of workers who are not local residents. He says that the workers from Manoel Urbano city (“*os daqui, de Manoel Urbano*”) are “100%” and that they are “good people” (“*gente boa*”). He says that they play with one another (“*gente brinca*”), are never violent (“*nunca violência*”) and are united (“*unidos*”). He said that he knows everyone working here (“*conheço tudinho daqui*”). For comparison, he mentioned a dental assistant who came from elsewhere and worked in the Base Post for a short time. He said that she was “gossiping about one another” (“*falando um do outro*”), fostering “intrigues” (“*intrigando um do outro*”) and “raising people up against others” (“*jogando um contra outro*”). He said that the co-worker relations “didn’t work out at all” (“*não deu certo de jeito nenhum*”).

Interviewees claimed that participation in the villagers’ activities increases the villagers’ trust in them. Jorge told me that he plays soccer (football) and also hunts with them (“*jogo bola mais eles*”, “*caço mais eles*”). He said that he does this to “gain their trust” (“*pegar a confiança deles*”), to “make friends” (“*pegar amizade*”), to foster “brotherliness” (“*tipo irmão*”) and “to pursue unity with them” (“*ficar sempre em união com eles*”). In contrast, other employees remain distant (“*porque tem pessoas que ficam por fora deles*”).

Natália told me a similar story about how she gained the women’s trust to perform Pap smear screening. She sought the advice of Prof. Estanislau Paulo Klein, professor at the Federal University of Acre, to increase Pap smear recruitment. She told him that she had difficulty to get the women to accept the test. He advised her that Madiha women are reserved (“*fechadas*”) and that they keep their own company. He told her that she would have to observe what kind of activities the women liked to do and then to participate in such activities with them. She reported, “He said to me, ‘You will have to do what they like to do. Chat with them. Braid

yourself with them” (“*Ele falou, ‘Você vai ter que fazer o que elas gostam. Conversar com elas. Se entrosar mesmo com elas’*”).

She followed his recommendation to gain the women’s trust through co-participation with them in their leisure activities. She said that she observed that the women played soccer, so she brought a ball with her on one trip. She approached the women with the ball and played with them. With this, she said, “They earned my trust” (sic) (“*Elas ganharam minha confiança*”). She explained that the other nursing staff still have difficulty with Pap smear recruitment but, she said, “if I was to go to a village and ask to do it, I would do it” (“*Até hoje, as meninas tem dificuldade para fazer. Mas se eu for na aldeia e eu pedir para fazer, eu faço.*”). She concluded, “You have to get very close to them; earn their trust” (“*Você tem que se aproximar bem deles; ganhar a confiança deles*”).

Once established, trust extends beyond participation in health procedures. Natália, for instance, explained that the villagers trust her so much that they seek her help with purchases and money when in the city. She explained that they come to her with cash and ask her to separate the right amount for gasoline. They are afraid of being cheated. She tells them how much to pay for gasoline, for food, and so on. She also tells them where to buy. She sends the boat pilots to accompany them.

The permanent staff have also learnt a handful of useful phrases and words in Madiha language. Most of these are simple orders related with their work, such as “stand here” or “open your mouth”. Jorge said that he makes an effort to understand the villagers’ language and that he understands a little bit. Rafaela said that they learned to translate some words slowly. Despite the paucity of the language skills they have developed in several years of service, they consider what little they have learned as an achievement.

From my observations, these language skills provide an opportunity for the staff with a lower professional rank to teach something to the incoming physicians and dentists. Dentists, for example, do not use an interpreter. Therefore they are unable to communicate with many patients. I observed Rafaela teach the dentists some words and phrases.

8.1.1.3 Gifts for unwilling patients

Natália was the only interviewee to mention the use of gifts for participation in health procedures. She explained that the mothers allow the newborns to be screened in order to be eligible for monetary maternal benefits. Previously, they did not allow the newborn screening test (*“Teste do pezinho aceitam fazer porque sabem que sem o teste não podem tirar o auxílio de maternidade. Antes não queriam fazer”*). A similar situation befalls the Pap smear. Natália explained that the women either don’t want to do the Pap smear test or that they want to obtain something in exchange (*“Elas não querem fazer ou querem ganhar alguma coisa em troca”*).

According to my observations, gifts accompany preventive and screening health work, such as vaccines and preventive oral health (e.g., fluorination or teeth brushing). For vaccines and preventive dental care, the gifts are given immediately following the procedure. The gifts follow procedures that are somewhat painful or uncomfortable. Since they are given for preventive purposes, the procedures are implemented upon patients who exhibit no signs of sickness and who have not spontaneously consulted with the health workers. The nursing staff or dental staff give balloons, mostly to children. I observed them give biscuits to elderly patients.

8.1.2 The resources that establish functionality of action

8.1.2.1 Stationary care delivery model

Paradoxically, the health mission implements a stationary care delivery model. The interviewees revealed a great deal of frustration regarding their material needs and problems for improving delivery. These frustrations expose the sedentary bias that is inherent both to the expectations of the type of work they provide and to the official organization of the FUNASA delivery model. Delivery is provided as if the health workers were staff working in a stationary clinic that is established in a fixed physical location, in which the equipment and materials remain static and the patients are the mobile elements. The main difference is that the stationary clinic illusion is a short lived fiction that lasts for only one or two days in each village, with an interval of several weeks' between each occurrence.

Natália explicitly described the health boat as a “PSF” unit. She said that the health team is “like a mobile PSF. What the PSF are doing, we are doing in the villages too” (“*É como se fosse um PSF volante. O que tão fazendo os PSF, nós estamos fazendo na aldeia também*”). In the national health system (SUS) in Brazil, the Family Health Program or PSF (*Programa Saúde da Família*) [now called by a different name], is the basic form of primary health care delivery for localities. A multidisciplinary team of professionals and their assistants are assigned to work in a locality. They provide primary care, preventive care, health education and epidemiological surveillance in the neighborhoods. This form of neighborhood care is the primary level of care and serves as the gateway to more complex care (Peres et al. 2006).

Regarding their frustrations, almost all the interviewees highlighted the lack of transport means as the most pressing problem they face. Transport is needed because the health workers carry with them all the necessary instruments, equipment, food and other items that are necessary

for an entire trip. There is no provision for use or access to locally available resources in the locations of health care delivery. This includes food, equipment and human resources. There is also no provision for storage of materials in the villages between trips.

Mônica explained that the Base Post does not own its own large boat. The Base Post hires a merchant boat for every trip. Ana Lucia also mentioned this problem. She thinks it is not good to rent the boat. Jorge also insisted that the lack of transport means was the most important problem. He said, “Now we mostly have a transport problem; which we lack” (“*Agora nós estamos mais com uma dificuldade de transporte, que não tem*”). He considers that the Base Post needs an adequate sized boat (“*barco apropriado*”) and also a small aluminum boat (*voadera*).

Their concern regarding the size of the boat is a result of the large amount of equipment, personnel, food and other items that are transported on every trip. The desired size of the boat is directly related to the practice of transporting every single item from departure to return.

The size and conditions of the large boat also limits the amount of materials, equipment and personnel that the Base Post can send to the villages on every mission. The health team is only able to carry out a very limited amount of procedures. Mônica explains that the health team can only provide primary care (*atenção básica*). Other types of health needs have to be referred to the urban SUS network. She adds that they also refer patients to the SUS network for diagnoses because the Base Post lacks diagnostic equipment. Jorge echoed this concern. He said that the nurses do not have enough material to provide adequate service. Ana Lucia said that the workers experience difficulty obtaining equipment and materials (“*até agora a gente nós não temos conseguindo o material*”). She said that they know that the government resources (“*recursos*”) are available, but they do not reach the Base Post (“*Não chega até aqui não*”) or the Indians (“*Não tá chegando até o índio não*”).

In an informal conversation, Eduardo (physician) one day commented with me how he agreed with Jefferson (laboratory technician) that what was needed to provide high quality care was to fully equip the boat with all the necessary instruments and laboratory essentials. It seems to me that they both envisioned the boat as a form of moving clinic.

The stationary model is evidenced also in the assumption that village residents constitute a sedentary population. The delivery model presumes that villagers can be found in the villages whenever the medical team shows up to provide service. This assumption is not true for a society of hunters.

The existing missionary delivery model does not send the medical teams to wherever the patients are located at a given time. Instead, the missionaries are sent to the villages, as if these were the sole locations in which the target population lives throughout the year. Yet, this is not the case for Madiha. Madiha are migratory. They move seasonally to alternative locations, including across the national border into Peru. They seek out localized resources related with their extractive economy. Madiha also temporarily move to reciprocate labor. For instance, on one trip, we arrived at a village that was empty because the inhabitants were staying at a neighboring village helping their neighbors to clear the forest for new gardens. A man explained to me that they did this because their neighbors had helped them to clear some land for gardens some while earlier. Additionally, the men typically hunt or fish in parties, and may spend a number of days away from the village.

In the interview, Mônica explained that villagers are frequently absent when the health team arrives at a village. She said that this is more common in the summer (dry season). This is disconcerting for her because villagers miss out on vaccinations and on the chance to consult with a physician. The staff are also unable to follow treatment regimes. She explained that the

trips are planned one year in advance. They are scheduled with a thirty day interval between each trip. The villagers' movements cannot be combined in advance with the Base Post's calendar. Mônica sees no solution to this problem (*“Não vejo solução”*).

Directly observed treatment strategies (DOTS) cannot be implemented for patients with unpredictable itinerancy or who move to locations where they cannot be traced or followed by local biomedical staff. Natália gave an example of the tuberculosis medication regime, which lasts six months. She cited the case of Zebiru who was placed on the tuberculosis drug treatment twice. He had traveled to Plácido de Castro (in south east Acre, not far from Bolivia), while he was on the treatment. There is no Indian Health Base Post in that locality and she could not communicate with any medical staff there to continue his medication regime. So, when he returned, Natália instructed Mônica to start his treatment all over again.

Natália said that the villagers' mobility is especially a problem during immunization campaigns (e.g., for influenza or polio). The Base Post follows the dates established by the Ministry of Health. These dates are the same for the whole of Brazil, as the immunization campaigns are carried out simultaneously across the nation. (Vaccines given according to age are an exception.) She said that “the girls [nursing staff] suffer a lot” (*“as meninas sofrem muito”*). She explained that the nursing staff pursue villagers staying in the port in Manoel Urbano city to apply vaccinations, if they are there. She said, “We chase after them” (*“a gente corre atrás”*). Additionally, they inform the neighboring Base Posts of Sena Madureira (downriver) and of Santa Rosa do Purus (upriver) to immunize Madiha villagers who may be staying there. She said that they have helped the Base Post of Sena Madureira in the same way, regarding their native populations.

This situation forces the health team to carry with them all the medical records for every individual up into every village. Boxes and boxes of files are carried up the cliffs in the eventual case that somebody has moved and their files have to be located in the box of their earlier residence.

Mônica added that the delivery model is cumbersome and restrictive in a related way. She mentioned that it is explicitly established that services must be provided within the village. The workers cannot provide health care on the boat, even while it is docked at the village port. She said that this is demanding on the dental team because they have to transport heavy equipment and they encounter difficulty to power the machinery. The burden for carrying and assembling the materials increases the need for boat pilots. She says that four boat pilots are needed for a trip.

8.1.2.2 Professional rank and scope of competence

The delivery model awards the highest ranks and responsibilities to the categories of employee that are the least likely to participate in the medical missions. Besides the nurse, the posts of physician and dentist are assigned the most important tasks in the health team. However, the latter are the hardest posts to fill. The team suffers from chronic vacancies of these posts and there is a very high rate of turnover.

For example, Rafaela (dental assistant) repeatedly stated throughout the interview that there was a dire need for a dentist. According to her, the lack of professionals is the most urgent need for the team. She explained that the Base Post had been without a dentist for six months. She said, “we can’t do anything” without the professional, such as medicate. The dentist is needed to conduct evaluations and to send reports. The dentist is needed for reconstructions and prostheses. The dentist is also needed for oral health education.

Rafaela said that the constant turnover of professionals is damaging. She said that it takes a professional some time to understand the villagers' ways or manners (*“os modos”*). Simultaneously, it takes time for villagers to acquire trust in the professional through constant acquaintance (*convivência*) with them.

Given the hierarchical mode of distribution of task specialization, Rafaela is not authorized or empowered to carry out any of the procedures that she mentions, even though she is willing to accompany the trips and has been doing so for eleven years. Instead, these tasks are exclusive functions of dental surgeons, who are almost impossible to recruit or retain.

Mônica commented that the high turnover is a waste of resources, since every new employee has to be retrained. Time and resources have to be spent for the new employee to acquire the necessary skills and knowledge for this particular type of work. The turnover is also negative for villagers because they have to adapt constantly to new staff.

Natália also noted that the Base Post has a severe lack of professionals, especially dentists and physicians (*“Nós tamos com problema sério, é com profisional, [...] principalmente na área de dentista e área de médico.”*) She stated that, “what is lacking is a complete team” (*“o que tá faltando é isso, a equipe completa”*). She remarked that there was only one trip in the whole year that counted with a full team (*“Esse ano [...] foi só uma viagem com equipe completa”*). She was referring to the March 2010 trip, which I have used as the basis of this dissertation precisely for this reason. Otherwise, the team more usually travels without a physician or without a dentist, and often without either.

The Base Post is only able to count on a stable and complete cadre of nursing staff, consisting of the nurse and nursing technicians (*“Só tá tendo a parte de enfermagem, a enfermeira e os técnicos”*). For instance, the upcoming trip right after the semi-structured

interviews, which I accompanied, was not going to include a physician or a dentist. It was only going to travel with a nurse and a nursing technician (“*É tanto, que nessa viagem é só a enfermeira e a técnica de enfermagem*”).

Interviewees mostly mentioned salary as the primary obstacle to physician recruitment and retention. They also mentioned the discomforts involved in the work (e.g., constantly spending weeks away from family and the physical hardships of the terrain). For instance, Mônica said that the work only attracts physicians without a medical license. This is because the salary is low and also because they must endure many physical discomforts and work with insufficient equipment.

Jorge repeated these judgments. He said that the salary for physicians is low. He stated that the monthly salary for a physician in the Base Post is BRL 5000 (approx. USD 2950). He compared this to the monthly salary for a physician elsewhere, which he claimed rises up to BRL 19000 (approx. USD 11200). In addition, the physician would have to live away from family and put up with nuisances like pium-flies. He considered that it would be difficult to find physicians willing to do the work if the job is restricted to licensed practitioners only. A similar situation occurs for dentists. Natália declared, “Dentists [...] don’t want to work either” (“*Dentista [...] não querem trabalhar também*”).

The Base Post has only employed recently graduated physicians with a foreign degree, who are in the process of legalizing their status and obtaining the guild license. At the time of the semi-structured interviews, the guild had successfully attained the order to prohibit the employment of physicians without the licence in Acre. This was a cause of consternation for the permanent Base Post staff. Natália explained, “The public attorney now declared that physicians without a license cannot work; and the only physicians that came here were those without a

license. If they have the license, they will not want to work for only six thousand or eight thousand [reais] [approx. 3500-4700 USD] in Indian lands. They are asking for fourteen thousand [reais] [approx. 8200 USD]” (*“Saiu agora do Ministério Público que não pode médico sem CRM trabalhar. E o únicos médicos que vieram são sem CRM. Que com CRM não vão querer trabalhar só por seis mil ou oito mil na área indígena. Que estão pedindo é quatorze mil”*).

When I spoke about this with Eduardo (physician) in an informal interview, he expressed a very similar scenario. He mentioned that the physician, Sérgio, whom I had met during a trip in 2008, had obtained a job as the director of a hospital in a small town. He now earned a very high salary and had a high social status. Eduardo told me that work in Manoel Urbano city was not attractive to him personally because there were no conditions for raising a family, such as schools.

In view of these reasons, it seems to me that a delivery model that relies heavily on the roles of physician and dentist essentially means that recruitment will only improve if there is a concurrent increased urbanization of these remote rural locations. That is, physicians and dentists will only become attracted to the job when they can offer their families the livelihood and living conditions of a city.

This means that the medical missions are vexed by a paradox in which the ability to hire physicians and dentists to work permanently in remote rural locations is only possible when such locations cease to be remote and rural. The current delivery model awards responsibilities to posts that can never be filled satisfactorily while simultaneously disregarding the potentials of the cadre of local human resources that are willing to commit to the job conditions and physical demands.

Despite their desire to retain the job, the permanent staff in the Base Post live with a constant anxiety of job insecurity. With the exception of the driver, all the health workers and all the other service staff are municipal employees hired on temporary one year contracts. They are also in an irregular legal status, since most of them have expired the constitutional limitation on contract renewal for temporary contracts. For example, Jorge spontaneously mentioned the job insecurity faced by almost all the Base Post staff very early in the interview. He said that, “Nobody knows if we’ll be here or not from January onwards” (“*De janeiro para frente ninguém sabe se estamos aqui ou não*”). Their positions are volatile so long as their appointments remain irregular (“*enquanto estamos irregular*”). He said, “Today you are here, tomorrow you might not be” (“*Hoje tá aqui, amanhã pode não tar*”). He explicitly mentioned that the problem of short term hiring is more pressing for the service staff, since they lack a profession (*profissão*). Natália was also hired on a temporary yearly contract by the municipal government.

This anxiety provoking situation is a result of FUNASA’s outsourcing of health and service staff to the municipal governments. The municipal governments are reluctant to hire employees on permanent contracts, which bind their finances and create political commitments.

In the interview, Mônica expressed that temporary contracts are detrimental for employees, for FUNASA and for the villagers. Employees, like her, who wish to pursue a career in the locality and to establish long term dedication, want to rely on a longer contract. Ana Lucia expressed a similar desire. Her dream was to become a nurse and to continue to work in the Base Post. She had hopes that FUNASA might soon open a formal public job selection process (*concurso público*). With that type of job selection process, they would be hired on four year contracts. In the end, that never happened. By the end of my fieldwork, FUNASA was no longer in charge of Indian Health and had been replaced by the newly created SESAI (*Secretaria*

Especial de Saúde Indígena). Natália told me that the municipality was only hiring staff on six month contracts because of the uncertainty of when and how the transfer would be accomplished.

During the interview, Mônica complained that FUNASA does not demonstrate a long-term commitment to the employees working in Indian Health. There is no long-term career planning and there is little opportunity to follow a career development path. Most of the posts are dead-end jobs.

Although the outsourcing of personnel to the municipal government does not seem to work in the interests of the permanent staff regarding contract stability, interviewees expressed that it had been beneficial to increase their access to materials and equipment. Mônica said that the relationship with the municipal health secretary involves good relations (*convivência*). The Base Post borrows equipment from the municipal health department. In reciprocity, Mônica explained, the boat always attends the riverine farmers (*ribeirinhos*) who call out the boat on its way to and back from the villages. Similarly, Natália explained that, “we have a problem with the materials. But, some money just arrived for the municipal government. So, they will buy the materials” (“*nós temos problema com os materiais. Mais aí, como veio um dinheiro para a prefeitura, a prefeitura compra esse material*”).

8.1.2.3 Neglect of local public health resources

In practice, the delivery model has given little attention to the lay health monitors (AIS) who reside in the villages. The lay health monitors (AIS) lack training and materials. In informal conversations with me, the Madiha lay health monitors (AIS) made the lack of materials their most frequent complaint. The health workers expressed similar concerns in the interviews. Mônica says that FUNASA should give more attention to the needs of the lay health monitors

(AIS). The lay health monitors (AIS) need support to be able to fulfill their expected role. Natália said that the lay health monitors (AIS) lack materials (“*E não tá havendo material para eles também*”). She also explained that the villagers constantly request FUNASA for lay health monitor (AIS) training courses when they participate in the health district meetings (“*Eles pedem muito [...] quando tem reunião da CONDISI*”).

Ana Lucia said that the health workers have a lot of difficulty with the lay health monitors (AIS) (“*Temos bastante dificuldade com eles*”). She said that the lay health monitors (AIS) need to learn how to administer the medications correctly. She said that the lay health monitors (AIS) are outdated (“*Tão desatualizados agora*”). They only participated in one training course four years ago. Many lay health monitors (AIS) have difficulty reading medication instructions. The workers have to explain the names to them constantly and stress the importance of adhering to the schedules. Natália considered that lay health monitor (AIS) training is important because “they are the main bridge” (“*a ponte principal são eles*”). She said that they are the ones “who live out there, sharing with, and orienting” their peers (“*Eles que tão lá dentro, compartilhando, orientando*”).

In the interview, Natália explained that FUNASA offered only two training courses for the Madiha lay health monitors (AIS). One was offered when Conceição was the DSEI administrator. Another was offered in 2007, when Gelcimar was administrator. A training course for midwives (*parteiras*) was also offered in 2006. Each woman received a kit. The lay health monitor (AIS) training course in 2007 covered the first module (*primeiro módulo*) of the FUNASA twelve module training program for lay health monitors (AIS). The course was hosted in Nova Fronteira village, an Huni Kuin village further upriver in Santa Rosa do Purus municipality. The gathering brought together lay health monitors (AIS) of all the villages and

nursing staff. The lay health monitors (AIS) were trained to take temperature, use weight scales and to recognize signs and symptoms of diarrhea, influenza, and other diseases that are prevalent in the villages (“*das doenças mais prevalentes nas aldeias*”). Participants listened to lectures (*palestras*) and made anatomical drawings of the human body. There were some theatrical skits. All these activities were translated to the native languages. She evaluated it as “very good” (“*muito bom*”). She concluded, “We learned with them. They learned with us” (“*A gente aprendeu com eles. Eles aprenderam com nós*”). Even so, she added, another course and recycling (“*reciclagem*”) are needed.

Natália explained that implementing training courses for the lay health monitors (AIS) depends on FUNASA and not on the Base Post. She said, “That does not depend only on us. It depends more on FUNASA, on the staff at FUNASA (“*Isso aí não depende só de nós. Já depende mais da FUNASA, do pessoal da FUNASA*”).

The FUNASA model projects the construction of equipped stationary health posts (*postos de saúde*) in the villages. In practice, this has not been implemented in the Manoel Urbano region. When I questioned Gelcimar, DSEI administrator, about this, he responded that they lack the finances to build such a structure and also that they would not find professionals willing to take up permanent residence in these locations. His response reveals an assumption that resources and personnel have to be transported from the city to the villages.

Jorge and Ana Lucia both mentioned the proposal to set up a fully equipped nursing station or health support facility (*casa de apoio*) in one of the villages or somewhere near them. The station would be staffed by one of the Base Post’s nursing technicians and one boat pilot, who would reside on the location. In principle, the staff would rotate every so often, probably between each trip of the health boat.

Mônica was also frustrated that the staff do not receive responses or feedback from the central DSEI administration. The Base Post dutifully submits the trip reports and accompanies them with recommendations but there is no return. The staff fulfill directives and instructions, but the upper levels do not respond with adjustments, adaptations or improvements based on the ground level assessment of the workers. She also thinks that the Base Post should be involved with other FUNASA public health projects, such as the sanitation engineering constructions in the villages and the future tasks of the lay sanitation monitors (ASEAN). She thinks that these projects are connected with the health team's work.

In the interviews, interviewees also drew attention to the hardships they endure as part of the taxing and hazardous work conditions. For example, Jorge mentioned the physical risks involved in the work. He said that during a trip, one risks one's life and those of others (*"Se arrisca a vida, e a vida das pessoas"*). He said that there is also the risk of catching a disease (*"pegar uma doença"*), such as tuberculosis. Rafaela mentioned that she misses her family during the trips. When she is away, she sometimes feels a longing and desire to return home (*"saudade da família, de vir para casa"*). She said that missing the family is "a little bit difficult" (*"um pouco dificultoso"*). Mônica lamented that FUNASA does not invest in improving the safety of their work conditions. She said that the work is unhealthy (*insalubre*) and hazardous (*riscos*). According to Mônica, the work in Indian Health erodes (*desgasta*) the employee.

Natália told me that during her job interview, Conceição, DSEI administrator, was mostly concerned whether Natália was willing to endure the work conditions. She said that Conceição accurately described the work conditions to her. Natália said, "She was really sincere" (*"Ela foi bem sincera mesmo"*) and "She was very tough with me" (*"Ela que foi bem durona comigo"*).

Natália was told she would spend fifteen to twenty days in the field (“*em área*”) doing her work as a nurse and trip coordinator. Natália said she now gives the same advice to new staff. She tells them, “There are bugs and beasts. You will work from Monday to Monday when you are in the area. You cannot waste time. You have to be friendly. There will be a lot of people on the boat. You will have to put up with it. That’s the way it is. Do you want this?” (“*Tem bicho. Você tem que trabalhar de segunda a segunda quando você tá em área. Você não pode perder tempo. Você tem que ser amigável. Vai ter muita gente adentro do barco. Você vai ter que aguentar. É desse jeito. Você quer?*”).

I have the impression that resilience to endure these hardships is a badge of pride. It is used in conversations between the permanent staff as a contrast with the fleeting participation of the physicians and dentists in the trips. Stories mention professionals who stayed very little. For example, I heard about the physician who did not last one night and asked to return to Manoel Urbano city on the first evening they had left port. She did not reach any village.

The permanent staff seem to take for granted that most people are not able to endure the trips and are inevitably destined to abandon the job as quickly as possible. I confronted this assumption personally regarding my first voyage the first time I was accepted to join a trip.

8.1.2.4 The referral paradigm

The stationary model of care delivery is replicated along the health care network. The national health system (SUS) in Brazil implements a model that creates economies of scale with biomedical technologies. The overarching principle is to coalesce and concentrate biomedical resources and technologies of a similar sort in single stationary physical locations. Staff are distributed and concentrated concurrently. Staff with the relevant specializations converge in those locations.

This is the three-tiered model of rationalization of resources popularized since the Alma-Ata conference and endorsed by the World Health Organization. The three-tiered model separates primary, secondary and tertiary levels of care. The three-tiered model makes delivery stationary and forces the patients to be mobile. The health mission form of delivery tends to replicate the stationary model and the workers also seem to take the stationary model for granted.

The enforced mobility of patients between the fixed sites of delivery is problematic in cases in which the physical distances become obstacles to access. The three-tiered model in practice creates an intrinsic advantage for urban residents, since second and tertiary levels of care are almost always located in cities. The model becomes a source of exclusion for patients who are poor rural residents and who cannot travel to the city with ease or spend lengthy periods of time accompanying a hospitalized family member.

The CASAI in Rio Branco city is a location for lodging Indigenous patients receiving tertiary level care in the city and for their accompanying family members, but Madiha are very reluctant to go there. The three-tiered model denies the Base Post the possibility of acquiring and developing more complex technologies and forces the staff to refer patients along the established network of referral. As a result, the patients tend to prefer to go without treatment.

In the interview, Natália told me that villagers do not want to go the CASAI. She said that they do not like it (*“realmente não gostam”*). She said that there are too many different ethnic groups crowded together there in single facility. She said that they humiliate Madiha patients (*“Eles humilham muito os Kulina”*). She tries to have the villagers avoid staying in the CASAI. She said that she “does everything she can for them to avoid the CASAI” (*“Faço de tudo para eles não passar pelo CASAI”*). She sends them directly to the hospitals. She tells them that when they are released from the hospital, they will spend only that night in the CASAI. She

will have someone bring them back to the Base Post the next day. She said that if she does it this way, they accept; but if they have to stay five or six days, “they do not accept under any circumstances” (“*Eles não aceitam de jeito nenhum*”).

In the interview, Mônica had already remarked to me that they had communication problems between the sites of health care referral. She explained that the staff face many difficulties for referring or attempting to refer villagers for hospital care. She told me that communications between the Base Post and the CASAI were not good. She added that the CASAI, in general, was a poor destination for patients. Once there, she complemented, the problems of Indian Health merge with all the other problems of the city’s SUS network.

Madiha also do not make much use of the secondary level of care available in Manoel Urbano city. In the interview, Natália explained that villagers rarely seek biomedical care in Manoel Urbano city. She said, “It’s very little; it’s unusual” (“*É poquissimo, é raro*”). There are three SUS health posts (*posto de saúde*) in the town. She said that Madiha mostly go to the one in the plaza, which is closest to the port. Viviane, who used to work in the Base Post, was working there at the time of the interview, which Natália considered an additional advantage. She said that the villagers never complain of poor service. If the health post is out of medications, they can get them from the Base Post. The Base Post nursing staff also accompanies patients there. She added that the municipal health posts also attend Huni Kuin patients coming from Santa Rosa do Purus, further upriver.

The primary level of care is shared between the medical mission services and the resident lay health monitors (AIS). The lay health monitors (AIS) also suffer from communication and transport problems with the Base Post, their site for referral. For most of my fieldwork, the villages had no form of communication with the Base Post except for relaying news personally

through people traveling on the vessels navigating the river. The villages lie far outside the reach of cell phone services.

On the last trip I accompanied, FUNASA had purchased three radios and was installing them in the three largest villages. Natália mentioned this in the interview. She said, “The health team is sailing up the river today. They are taking the radio guy. He is installing three radios in three villages” (*A Equipe ta subindo hoje; tá levando o rapaz da rádio. Tá acionando três rádio em três aldeia*). By the time we were returning to Manoel Urbano city, only two were working. The man who installed the radios is the only radio technician working for FUNASA. He is not a FUNASA employee. He was on “loan service” (*serviço prestado*) from FUNAI for this trip. He explained to me that the radios were inadequate, as all the buttons and instructions were written in English. He could not understand them. Additionally, they were programmable digital radios. The slightest pressure on the wrong button would automatically erase or change the programs. He thought that the older radios with dials were more appropriate for the user population, as they can be adjusted manually intuitively.

The transport difficulties between the villages and Manoel Urbano city are another impediment to effective referral. Transport is needed for emergency rescue operations. Villagers who need rapid hospitalization or care that is not available in the villages require a fast transportation means to carry them to Manoel Urbano city. The fastest boats in the region are the small aluminum boats (*voadeiras*) that use outboard motors. Jorge explained that the Base Post had not had an aluminum boat for the past two years (at the time of interview). He clarified that a small wooden canoe is inadequate for this purpose because it would take a day and a half to reach the villages (*“leva um dia e meia numa canoinha pequena”*). The lack of an aluminum

boat means that the Base Post does not have its own means to transport villagers in the case of an emergency.

The lay health monitors (AIS) are usually not provided with transport means to take patients to Manoel Urbano city, though it seems this was being addressed at the time of the interviews. In general, the villagers have their own wooden canoes, but they often lack motors or, more usually, sufficient gasoline to make the trip to the city. Rowing with a wooden paddle or gliding along with long shafts would take several days to Manoel Urbano city. During her interview, Natália optimistically reported to me that, “We have a problem with outboard motors for boats and aluminum boats. We don’t have any. But Maurílio [DSEI administrator] just arrived [in the job post]. He is already calling for tenders. We are going to get two motors for aluminum boats: a twenty-five and a forty [horsepower outboard motor]; and also five motors for the health agents [AIS]. Also boats for the health agents [AIS].” (*“Nós tamos tendo problema com motor de voadera e bote, que nos não temos. Mas o Maurílio já chegou. Já ta fazendo citação. Nós vamos ter dois motores de voadera: um de vinticinco e um de quarenta. E mais cinco motores para os agentes de saúde. Bote também para os agentes de saúde”*).

8.1.2.5 “Capacitated” (*capacitado*) as technical training

Many informants claimed that they are “capacitated” (*capacitado*), when I asked them directly in Portuguese. Generally speaking, they went on to give examples of technical skill training, such as how to vaccinate or collect neonatal blood screening samples. These training courses were short courses funded by FUNASA. Mônica explained that FUNASA provides specialized technical training courses (*capacitação*) for workers.

I further probed about other more specialized needs. I often asked about courses or events to prepare them to work with Indians. Very few informants in this (and other fieldwork

locations) answered that they had received that kind of training. Only Natália felt that she had been informed and alerted about the job conditions by the DSEI administrator at the time, Conceição. Natália had also participated in a short medical anthropology course with Professor Klein. She approached him for advice about her Madiha patients. Professor Klein knows the Madiha villagers personally from his own fieldwork.

Interviewees understand the word “capacitation” as technical preparation for nursing or other technical care duties. Informants understand “capacitation” as technical ability: as the acquisition of a specialized knowledge and technical skills relating to the use of tools.

8.2 INFORMAL INTERVIEWS

I present now the results of three brief informal interviews. The semi-structured interviews were conducted several months after these informal interviews. The informal interviews provided antecedent exploratory exchanges that gave me a sense of what I could expect in the semi-structured interviews.

I conducted numerous informal interviews throughout the entire fieldwork period but here I will discuss only the three recorded for the two days that form the basis of the observation and participant observation descriptions. They are included for illustrative purposes, in order to provide the reader with a sample of this form of data collection. These interviews do not provide new material relevant to the central discussion of this dissertation. Instead, the results reinforce the findings of the semi-structured interviews.

The comparison of the informal interviews potentially suggests that health workers with a long-term engagement with villagers develop a heightened sense of the importance of developing

patients' trust in order to acquire the legitimacy to carry out health procedures and of gaining experience on the job. In contrast, the professional with a recent presence in the field is confident of the knowledge he brings with him and its applicability to all circumstances.

8.2.1 Informal interview with physician (March 18)

8.2.1.1 BMI (Body Mass Index) tables

I wanted to know if the physician had thoughts about the political economy of biomedical knowledge. I decided to use the Body Mass Index (BMI) tables as a prompt. I told him that I wanted know his opinion about BMI tables. Without hesitation, he immediately responded that BMI tables are universally applicable to all populations.

In order to probe his opinion further, I told him that I did not agree. I suggested that the tables are built on the basis of measurements of specific populations taken to be standard. I suggested the tables might change with the increasing global obesity epidemic, once obesity or being overweight are normal. He was puzzled and skeptical. I pursued the argument, saying that Madiha are so short and thin that they would surely be diagnosed as malnourished and underdeveloped all the time.

8.2.1.2 Biases in health surveillance and reporting

I wanted to see if he considered that there is any selectiveness in health surveillance and reporting. I told him that I was suspicious that the politicians in Rio Branco city were hiding a dengue epidemic going on right then. I mentioned how I had had a dreadful fever, excruciating back pain and other dengue symptoms just before this boat trip. I had gone to a public hospital in Rio Branco city. On the basis of my conversations with other patients, I estimate that about half

of the people in the waiting room were describing similar symptoms. Despite my symptoms and borderline blood test results, the physician insisted that I did not have dengue. Nonetheless, she prescribed all the standard medications and treatment procedures for dengue and gave me the relevant instructions. I suggested that official public health organizations such as WHO or FUNASA give preeminence to certain diseases for surveillance and disregard or give less attention to others. He agreed with this statement.

The dentist had been listening to our conversation and now gave his opinion. He said that there is a lot of “fashion” (*moda*) in public health. He said that the current H1N1 influenza epidemic was an example. They both agreed with each other here. They said that a lot of money is involved in these campaigns, including for the pharmaceutical industry. At this point, the physician remarked that one could not even know if the H1N1 virus was a fabricated biological weapon created in a laboratory.

8.2.1.3 Medical school

I was also curious about the physician’s university experience and training as a medical student. His authoritative manner of describing human physiology and anatomy at frequent and unsolicited moments had made me curious about his schooling. I anticipated that his response might help explain his approach to medicine.

I knew from a previous conversation with him that he had studied in the Cuban school of medicine, so I asked him about the pedagogical approach in that setting. I asked him whether the teaching of medicine was epistemologically critical. He did not understand the question. I clarified myself by saying that some educational systems give little opportunity to students to question the truth claims and validity of the knowledge. His reactions and descriptions described the teaching as based on authority.

8.2.2 Informal interview with dental assistant (March 18)

8.2.2.1 Gaining the villagers' trust

I initiated the conversation with the dental assistant by asking about her credentials. However, she quickly diverted the conversation towards recognition of her antiquity in the field. She responded to my initial question explaining that she has three degrees. She is a nursing aide (*auxiliar de enfermagem*), nursing technician (*técnica em enfermagem*) and a dental clinic aide (*auxiliar de consultório dental*). She pays union fees for both her nursing and dental degrees and is licensed to practice both specializations.

Then, she spontaneously began to describe her antiquity in this job. She told me that she started to work in health care for Indians during the UNI period. [UNI was a pan-ethnic indigenous NGO that administered Indian health care delivery in this DSEI with FUNASA funds between 1999 and 2004.] She began work here with these Madiha. She says that in the early days the villagers would run away and hide in the forest when the health workers arrived. She stressed that the team is fortunate that villagers are now willing to come down to receive dental care on the boat. She said that villagers come down because they know her personally.

8.2.3 Informal interview with nurse (March 21)

8.2.3.1 Career development for residents of Manoel Urbano city

Mônica expressed that she would like to retain the job, but she regretted the lack of opportunities for career improvement. She told me that she is contemplating a short post-graduate degree in public health and management. She informed me that she can study for the degree through distance education. She only has to spend a few days in the Rio Branco city.

Mônica also commented on her job insecurity. Like the other staff, she is only hired by the municipal government on yearly temporary contracts. Her upcoming contract renewal was not guaranteed.

8.2.3.2 Turnover of professionals from other locations

Mônica confirmed the high rate of turnover of physicians for the trips. Mônica informed me that the Base Post had had four physicians in the past year. That rate of turnover means that each physician changed, on average, every two trips.

The problem of turnover affects other specialties too. Mônica told me that FUNASA had hired a laboratory technician to conduct blood screening some years earlier. The girl had recently graduated and was just starting her career. She found a new job soon and left tasks unfinished.

8.2.3.3 Learning and long-term association

Mônica also indicated that long-term commitment to the job is necessary. She says that professionals require time to acquire competence with the job. She gives herself as an example. She says that she needed the help of Ana Lucia by her side when she first started work in the villages because she didn't know anybody.

8.3 ACHIEVING THE “AGENCY RELATION” IN MISSIONARY DELIVERY

8.3.1 Workers’ relations with villagers

These accounts reveal that interviewees perceive a fundamental social distance with patients. Interviewees perceive patient autonomy as a predetermined factual grounding which they must strive to find ways to circumvent or assuage. Patient difference is attributed to “cultural” reasons. Especially, patients have a different understanding of health and disease etiology, which entail a different approach to hygiene and therapy.

Interviewees do not seek to bridge, incorporate or frontally interfere with that body of knowledge and practices of health and disease, which they evaluate as a medical system that is morally equivalent to biomedicine. Instead, they implement a professional practice of total separation between the two medical systems. In principle, they do not impose biomedical procedures upon villagers.

The health workers know very little about the Madiha native medical system and do not actively seek to explore it. I will provide one example from participant observations. During my first trip, the dentist asked Bacuzzi (an elderly former shaman) to describe to her the native healing ritual. He readily began to explain how the shaman begins to sing and to summon the souls (*almas*) up from underneath the ground to come up to him and to enter his body. The other workers on the boat immediately gathered around, mesmerized by his description. They began to ask him questions and I realized that they knew nothing of this ritual.

In the interviews, the workers describe villagers as pliant and affable. Madiha are not demanding or challenging as patients. There could be many reasons for their behavior. One

possibility is a concurrence with the Madiha “sick role” behavior, and tendency to avoid interaction with non-Madiha.

The health workers face a situation in which Madiha villagers have radically different understandings of health and disease, and tend to interact with the workers with reserve, stillness and silence for purposes of disease detection and treatment. The two parties are virtually unable to communicate with one another except through the scarce amount of individuals who can act as interpreters.

The permanent staff have learned that patient adherence to procedures cannot be taken for granted. They realize that they cannot count on an automatic acceptance of their role as health agents. They perceive patient consent as an achievement.

Patient consent is a personal achievement that is acquired individually by each worker. According to their narratives in the interviews, patient trust is not awarded to the role of the health worker, but to the individual employee. They insist that a health worker must foster a personal relationship of trust with the villagers in order to implement procedures. Once established, the personal trust relationship extends beyond participation in health procedures.

The interviewees express that trust is developed in two manners. Fundamentally, workers must engage in a long-term acquaintance and interaction with patients. In addition, participation in villagers’ leisure or domestic activities, such as playing soccer, increases the acquisition of trust. These two characteristics distinguish the permanent or lower ranking staff from the transient or higher ranking staff. The interviewees, who are lower ranking staff, perceive that they have an advantage over the physicians and dentists due to their extended acquaintance and personal bonds with the villagers. The physicians and dentists almost always have very transient presences in the villages. One interviewee considered that the high turnover of physicians and

dentists is not just a hindrance to the development of trust bonds, but is also potentially detrimental and damaging.

The interviewees also express that long-term involvement in the setting additionally improves the relationship between co-workers. In this respect, they also remark on the difference with transient staff. The particular travel and living circumstances of a health mission mean that workers are in one another's presence at all times for several weeks on end, under very trying and austere conditions. This type of work environment requires very comfortable and warm social relations between co-workers.

An interviewee expressed that they generate a family type of relationship. That is, the permanent staff employ the roles and behaviors of a domestic environment to regulate their behaviors with one another. In this respect, the observed deference of the lower ranking staff to the transient staff in the order of serving themselves a meal may also suggest that they perceive the transient staff as guests.

The behaviors that generate trust and good social relations are similar for interactions between co-workers and for interactions between workers and villagers. Specifically, trust is generated through co-participation as equals in domestic activities. The workers attempt to acquire the villagers' trust by participating in the villagers' domestic activities, such as playing soccer with them. Similarly, co-workers also participate in games and leisure activities with one another that show little differentiation in the behaviors of each participant.

In some cases, these diffuse forms of trust creation are not sufficient to achieve patient participation in all health procedures. This is particularly the case for uncomfortable, and possibly incomprehensible, procedures. This occurs with preventive screening and other

preventive procedures. In these cases, small gifts or other forms of reciprocity accompany the procedure.

According to my informal conversations with them, the health workers do not want the villagers to associate the health procedures with gift giving. In fact, only one interviewee mentioned this reciprocity in her semi-structured interview. Natália said to me that they want the villagers to accept the procedures for their own sake and not as part of an exchange.

During participant observations, I observed another ongoing parallel form of exchange that occurs regularly between the cook and the villagers. Very often, the cook acquires fresh local food items from the villagers, such as manioc, turtle eggs or hunted game (see Figure 44). In exchange, the villagers receive industrial foods or goods, such as sugar or biscuits. These exchanges are mediated through the boat pilots, on behalf of the cook.

When I asked about these exchanges in the interviews, the interviewees always denied that they may have any connection with their tasks as health workers. They do not seem to think that these exchanges have any incidence in their work, their status or their respectability for the villagers. For example, Natália dismissed these exchanges as a matter of little importance. She said, “That is something between them” (“*Isso é entre eles mesmos*”). She gave me examples of the exchanges. She described that the cook might desire some manioc. In exchange, knowing that the villagers might want sugar, the cook would give them a bag of sugar. Alternatively, she might give them some laundry soap (“*barra de sabão para eles lavar a roupa deles*”). Similarly, she might tell the villagers, “We want to eat turtle” (“*Tamo querendo comer um jabuti*”). Then, when the turtle is delivered, the villagers might say, “We want a chicken” (“*Ah, eu quero um frango*”). So, she would give them a chicken.



Figure 44. Fruits and vegetables obtained through exchange, August 2010 (Photo: C. Frenopoulo)

The boat sometimes brings gifts of food that are given to the villagers without any immediate reciprocal return. This occurs as part of the FUNASA program to address infant malnutrition. The boat sometimes travels with quantities of dry food items (spaghetti, manioc flour, powdered milk, beans, rice, and other items) which are handed out to the villagers in a public distribution event.

The food is distributed when the boat is about to leave the village and men line up on the beach with their baskets or bags. The men quickly congregate on the beach to get their basket of food while the boat pilots begin to untie the boat and start the engines (see Figures 45 and 46). The food distribution occurs separately from the measurement of the children.

Figure 45 shows the boat captain placing a bag of beans into a man's basket. The man can be seen holding the basket, while standing outside the boat. The nurse is sitting in the foreground, holding the basket on the boat brim.

Figure 46 shows a line of men standing on the beach with their bags and baskets, after receiving the food items. The photograph was taken from the boat, as it was raising anchor and leaving the port.



Figure 45. Distribution of dry food items to villagers, Boaçu village, August 2010 (Photo: C. Frenopoulo)



Figure 46. Men lined up after receiving dry food items, Boaçu village, August 2010 (Photo: C. Frenopoulo)

8.3.2 Importance of long-term acquaintance

Though not statistically representative, the informal interviews recounted here may offer information that reinforces previous assertions about how the health workers position themselves in interactions with villagers.

The brief conversation with the physician suggests that he has little skepticism regarding his received knowledge. He seems to take for granted that biomedicine is universally applicable and that health standards are the same everywhere. The physician is confident of his knowledge. His educational experience in medical school seems congruent with this orientation towards biomedical knowledge. Judging by his descriptions, the teaching was authoritative. The dominant orientation and instrumental role that he enacts in observed medical interactions, his focus on technical and physiological issues during the attempt to save the baby in Boaçu village, as well as his conversations with peers about risky pregnancies, may all have some basis in his perceptions of the body of knowledge he represents.

The dental assistant's comments, instead, focus on the workers' need to obtain acceptable levels of consent from patients. Though I began to ask her about her formal training, she quickly diverted the conversation towards the villagers' initial fear and suspicion of the health workers. She explained that their success to engage the villagers in dental procedures relies on the long term development of personal relationships with individual workers. She positions herself as primarily qualified due to the trust bonds developed with patients and averts a focus on her knowledge and technical competence. Gaining trust takes precedence over technical background.

The physician, who relies on the authority of his knowledge, is a newcomer. He had recently graduated. He had only been to the villages on a couple of trips before this one. He is on "loan service" (*serviço prestado*) from the municipal urban health clinic, where he works regularly. In contrast, the dental assistant, who relies on her personal acquaintance with villagers, is one of the longest serving employees in the Base Post. She has eleven years of regular and frequent interaction with these villagers. Her statements contrast with the physician's confidence because she indicates a position of perceived helplessness. Without the agreement of the

villagers, the work cannot be accomplished. Her statements place the emphasis, not on the conditions of the worker, but on those of the patients.

Ethnographic reports of previous decades describe prior traveling teams of health workers as brusque and crude in their fleeting interactions with the villagers (e.g., Silva D. 1997; Pollock 1988). The villagers' trust is a commitment to a handful of individual persons, not to the body of knowledge they represent.

The lower ranking workers, such as the dental assistant, can mention the importance of trust bonds because transient professionals cannot access this condition. The lower ranking staff have the advantage when attention is placed on degree of acquaintance with villagers and with the working conditions.

The informal interview with the nurse was focused on questioning the nurse about the hiring and contract situation of the Base Post employees. The nurse talked about the difference between residents of Manoel Urbano city and employees from elsewhere. Local residents desire permanence in the job. In contrast, professionals from other cities only pass through the job on very short-term stints that, she claims, are detrimental to the achievement of lasting beneficial effects. Transient staff members do not establish in depth knowledge of the individual villagers and may leave work unfinished, as occurred with the previous laboratory technician.

Mônica's expressions reveal the negligence towards local health resources observable in the current delivery model. The hiring policy does not support long-term commitment. In addition, there are little career development paths and incentives.

8.3.3 Replication of the stationary clinic model

Although the health team operates as a health mission, they do not apply a comprehensive transformation model. Other types of missionaries (e.g., certain religious missionaries) may sometimes seek to foster locality transformation. In the current health care delivery model, there is no development of a local infrastructure of resources and personnel.

The delivery model appears to be a rudimentary attempt to replicate the stationary biomedical clinic. This causes a great deal of frustration in the employees but they do not seem to consider that the problem may be with the model. Instead, their frustrations suggest that they think it is insufficiently, not inadequately, implemented. They wish that they could have access to more equipment, more materials and career development prospects. They perceive themselves as the equivalent of the primary care neighborhood clinic.

The three-tiered model of delivery advocates the establishment of primary care units in the localities where groups of users reside, in the understanding that health risks and health problems have a geographical distribution that is directly related to the environmental and living conditions of the target population (Macinko et al. 2010). However, there is a subtle sedentary bias in this assumption. It is not true that all individuals in certain populations spend all their time in a single geographical location. Individuals who spend periods of time in different localities (e.g., for work) have a varying geographical distribution of exposure to health risks. This fact is evident for the Madiha, who are a very mobile population. Their span of geographical circulation is very wide, even within a single day, as they move between the gardens, fishing sites and sleeping areas. Additionally, because Madiha are seasonal migrants, they spend much time residing away from the villages.

The FUNASA delivery model also demonstrates neglect for the local health and public health resources and personnel. This occurs in several ways. Firstly, there is no integration of the native medical resources and personnel (shamans and midwives) in the FUNASA health delivery practice. The two medical systems exist in a state of separation. The FUNASA personnel are almost entirely ignorant of the native medical system, except for the understanding that many diseases are attributed to sorcery (*dori*), without exploring what this implies for the villagers. The permanent staff do not confront or challenge the native medical system, but they also do not seek to establish some form of collaboration with it, even though they recognize its preeminence in the villagers' values and practices. Secondly, the hired lay health monitors (AIS), who are salaried employees of the FUNASA delivery system, are very poorly trained and supplied. They fulfill only a very slight role in medical care. Mostly, they are required for translations during medical consultations, even though they have never received any training in medical interpreting, and they are expected to refer patients to the city for health crises, even though they have poor communications and transports means to accomplish this. There is practically no investment in the lay health monitors (AIS).

The workers' desire to increase their access to equipment and materials also reveals the delivery model's neglect to support and reinforce existing local health and public health resources. There is no storage of materials in the localities of delivery and there is no use of local resources, except for some labor (interpreting, clasping resistant children and carrying equipment boxes).

Instead, with the existing model, all personnel and equipment must be imported from another location. Workers seem to take this for granted. The permanent staff reflect on the possibility of constructing a permanently staffed stationary clinic (or more rudimentary

construction) in or very near the villages. This would create a permanent site of delivery in the villages, reproducing the stationary delivery model, but which nevertheless would be staffed and equipped with imported resources and personnel. In comparison, the laboratory technician's and physician's opinion to fully equip the boat and transform it into a floating clinic is an alternative that also presumes that ideal delivery is provided in a clinic. The difference is that this proposal shows no aspiration for attachment to the locality.

The existing missionary model places the burden of care almost entirely on the traveling health team due to the neglect of the local health and public health system.

The decentralization of health care resources in the municipal governments is another characteristic that has not been entirely beneficial to the permanent staff. Although it has been useful to increase their access to materials and equipment, it has not been favorable for their hiring contract conditions. The municipal government only ever hired them on temporary contracts, generating a persistent anxiety regarding job security. In some cases, the anxiety was heightened because some workers had over extended the legal limitations on temporary contract renewals.

Another argument used to justify the three-tiered model is that it allows the planners of primary care level services to adapt programs to the local epidemiological, environmental and populational characteristics (Sousa & Hamann 2009). However, the interviewees express that this never occurs in practice. It would seem that they are only instructed to carry out orders that come from the Ministry of Health or from FUNASA. In turn, the workers' suggestions for improvements and adjustments never receive a response. There is no feedback loop between authorities and workers to design targeted interventions for the particular local context.

The three-tiered model applied in the existing referral system also does not accommodate user preferences. Madiha do not like to make use of any of the services available to them outside of the villages. They are reluctant to use the clinics in Manoel Urbano city and they spurn passing through the CASAI. They do not speak the language, they lack identity documents, they have no sources of monetary income for personal expenses, and they must endure constant discomforts and indigent conditions.

8.4 RESPONSE TO RESEARCH QUESTIONS

8.4.1 Intentionality and functionality according to semi-structured interviews

It is now possible to provide a response to the two research questions on the basis of the interviewees' responses.

The first research question interrogates whether an actor's actions imply a counter-role. In such a situation, an actor's actions would be oriented towards other individuals as a matter of patterned behavior due to role identities and mutual interdependencies.

The interviewees' responses show that this is the case for most of the health work interactions. In the interviewees' opinion, their work implies a counter-role occupied by the patients. This responds to the first indicator for this research question. The interviewees' responses also show that they understand that they cannot automatically occupy this role without the patients' consent. The interview responses show that interviewees do not feel that they are recognizable to the patient population as "agents". They feel that they must strive to achieve that status. Hence, the response to the second indicator for this research question is that actors feel

that they must make themselves recognizable to the counter-actors in order to be considered “agents”. In particular, they feel that they must each weave trust bonds with the patients individually. Accordingly, the response to the third indicator for this research question is that actors feel that they require the endorsement of the counter-actors.

The interviewees experience patient autonomy as a radical disjunction with the interviewees’ own understandings and desires regarding health actions and interventions. The interviewees take for granted the otherness of the patient population’s medical knowledge. The interviewees do not make attempts to bridge the disconnection but instead work from an ethical or political position that preserves the separation between the two medical systems.

The interviewees perceive that they are fundamentally dependent on achieving the patients’ endorsement of them as health agents. The interviewees perceive the patients’ otherness, including the patients’ medical knowledge, as a challenge to their legitimacy as health agents. Patient consent is viewed as an achievement. The interviewees express that they have difficulty to attain compliance or adherence with numerous procedures.

The interviewees consistently express that they need to develop the patients’ trust. Trust is an achievement that is attained personally by individual workers. The interviewees express that trust is fostered through long term personal acquaintance with individual villagers and through participation in villagers’ activities. The interviewees contrast themselves to the transient professionals who engage less with the villagers. Transient professionals do not achieve adequate trust levels and consequently fail to attain acceptable rates of adherence or compliance.

The second research question interrogates whether an actor’s use of tools establish functionality for the actions. In such a situation, an actor’s use of tools determines the purpose of

the actions. For this question, tools or resources imply material equipment and also the health workers' specialized knowledge and skills.

The interviewees' responses show that this is the case for most of the health work interactions. Interviewees understand the empirical aspects of their work almost exclusively in terms of the imported equipment and knowledge they transport with them on the boat. That is, they fulfill the characterization of "missionaries" due to their apparent perception that the quality and scope of their work is proportional to the amount of external resources they can transport into the villages. Notably, they do not spontaneously express that local resources, including personnel, can form the basis of a local infrastructure for health development and they preserve a robust separation with the villagers' native medical system.

The interviewees are medical missionaries, and they apply a missionary model of health care delivery. This approach assumes that the target population is a deprived population that is intrinsically unable to resolve its health problems with existing resources and personnel. The model does not build on the local resources. It relies on the importation of external resources and personnel. The missionary activity, in this case, involves the attempt to carry out a health transformation agenda that has a sedentary bias and was developed for a different type of population and distribution of resources.

In general, the health mission workers, the FUNASA administration and the Ministry of Health show little interest or commitment to developing the local resources and fostering their autonomy. On the contrary, the model consistently awards a dominant role to external actors imbued with foreign knowledge and resources. The model is based on the transfer or importation of foreign resources and personnel to address the outsiders' assessment of perceived local problems.

Local actors play almost no role in decision making, planning, or execution of health interventions. This pattern is repeated at the different levels of delivery. In the villages, the Madiha native healers and midwives do not participate or assist with the work of the traveling health team. Similarly, within the team of salaried workers, the resident lay health monitors (AIS) have only a meager participation to assist the work of the traveling health workers. Their role is largely reduced to language interpretation and some other basic functions of mediation. They have almost no active role in health care supply. Likewise, within the cadre of travelers, the permanent staff who are residents of Manoel Urbano city are subordinate to the physicians and dentists who are always outsiders. Respectively, the Base Post staff are given orders from the FUNASA administration, whose employees have little, if any, contact with the villagers. The Base Post staff perceive no effective space for participation in planning and development of programs, in order to adequate them to the local context.

The workers do not question the truth value of their knowledge or its universal applicability. They perceive the target population as deprived of this knowledge and therefore deprived of its value for the improvement of their lives.

The health workers are aware that their ability to act as benefactors is dependent on their access to a specialized body of knowledge and an amount of foreign technologies and materials. Thus, they desire to continually increase their access to such knowledge and technologies.

The disregard for the development of a village workforce is revealed in the alternative proposals to either build a rudimentary stationary clinic in a village or a fully equipped floating clinic on a boat. As an exception, several interviewees concur that more training for the lay health monitors (AIS) is required. However, they understand this as a transfer of biomedical knowledge and technical skills, identical to their own personal training as biomedical workers.

In conclusion, the health workers are vexed by a structural paradox regarding their agency as health workers. This paradox is a cause of employee frustration. On the one hand, they enter the field as health workers, supported by their qualifications as credentialed biomedical workers. Their employment and task responsibilities depend on these external qualifications, and so these are fundamental to their self-assessment of their status. On the other hand, their status as missionaries depends on the assertion of their radical difference with the target population and its perceived state of deprivation. With time, the workers learn that the population's difference is a hindrance and not a facilitator of their status as health agents. The workers come to understand that the target population does not necessarily share the workers' perceptions of them as legitimate health agents. The population does not perceive itself as medically deprived. On the contrary, the villagers are quite confident of their native medical system. The population adheres strongly to a different medical system that the workers do not integrate in their health actions. The paradox occurs due to the conflicting value of biomedicine in the delivery context. Biomedicine is the support for the workers' self-assessment and simultaneously a source of separation with the target population.

Thus, an "agency relation" cannot be established on the basis of the health workers' professional credentials or on the credibility of biomedicine, nor on the basis of the patient population's voluntary acceptance of a role of deprivation, which are the two conditions of the classical model of the "agency relation".

The health workers attempt to resolve the paradox by penetrating the target population's domestic realm. Since trust cannot be established on the basis of the two conditions of the classical model of the "agency relation", the workers attempt to foster trust by constructing

domestic types of relationships with the patient population. They try to take part in the villagers' leisure, and other activities, as equals.

In this way, health mission activity entails the co-existence of the different social spaces and their particular role configurations. The health workers fulfill rigid roles in the health care interactions. In the work space, they do not compromise the imported procedures. Simultaneously, they create a space for ethnically homogenous interactions on the boat, where they assert their foreign status and equality with one another through domestic interactions. They resist the villagers' attempts to penetrate this space as equals. Thirdly, the villagers' domestic space is where the workers construct individual relationships with villagers to achieve patient consent. Here, they blend in with the villagers and show themselves as equals to them.

8.4.2 Intentionality and functionality according to informal interviews

Even though it is not possible to provide a conclusive response to the research questions on the basis of the three informal interviews, to some extent they show a difference in the way the physician, the dental assistant and the nurse each approach their relation with patients and the scope of their actions.

The physician was on "loan service". He had only been on a few trips to the villages beforehand and had no prospects of a long term commitment to this job. The nurse was in the midst of her second year in the job. She had acquired some experience and had the desire to continue in the job. The dental assistant had eleven years of acquaintance with the villagers, performing her tasks.

The physician's responses show that he is confident of his knowledge and perceives that it has universal applicability. His opinions about biomedicine offer a tentative response to the

second research question. The resources—in this case, his specialized knowledge and skills—establish the functionality of his approach to his task.

The dental assistant's response answers both questions. Although she holds three post-secondary degrees, she minimizes their value when compared to the importance of establishing appropriate relations with patients. She draws attention away from the resources—in this case, her specialized knowledge and skills—and instead insists that her role as a health agent is largely dependent on the achievement of the counter-actors' endorsement. For her, the other actors are implicit in her role. Health workers require the counter-actors' endorsement, and through this process they become recognizable as "agents".

The informal interview with the nurse focused on questions relating to the staffing of the health team. Her responses state that the quality of the work is proportional to the employee's duration in the job. The worker requires time to become acquainted with the villagers individually and with the work conditions. Long term duration in the job increases an employee's competence. She mentions the two laboratory technicians, Ana Lucia (nursing technician), and herself, as comparative examples. Her response almost paraphrases the dissertation hypothesis. For her, competence is an indicator of an employee's relative duration in the job, compared with other employees.

9.0 HEALTH MISSION CARE

9.1.1 Health mission delivery as a form of biomedical care

The health workers execute a medical missionary or more broadly, health mission format for the delivery of health care. The existing delivery model treats health as if it is a transferrable good that can be taken from one location to another.

At the time of fieldwork, a health mission team is a small group of health workers and transport and service staff. The team is composed of a multidisciplinary group of government workers on temporary contracts. The team travel eight or less times in a year. The team often travels without a physician, a dentist, or both.

Missionary delivery means that the team members offer a beneficial form of care. They see themselves providing a benefit to the community of recipients. The trip transports the benefits of biomedicine upstream to the river communities of Indigenous recipients.

There is a local-foreign polarity in the delivery. The polarity places the major responsibilities and decision making authority in the foreign elements and subordinates the local elements to non-instrumental adherence and conformity. This occurs with resources, personnel, rank, and administration.

For instance, an alternative model could organize care as a service embedded in a population's local living and working conditions. The current health service is absent from the

village for the larger portion of the year. A villager can expect to see the health workers in the village a total of about eight to ten days in the whole year.

During the visits, the workers are rushed to perform a large number of mechanical procedures and to move on to another village. The workers perform a fixed set of procedures. The procedures are performed in a perfunctory assembly line fashion with little communications between participants. The workers do not depart from this list, except for attending medical urgencies and emergencies.

The teams potentially provide an invaluable service but they are virtually the only form of government sponsored health services available to villagers. They respond to a model of health care delivery that ignores an understanding of health care rooted in patients' everyday routines.

9.1.2 Intact transfer of foreign resources

The missionary delivery format involves an intact transfer of resources, personnel and knowledge to the delivery location. The elements are transported and implemented without adjustments or only minimally.

For this reason, interviewees experience transport difficulties as the most pressing problem for delivery. The workers believe that they would be able to perform more and better procedures with improved transport means. In the first place, they desire the Base Post to own a large boat (*barco* or *batelão*) to transport the workers and equipment, and to own a rapid small aluminum boat (*voadera*) for rescue operations. Both of these wishes express the notion that health care must be physically taken to the villages. Health care personnel and equipment must be transferred from the city to the villages.

The belief that improved health in the village locality requires technological and personnel transfer is reinforced with the proposal to transform the boat into a floating clinic or to establish a rudimentary stationary clinic in a village equipped with imported technologies and staffed with personnel from the city. Either of the two proposals assumes that the method to achieve health improvement is to import foreign resources.

The boat travels from village to village as a self-contained unit. It transports goods for all the workers' needs, including food and drinking water. All food items and every other necessary item are transported from the port of departure.

The possession of foreign resources and knowledge is the health workers' source of legitimacy in their self-assessments. Health workers mentioned their training in biomedical knowledge and skills when I asked about their qualifications or preparation (*capacitação*). They did not spontaneously mention knowledge or expertise regarding the target population, such as the villagers' social organization, living conditions or language.

As foreign experts, the workers appear to take for granted their right to occupy a self-appointed status as trustees of the villagers' health. The spontaneous conversation between the workers about risky pregnancies showed that none of the participants expressed disagreement about the hospitalization of expectant mothers with problematic pregnancies.

The bulk of the workers' interactions with villagers involve the performance of technical procedures. Health care work is focused on the performance of technical procedures on patients' bodies. Staff at each station work quietly and continuously, performing procedure after procedure. The procedures are perfunctory and the workers carry out dozens of identical procedures in a short number of hours. The work is focused and uninterrupted.

Procedures are performed without explanation or any other form of verbal exchange. There is very little speech during procedures, except during medical consultations. Professionals also do not speak very much with their assistants during procedures.

The travel schedule assigns one or two days for each village. The health workers have little time to spare on alternative activities when they are stationed in a village. The workers have few chances to explore aspects of the patient population's living conditions and social organization or to develop proficiency in the native language. Some villagers may have little other interaction with the workers than those brief moments they are subject to the health workers' silent prodding and poking.

There is an insurmountable language separation between the two parties. The workers cannot communicate directly with most of the patients. Many patients cannot communicate with the workers.

The patients' otherness is viewed from the workers' perspective. The workers recognize that the patients do not share the same knowledge and they realize that they cannot count on a status as health agents in the villagers' regard. The patients' otherness is perceived as a hindrance to delivery because the notion of "delivery" is not problematized.

The delivery model implements health care as if the special characteristic of biomedical delivery for a Madiha village would be the physical distance that separates the villages from the city.

The delivery model transfers resources to the villages, implementing stationary delivery in these locations.

9.1.3 Health care interactions: rigid roles and imposition of foreign behavior patterns

The observations of standard routine health care interactions in the work space show that the behavior patterns are very similar. This occurs regardless of the health specialization, the procedure, or the individual composition of each small team.

The health care interactions implement an interaction model that sets out rigid roles and very little communications between participants. In most cases, the health workers have the instrumental role and dominant orientation, and the patients have the non-instrumental role and subordinate orientation.

The workers' instrumental role is detected in the prevalent use of tools and instruments that are used to perform technical procedures on parts of the patients' bodies. The workers perform the procedures from comfortable postures, while the patients are exposed to the workers' manipulation.

When there are two health workers in an interaction, the professional interacts with the patient and the other is an assistant who does not usually interact directly with the patient. The two workers show a rigid specialization of tasks. The worker with a professional degree is usually located centrally in the interaction and occupies the most comfortable body posture. The assistant usually manipulates the stock of tools and instruments, handing them to the professional and putting them away.

Medical interactions are an exception to the pattern because they are primarily verbal interactions instead of technological. The communications in the medical consultations basically consist of an interrogation of the patient. An interpreter assists with the communications. The patients usually sit quietly and only respond to the questions. Patients do not spontaneously offer

narratives or ask questions. Sometimes the interpreter answers the physician's questions without relaying the question to the patient.

These rigid foreign behavior patterns are implemented with little explanation. Workers do not seek consent from patients individually. Consent is implicit in the team's initial meeting when the workers describe the procedures they will conduct and present the professionals for that trip. The workers do not explicitly seek consent for the procedures during the meeting. They only present the procedures, stating that they are very important and necessary. Their speech is translated for the villagers by an interpreter, though the workers do not have a way to confirm the accuracy of the translation. The underlying biomedical physiological or pathogenic models are not included in the speech. That is, consent is not informed. The villagers' consent to procedures is based on another rationale and not on shared knowledge.

9.1.4 Clique sociability: suspension of rank and class difference

The observations of the workers' meal and leisure activities in the workers' domestic space show that the workers generally share these moments together. The workers typically enjoy their leisure moments together in the intimacy of the boat.

Almost all of the leisure actions are group activities. The workers play games with one another, such as card games or domino. They watch movies in the evening. They also often play in the river water at sunset.

The workers also spend a lot of time gossiping about mutual acquaintances from Manoel Urbano city and about riverine farmers (*ribeirinhos*). Manoel Urbano is a small city and people seem to know each other well. I could not pay too much attention to the workers' gossip because I do not know the people they were talking about. Much of the gossip seemed to be about family

issues, such as romantic liaisons and separations, and people's reactions to events in their life. I noticed that the workers also frequently talked about church pastors.

Almost all of the permanent staff are Brazilian Evangelical Christians, of different congregations. Natália is Roman Catholic. Like many Brazilian Evangelicals, they are very enthusiastic about their religion and it seems to provide them with a strong sense of personal worth and an expectation of social improvement. I sometimes wondered if the workers' missionary approach had any relation to their religion but I did not discover enough information to make that claim.

During leisure, the workers mingle with one another regardless of their job specialization and salary differences. That is, the general pattern for sociability on the boat is to act as an equal. In general, the permanent staff have been working together for several years and have shared countless experiences and hardships together. Three of the permanent staff have family relationships with one another.

Rank and class difference are minimized on the boat. The suspension of class difference between workers during the trip is noticeable to me in the individuation of cleaning and tidiness tasks, if only because such tasks are often delegated to the lower class or rank in other social contexts in Brazil. On the boat, each individual washes his or her own clothes and tidies his or her own space in the morning to clear the deck. The two times that I saw this pattern disrupted immediately stood out to me. On my first trip, I noticed the cook hanging men's clothing out to dry on the beach. I was informed that Sérgio, the physician, paid her to wash his clothes. On the second trip, as recounted in this dissertation, the laboratory technician paid the dental assistant to wash his clothes. Sérgio and the laboratory technician exhibited their class status more ostensibly than other workers of equal professional rank. For instance, Sérgio rarely integrated social

activities and did not help to carry equipment up the cliffs. The laboratory technician wore glitzy jewelry and also did not participate in tasks other than his assigned work duties. In contrast, Eduardo, the physician, and Mateus, the dentist, constantly helped with numerous physical chores.

The only time in which individuals act in dissimilar ways is when they occupy a bed. Some workers may read a book, others listen to music. This occurs at night when social interactions are suspended and also after lunch when some workers take a nap. At this time, there is no interaction and no sociability between them.

The villagers are not integrated into the workers' leisure activities. Despite constant attempts from certain villagers to approach the workers during relaxation moments on the boat, the workers often uphold a segregation with them, especially during meal times. Only a handful of individual villagers with Portuguese proficiency frequently sit and chat with the workers on the boat. They are some elderly people and some of the men. The youth often come down to sit on the sides of the boat, but they stay silent and only watch.

9.1.5 Medical segregation

The health workers implement their work following a strategy of complete disjunction with the native medical system. They do not act in concordance with the native practitioners (shamans and midwives) or the native knowledge. The workers also do not explore the native health and disease knowledge or practices. They are generally ignorant of the details of native healing and concepts of health and well-being.

Biomedicine is implemented intact and with no support or integration with the native system, even for patients that are known to be under the care of both systems. The workers have cordial and friendly relations with the shamans but they never act together for biomedical care.

There is no competition between the two systems or between the practitioners. On the contrary, the shamans are the primary individuals with whom the workers interact because they speak Portuguese. For instance, in Santa Júlia village, Sapo (shaman) is the leading mediator with the health workers. Benedito, the chief, or Jorge, the lay health monitor (AIS), have less prominent roles as habitual mediators. Also, I never heard permanent staff openly oppose or censure the native medical system in public situations, including between themselves or with me.

The workers adduce that the disjunction of the two medical systems is a form of respect for the native system. An alternative strategy of inclusiveness that involved the native practitioners in the health team's work could also be a form of demonstrating respect for the native medical system. Instead, the workers maintain a medical segregation. This potentially upholds the integrity of their own medical system.

The workers know very little about the native medical system. They only have a diffuse certainty that villagers attest the existence of sorcery (*dori*) as a frequent etiology of disease.

9.1.6 No adaptation to native medical structures

There is virtually no adaptation of health care delivery to the native medical structures. The claim of a universal truth value for biomedicine is implemented through the execution of a uniform set of practices in a context of differing native practices. The universal value of biomedical knowledge is expressed as a unity of practice.

Some of the health workers do not seem to conceive a separation between the knowledge and the practices. For instance, Eduardo could not understand me when I tried to explore with him ideas about alternative drug delivery mechanisms to use with villagers.

For instance, patients rarely adhere to oral pill regimes. This is known to the permanent staff. I also found it documented in the ethnographies (e.g. Silva D. 1997; Pollock 1985). When I asked Mônica about this, she recognized that the workers are unsuccessful to persuade villagers to fulfill the oral pill treatments. When I asked her if she had ideas about how to resolve this, she had none. She said that all they could do was to continue to repeat their verbal exhortations to the villagers. Mônica does not think about drug delivery in alternative terms

An alternative parameter for devising new drug delivery methods could be to think about drug delivery in the context of the patients' native medical system. When Madiha native treatments involve medicinal substances, these are applied topically to the surface of the skin or location of the wound. Pollock (1985) explains that this is why Madiha are enthusiastic about injections. Consequently, the substitution of oral pills with injections is potentially an effective way of offering an alternative drug delivery mechanism that may be acceptable to the patient population.

The Base Post reports very high rates of immunization coverage. I witnessed a high amount of vaccination procedures on every trip. I would have the impression that most Madiha do not seem averse to injections, except for some children.

The exclusion of native medical practitioners, such as the shamans and midwives, potentially isolates the health team's work from the native sphere of practices that have medical value. For instance, the team's health education efforts are largely condensed into some basic exhortations pronounced during the introductory meeting when the team arrives in a village.

Even though the shamans are present at these meetings, they are not called upon as interpreters and they do not sit or stand with the biomedical professionals. If offered by a physician, the speeches may be delivered by an individual whom the villagers may have seen only once or twice before, if at all. Audience questions are never about health issues but about other sorts of concerns, such as the progress of a salary application or the arrival of promised goods.

Potentially, the health care interactions graft onto native illness behavior patterns. During health care interactions, patients behave in manners that show an obsequiousness to the Parsonian “sick role”. Patients appear remarkably submissive and pliant. They remain silent and still. They speak only when questioned. Yet, patients have not been exhaustively informed about the procedure and many times they are not consulting spontaneously, such as during preventive procedures. There may be many reasons for their behavior. One possibility is to consider that patients are behaving according to Madiha sickness behavior.

In view of Pollock’s (1985) description, patients may be enacting the native Madiha “sick role” during their interactions with the biomedical professionals. When Madiha are sick, says Pollock (1985), they become still and silent. The burden is on the native therapist to diagnose the disease and its etiology with very little input from the patient. The patient also remains still during treatments, while the native therapist conducts the necessary procedures on the body.

Many of the biomedical workers’ efforts do not match native medical practices. For example, this occurs for oral pill treatment regimes. In contrast, some health care interactions align with the biomedical workers’ desired separation of roles.

9.1.7 Neglect of local resources

There is a general neglect and exclusion of local health and public health resources, personnel and knowledge in the delivery organization. The neglect is expressed at all four levels of delivery.

The neglect of local resources is visible at the highest levels of administration. FUNASA administration offices are located in Rio Branco city and staffed by FUNASA employees. Many of the administration employees have been working for years for FUNASA, or the preceding organization SUCAM, before the transfer of Indian Health from FUNAI. Some are tenured federal employees who were originally hired by the government for a different job, years earlier. When FUNASA took over Indian Health, these employees were moved to positions in the health administration. For instance, the administrator of the CASAI during 2007 told me he had no background in health care. He had been hired originally to oversee stock management in the SUCAM warehouses.

Thus, some of the directors in the highest levels of FUNASA had experience only in public administration and had little prior knowledge of health care or public health. FUNASA constantly organized workshops in public health concepts and practices throughout the years for the personnel.

According to Mônica's response to the dentist, FUNASA does not show regard for the recommendations for service adjustments and improvements that are provided by the staff working in the delivery locations.

The neglect of local resources also occurs in the Base Post. As explained earlier, the workers in the health teams are only hired on precarious short-term temporary contracts. The health workers do not have access to a stable or lengthier employment commitment. The

employees who are local residents of Manoel Urbano city desire to establish themselves in the job and also to pursue career development and promotions.

Further, the major responsibilities for health work fall upon the professional ranks with the highest rates of turnover and vacancies in the Base Post. Despite the enduring presence of the local residents from trip to trip, they are barred from taking a more active and vigorous role due to the statutory preeminence awarded to the higher ranks. As a consequence, much work cannot be accomplished because these posts are often vacant and there is inconsistency from trip to trip in the staffing. Additionally, these posts are occupied only by young professionals with little or no prior work experience and little or no prior acquaintance with the target population. Therefore, they are thrust into the highest decision-making posts with no background or acquired proficiency. Meanwhile, the permanent staff are suppressed to act.

The neglect of local resources also occurs in the villages. The lay health monitors (AIS) play only a very minimal role in biomedical health care supply in the villages. They only have two primary roles during a health mission trip. They act as interpreters during medical consultations and village meetings, and they are supplied with gasoline in order to transport patients to the city in case of an emergency. They are also given a small box with some over-the-counter (prescription-free) drugs and vitamins for medicating sick villagers, and condoms and water purifier drops for distribution.

The lay health monitors (AIS) have no training in biomedicine or only minimally, consisting of participation in a two week course several years ago. They are not included in most of the health work carried out by the health team. The health team conducts most or a lot of its work in the villages without them during a trip.

The Base Post staff are concerned about the lay health monitors' lack of training in biomedicine. They never expressed to me a concern about improving the monitors' interpreting skills.

Finally, there is a neglect of the native medical system, as already detailed above. The village healers and midwives and their knowledge are excluded from the delivery of biomedical health care. The biomedical workers may express frustration when the villagers appear to not accept biomedical concepts or recommendations but they show no reciprocal openness to exploring the villagers' knowledge and practices regarding health and disease. This occurs in a social context in which biomedicine is the minority medicine. In the villages, the native medical system is dominant. Biomedicine only exists as a sporadic visitation of foreigners for a day or two every month and a half. As exemplified with the attempted rescue of the dying baby or the expectant mother, the villagers only resort to biomedicine after they have exhausted the options available in the native medical system. They are also disinclined to use biomedical facilities available in the cities. Under these circumstances, neglect of the native medical system is a systematic neglect of the villagers' primary medical system.

As a consequence, there is an organizational bias that systematically hinders the recruitment of local resources and encumbers the potential to involve the agendas of local actors in delivery.

9.1.8 Biases in epidemiological surveillance

The epidemiological indicators for the Base Post show a momentous prevalence of certain infectious diseases, as well as malnutrition and anemia, and very low or unreported rates for other diseases. For instance, infectious diseases (especially gastrointestinal parasites and sexually

transmitted diseases [STDs]) together with anemia and malnutrition accounted for 77% of the total of reported diseases for 2007 (PBMU 2007). The physicians reported 1150 cases of intestinal worms and parasites, and 42 cases of STDs in 2007. This represents 43% of the total reported diseases for that year (PBMU 2007). In turn, the physicians reported 453 cases of malnutrition and 508 cases of anemia in the same year. This represents 34% of the total reported diseases for 2007 (PBMU 2007).

The statistics on unreported diseases are also remarkable. Of the 150 disease categories available on the physicians' surveillance spreadsheets, 114 claimed zero cases for 2007 (PBMU 2007). If these are to be taken as indicators of prevalence, just to name a few, there were no cases of heart diseases, bronchitis, skin allergies, bone diseases, kidney diseases, genital organ diseases, mammary diseases, spontaneous abortions, pregnancy complications, perinatal complications, congenital malformations, traumatism, intoxications, accidents or injuries, and so on.

These results indicate a high prevalence of infectious diseases and parasitic infestations, as well as malnutrition. The results also report a low or unreported prevalence of numerous diseases.

It is possible that results are influenced by a potential reporting bias associated with the conditions for the detection of disease.

The epidemiological data are obtained from the physicians' and dentists' trip reports. The data are not produced through independent surveillance. Cases that are not detected by these two professionals go unreported. This occurs, for instance, for cases that occur when the health team is not in the village, cases that occur when villagers are traveling (e.g., in the city or elsewhere), or if either of these two professionals are not present on a trip.

Most non-infectious diseases are not detectable with the existing reporting methods, many diseases with subclinical symptoms are not detectable for lack of diagnostic equipment, and the physicians' encounter with diseases only occur through patients' spontaneous consultations.

Physicians do not have access to sophisticated diagnostic equipment. The physicians have very few tools. Their instruments only detect basic vital signs. The physicians do not have access to imaging technology. They do not have access to blood, urine or stool tests. They must construct diagnoses based only on clinical information obtained through translated patient interrogation and personal observation. Many diseases are fated to remain blank in the surveillance spreadsheets.

Dentists do not have access to sophisticated diagnostic equipment either. They also must construct diagnosis based on clinical observation. They do not make use of translators. The dentists must construct diagnosis and carry out a treatment with only one clinical observation. The dentists are usually recent graduates with little accumulated experience who must work alone and who cannot confer or postpone diagnosis.

Reporting of oral health rates is additionally skewed by the infrequent presence of the dentist. There is a chronic lack of dentists in the region. The villages may receive the visit of a dentist only once in a year. For instance, the epidemiological data for 2007 reports 96 cases of dental caries during March, and no other cases at all for the rest of the year or of any other oral disease (PBMU 2007). Though I did not confer this with the Polo Base staff, it seems to me that this information probably reflects that the villages received the visit of a dentist only during March of that year.

Similarly, physicians must generate diagnosis and prescribe a treatment with a single clinical encounter. They must work alone. They cannot share their diagnoses or opinions with peers and they cannot refer the patient. Most physicians are also recent graduates and have little accumulated clinical experience. I observed Eduardo continuously consulting his handbooks. There is also little opportunity for follow up. There is a very high turnover of physicians and most physicians only participate in a few trips. Diagnosis or treatment cannot be delayed pending observation of the evolution of the case. The physicians are general practitioners. They are not specialists and cannot provide specialist diagnoses or treatments.

The physicians' reports show a concentration on infectious diseases, malnutrition and anemia. It seems to me that this occurs because these are the diseases that can be detected with clinical observation. The reporting of other diseases is left blank. This may create an impression that certain diseases are absent from the village, when the physician was unable to detect them. A despairing image of prevalent preventable infectious diseases and malnutrition emerges from the reporting bias.

This image influences planners in the administration offices, who rely on the reported data to program future interventions and resource allocation. They come to believe, as they told me in interviews, that the main health problems of the Indigenous populations are common infectious diseases that result from poor hygiene and malnutrition. The FUNASA administration responds by supplying antibiotics, investing in the construction of water sanitation projects, and distributing industrial food items.

Meanwhile, a vast number of diseases which may have very high rates of prevalence are potentially going undetected, or subdetected, and unaddressed. For instance, my observations of daily labor chores made me suspect that villagers would have high rates of occupational diseases.

I suspected the men would have high rates of injury because they are constantly wielding sharp instruments. I could see the scars and wounds on many people. I suspected the women would have high rates of back pain and muscular pain because they are constantly carrying loads in baskets strapped to their heads, chopping logs for firewood, and carrying children. When I asked Mônica about this, she confirmed that the women complain about this a lot.

However, injury and accidents are scarcely reported. For example, no cases of injury were reported for 2007 (PBMU 2007). Similarly, there were only 14 cases of muscular and back pain reported for 2007, and 13 cases for 2008 (PBMU 2008, 2007).

9.1.9 The infectious disease paradigm

Medical work and detection of diseases is performed by individuals with very little or no prior knowledge of the living conditions of the population and of their reported epidemiological profile. It is possible that physicians and other workers may expect to find certain diseases based on their prevalence in other locations.

I will describe an example of a medical consultation in order to illustrate how diagnosis was performed on a specific occasion. The health team had arrived in Nova Ipiranga village the afternoon of Monday, March 22, 2010. No routine health actions would be carried out there that day. Not long after arriving, Eduardo, the physician, was called to provide urgent care for a youth who was sick and lying in his hammock. The physician and nurse immediately walked up to the youth's house. I accompanied them. We arrived at the house. A woman was butchering a turtle and boiling the meat over a log fire. The young man who had summoned the physician went into the bedroom. We climbed up and sat in the porch/common area of the house. He came

out with a muscular, but temporarily frail, young man who could barely walk. The debilitated youth immediately lay down on a hammock.

The physician began to enquire about the symptoms. The healthy young man relayed translations. Responding to the physician's questions, the patient touched various parts of his chest. The interpreter told the physician that the youth said he felt "pain all over". The physician then examined him physically. The patient's responses were ambiguous. The patient felt pain in all those locations, perhaps more acutely in the middle of the abdomen. The nurse also examined the patient but she remained silent and did not offer a diagnosis.

Faced with what to me were vague and non-specific symptoms, the physician commented with the nurse that he thought it might be leptospirosis (*leptospirose*). He said he thought that the pain in the middle of the abdomen and patient's back might be from the kidneys. He then informed the two youths that the disease came from rats that live in the forest.

Leptospirosis is a bacterial infection. It can affect mammals and may be transmitted from one species to another (Schelotto et al. 2012; Ragnaud et al. 1994). Leptospirosis symptoms are very broad and non-specific. They involve flu-like symptoms: fever, chills, headache, muscle ache, vomiting, abdominal pain, and rash (Schelotto et al. 2012; Ragnaud et al. 1994). The infection is sometimes misdiagnosed due to the non-specific and wide range of symptoms (Schelotto et al. 2012).

Having concluded his diagnosis, the physician prescribed antibiotics. The nurse sent the healthy youth down to the boat with a written note. He returned a little while later, when it was already dark. He brought a flashlight, surgical gloves, needles and some medicine bottles. Illuminated by the flashlight, the nurse prepared the injection and applied the medication to the

ailing youth. The next day, I heard the physician comment with the nurse that the youth had indeed contracted leptospirosis because he was feeling better this morning.

In this example, the patient describes only very vague and imprecise symptoms, as far as the translation is reliable. The physician cannot determine any specific location of acute pain, except for the middle of the abdomen. No other diagnostic tests are performed. The physician concludes that these broad symptoms are due to leptospirosis and that the abdominal pain is nephritic. Leptospirosis can be identified accurately with blood tests (Schelotto et al. 2012). However, these tests are not available to the physician during a trip. The nurse accepted the physician's diagnosis, leaving the leptospirosis infection hypothesis unchallenged.

The physician later confirmed the diagnosis on the basis of the success of the therapy. He had prescribed antibiotics which, although they are appropriate for treating leptospirosis, they are simultaneously effective against a wide number of other bacterial infections that display similar symptoms.

I did not pursue with Eduardo (physician) an interrogation of his diagnosis or treatment. Though no doubt accurate, diagnosis relies on conditions that included a scarcity of equipment and interpreted communications. Eduardo had never worked with Indians before and did not have information about the reported prevalent diseases. He had told me several times in conversations that he wished he had received some type of preparation in the epidemiology of this population. When I checked later, no cases for leptospirosis were reported in the epidemiological data for 2007 or 2008 (Consolidado PBMU 2008; Consolidado PBMU 2007).

I include the example to show how the physician must diagnose on the basis of broad descriptions of symptoms and little access to equipment. Additionally, due to their career stage at

the time of employment, they may have little accumulated experience of medical work with this population or location.

9.1.10 No development of local infrastructure

The missionary model is focused almost exclusively on delivery. Health is a foreign good that is transferred to the recipient population. The existing model does very little to develop the local infrastructure to deal with health problems.

A public health approach would attempt to strengthen the local infrastructure to improve the conditions that would inhibit the emergence of disease and provide immediate responses that would inhibit disease progression. The existing delivery model, though, is based on a medical approach. It mostly acts upon individuals, not upon structural conditions.

An example of the medical approach to prevention occurs with the high reported rates of malnutrition and anemia. FUNASA's solution to this problem is to hand out food baskets with industrial dry food items to each individual family. Though it is very difficult to draw comparative conclusions from the statistical data because the indicators measured are not identical from year to year, it would appear that this strategy has not significantly reduced the prevalence of malnutrition. In 2005, 292 cases of anemia and 7 cases of malnutrition were reported for a population of 454 people (FUNASA 2005). In 2007, the figures were 455 cases of malnutrition and 508 cases of anemia, for a population of probably just over 500 people (the total population is not provided in the reports) (PBMU 2007).

The delivery of food baskets to individual families does not address the structural conditions of malnutrition. That is, it does nothing to improve the population's potential to improve or increase their autonomous production of foods. Madiha diet is based on hunted game,

fishing and garden produce. Madiha report an escalating depletion of game in the Purus River region. In recent years, they have been conducting hunting expeditions in the Chandless River region with increasing frequency.

An example of a public health approach to malnutrition would involve the attempt to protect the lands from deforestation and colonization, and safeguard the Indigenous population's access to the natural resources. This includes halting or controlling the river merchants' illegal traffic in endangered species.

Another example of the medical approach to prevention occurs with the high reported rates of infectious diseases and parasite infestations. FUNASA's solution to this problem is to provide antibiotics and antiparasitic drugs to sick individuals. This strategy attempts to reduce infection and infestation rates by treating individuals and not the context of infection. The administration of antibiotics and antiparasitic drugs to sick individuals potentially does not stop the cycle of infection. Individuals have a chance to receive antibiotics and other drugs once every few weeks when the health team is in their village. However, this may only create a temporary recession as disease rates may resume very shortly afterwards. The reported data indicates that prevalence rates are stable for these diseases from trip to trip. For example, the number of cases of gastroenteric infections was fairly stable from month to month in 2007. There were 15, 20, 17, 7, 22, 21, and 16 cases from January to August, respectively, with no cases reported for July (PMBU 2007). Similarly, lice, scabies, mites (acariasis) and other infestations were also fairly stable from month to month. There were 52, 42, 24, 45, and 3 cases reported from January to May 2007, and no cases reported for the rest of the year. (No diseases of any sort are reported from September to December, possibly indicating that a physician was not present in the villages for the last part of the year).

FUNASA has attempted to control water-borne diseases with sanitation engineering. In principle, these projects have a public health approach. They fail, however, because of poor engineering or poor sensitivity to the target population's preferences. Villagers claim interest to have access to drinking water. They do not seem to care for the other uses (showers and toilets).

The lack of development of the local infrastructure to prevent and resolve disease is manifest during emergency situations. The villages have practically no resources to attend emergency crises. The lay health monitors (AIS) are not sufficiently trained to provide biomedical care. They are only supplied with some gasoline to transport a patient to the city. The Base Post also does not have adequate resources to conduct emergency rescues. The Base Post had lacked a small aluminum boat for two years at the time I left the field.

The lack of development of a local infrastructure creates reliance on referral of patients to urban health care facilities. Referral is not a realistic option for Madiha. They are reluctant to use the urban facilities. This is especially worth considering for chronic diseases. Patients with chronic conditions, such as Hepatitis B carriers or tuberculosis, can expect very long treatments that last for months. They do not want to spend such a long time away.

9.1.11 Moral reversal: the superior value of local residents

The permanent staff experience a moral reversal regarding their value as local residents. The Base Post permanent staff occupy the ambiguous position of representing a foreign organization while simultaneously recognizing the closer moral ties they have with the target population with whom they interact more frequently and with more intimacy compared with the incoming transient staff.

As explained before, the model is founded on a supremacy of foreign knowledge and resources. These elements have practical and cognitive preeminence in the delivery of health care in the villages. However, the permanent staff do not also articulate the foreign actors (other workers) as moral authorities. The permanent staff perceive themselves as more morally and pragmatically qualified for the tasks than the workers or administrators who have less close ties to the locality.

The moral superiority of the permanent staff is grounded on their accrued duration in the job. The permanent staff consider that they establish better social relations with the patient populations compared with the transient staff.

The permanent staff members' comments convey that the villagers' trust is not accessible, or not as readily accessible, to newly arrived workers. The permanent staff express that consent is achieved with long-term interactions with the villagers. Only the permanent staff can access this criterion.

Mônica also ascertains a technical superiority of the permanent staff in her informal interview. She says that the conditions for the work require learning and adaptation. The work has a number of unique and specific characteristics that require accumulated interactions and experience. The constant turnover of professionals does not allow them to acquire these skills and adversely affects the quality of the work.

The permanent staff also express their moral superiority in the success of their harmonious social relations with one another. For example, recall that Jorge expressed in the semi-structured interview that the permanent local staff were more trustworthy and not involved in intrigues and gossip against one another. In her interview, Rafaela had said that the permanent staff were like a family.

In this sense, the quality of a worker's sociability with the other workers is fundamental for their moral evaluation of the individual. I was made aware of the extent and importance of this when one of the boat pilots commented with me about a bad man who once traveled with them. The boat pilot was telling me how "some people are evil". I was instantly curious to know what kind of evil he meant. The boat pilot explained that a man had once traveled with them on the boat. The man had embarked on the trip with a number of books. He had spent the whole trip reading his books, alone and engrossed. The man only left aside his books for meals. The boat pilot ended the description repeating his amazement at how bad some people are.

This description was an eye opener to me. On the boat, such individualistic behavior is apparently viewed very negatively. With the boat pilot's remarks, I realized that the vast amount of time that the workers spend gossiping, performatively creates the clique intimacy of the boat. The gossip does not assert intimacy only because of the collusion implicit in the contents of the speech, but also because the act of speaking to one another performatively affirms the status of the speakers as equals. The feat of these interactions is the performative creation of a social group of equals.

It seems possible that the man who spent his time alone reading books is immoral and evil because he did not integrate into the community of equals. He asserted his dissimilarity. His evil deed of reading books proclaimed his social, and perhaps even class, difference. By spending all his time reading and never socializing, the man risked judgment as conceited and proud.

The status equality between health workers is also accomplished through the robust endurance of the risks and hardships involved in the trips. During fieldwork, I constantly had the impression that the permanent staff members' endurance of these hardships was evaluated

morally as a form of heroism. The workers tolerate a number of austerities on every trip. The space is very cramped, the workers can only travel with a limited amount of baggage, the pium-flies are infernal, and the workers are isolated from contact with their families and friends for extended lengths of time. The resilience to endure these working conditions asserts their equality with one another and their qualifications for this type of work.

I can recall many examples of these conversations, but I will cite one which is exemplary. During my first trip, there was a young dentist who was on her second trip to the villages. Early in the trip, as the boat was still making its way to the first village, I heard the nurse gossip with the nursing technicians how the dentist had brought with her a pack of bottles with her own personal supply of bottled mineral drinking water. The remark was made with some gentle scorn and smirking. The boat already travels with large flasks of mineral water, so the remark made some sense to point out the dentist's apparently excessive attachment to luxury. However, it turned out that she did not bring the bottles for drinking and the nurse had been prejudiced to judge her. When the nursing technicians asked her later, the dentist explained that she needed the water for the dental operations, so she could have clean sterile water to use in the dental procedures. She needed the little bottles because the portable machine that releases a flow of water into the patient's mouth draws water from bottles that size.

The only time in which the workers indulge in individual comforts and luxuries is when they are in bed. This is the only time in the schedule in which they are alone and sociability is suspended. This is the only time in which individualistic behaviors, such as reading books, occur.

9.1.12 Integration into villagers' activities

As opposed to a standard opinion in medical ethics that information and communication of contents between health workers and patients is a desirable form of developing patient consent (“informed consent”), the Base Post permanent staff utilize a strategy of creating trust bonds through informal sociability. The permanent staff do not seek consent through an attempt to convince villagers of the truth validity of biomedical knowledge or through explanations that will demonstrate the reasonability of the workers' recommendations. Instead, they try to assimilate to the villagers' recreational activities, such as participation in men's and women's soccer games.

With this in mind, it is necessary to clarify that the health workers do not pursue outright moral equality through full reciprocity. Although the permanent staff state that they attempt to integrate villagers' recreational activities as a technique to develop trust, they do not integrate the villagers reciprocally into their own recreational moments on the boat. The workers potentially do not wish to fully dissolve their status difference with the villagers, though they are aware that some measure of dissolution is necessary to accomplish the tasks.

9.1.13 Conclusion

The traveling health care teams operate as health missions. In the locations of delivery, they provide primary medical care and preventive screening and immunizations. They travel to the locations of delivery, transporting all their personnel, equipment and resources. This model of delivery is fraught with organizational features that render it logistically cumbersome, difficult to staff, and foreign to the beneficiary target population.

This delivery model is not a response to the expressed needs of the target population. It is an unsolicited form of help. It is not designed on the basis of an exhaustive understanding of the local living and working conditions of the target population and does not address many of the sources of health and disease problems.

The model ignores the medical and public health resources that exist at the local level. There is a separation of the two medical systems. There is no collaboration with the native healers and midwives. The neglect of local workers and their knowledge is reiterated all the way up the planning and administration hierarchy.

Biomedical health care is a minority practice that appears in the villages for one or two days every six weeks. The model involves an intact transfer of resources, personnel and knowledge from one location to another. The personnel focus their efforts on the replicated performance of technical procedures, executing rigid role behaviors that include little communications with patients.

This format of health care delivery creates unique forms of social interaction between health workers with the beneficiary population and among themselves.

The work conditions foster clique sociability between the workers during a trip. This form of sociability is continued in their interactions in the Base Post office in Manoel Urbano city. The general configuration of interaction is patterned as equality of rank and equality of action. That is, most actions are identical and have equal rank. Participation in this form of interaction has a moral value attached to it.

The moral integrity of the members of the clique is asserted concentrically. Newcomers or transient professionals are expected to show that they can withstand the work conditions. For the permanent staff, the trips are ordeals that test the moral mettle of participants.

This format of health care delivery fosters a form of sociability with villagers which shape an identity of the health workers as foreign allies. This occurs in the villages, when the health workers visit the Madiha settlements, and also in Manoel Urbano city, when the villagers travel to the city.

The permanent staff have become trustees of the villagers, in practice, in many of their mediations with government or other institutions when the villagers travel to the city. In the city, the permanent staff help Madiha individuals in numerous ways, such as helping them to acquire documentation, avoid deceitful purchases, and other forms of representation or assistance. Many Madiha cannot speak Portuguese, read or write, or feel comfortable with cash money or debit cards. In the city, the Base Post staff often act as the villagers' mediators for purchases, government documentation and other needs.

10.0 CONCLUSION

In this chapter I will summarize the main theoretical points that have been made on the basis of the observation of the ethnographic materials. I will respond to the research questions and provide some general statements and discussions that highlight some precisions in the concept of agency. I will respond here to the guiding question of this dissertation of what characterizes the agency of health workers in a medical mission for Amazonian Indians.

10.1 THE BABY'S EMERGENCY: A CRISIS OF THE "AGENCY RELATION"

The crisis of the baby in Boaçu village revealed a key problem in the conventional theory of agency as a property of actors. The health workers could not act for lack of parental consent to transport the baby. The parents would not consent to the use of the only available transport means and the health workers lacked alternative equipment to provide other forms of emergency care or transport. The health workers' incapacity and inability to act ensued from their requirement to establish a particular type of relationship with the patient faction in order to pursue a set of goals.

The observation of health workers shows that the agency they employ in health care interactions ensues from the relationship they establish with patients, co-workers and not only from a particular body of knowledge and technology. Since health workers act in the benefit of

others, their agency cannot be understood as grounded exclusively in self-interest and personal resources. When actions require the endorsement or collaboration of other actors, agency is achieved through the mutual engagement of actors with one another.

The case of the baby's emergency highlighted this point because the actions of each of the two types of actors showed behaviors that could be interpreted as signs of agency. The health workers attempted to address the baby's crisis showing initiative, strategic calculation, and creativity. In turn, the patient faction showed autonomy for medical decisions, well-defined formulation of their concerns, and exercise of choice when offered a therapeutic option. However, the two factions could not come to an agreement and the health workers were not able to accomplish their goal to save the baby's life.

The agency of health workers can be understood in terms of an "agency relation". In that case, agency is a result of a relation in which one party acts in the interests of the other party. In an "agency relation", the intentionality of the agent's acts involves the enactment of the principal's intentions. That is, the purpose or directionality of the agent's acts implements the principal's desires or will.

A core theoretical characteristic of the conventional model of agency as a property is the indistinction between the purpose of action and the will of the actors. The example of health workers who act according to the intentions of others shows that the two aspects can be separate.

In principle, the health workers' actions or attempted actions are understandable in the context of an attempt to pursue the patient's interests. In the "agency relation" the agent's agency relies on achieving the principal's consent. The principal's consent establishes the status of the other actor as an "agent". Agency ensues from that status.

During the baby's emergency: the physician was unsuccessful to establish an "agency relation" with the patient faction. He attempted to achieve "informed consent". He engaged in detailed anatomical and physiological explanations of blood circulation, unsuccessfully trying to use knowledge as the basis of the relation. Yet, I never heard the villagers express that concern. I heard them say that they disagreed due to the state of the baby for travel.

Agency is identifiable when the nurse takes the decision to rush off to call for a rescue airplane. Her action appears entrepreneurial and strategic. Yet, it is not independent or autonomous. The action responds to an enactment of the patient faction's concerns. It is a response to their decline to accept the option of aluminum boat travel. The villagers would not consent to the available means of transport. The nurse's action attempts an enactment of the patient faction's desire, in the sense that she responds to their objection to the proposed travel conditions. She would be executing an "agency relation". The nurse's action becomes identifiable as agency because her action has the desired social value.

The baby's emergency suggests that there was a crisis in the "agency relation". The health workers could not achieve the desired status. Agency is identifiable when one of the health workers acts upon the patient faction's concerns.

10.2 RESEARCH QUESTION RESULTS

10.2.1 The value of the actor: intentionality and the counter-role

The orientation of action towards a counter-role establishes the value or status of the actor as a legitimate actor. When actors orient their actions towards another actor, i.e., when they act with

another actor in mind, they establish a role differentiation that determines the relative status of each actor in the relationship.

In social theory, the understanding of social action as action oriented towards another actor has been historically considered a unique quality of human action. For instance, Weber (1978) emphasizes this characteristic to argue against behaviorist social science that excludes subjective meaning from attempts to understand human action.

For Giddens (1984), intentionality is a cardinal aspect of human behavior that distinguishes it from the behavior of other types of beings. This characteristic is habitually known as “human agency”, as opposed to an agency that would be mechanical or non-intentional.

In this dissertation, I wish to recall the inverse implication of this understanding. Namely, that intentionality establishes the status of the actor. When sociologists attribute intentionality to an actor’s action, they are implying that the actor is a legitimate human being endowed with that cardinal aspect of the human condition: an ability to act with intentionality.

In social practice, intentionality provides the actor with a way of constituting himself or herself as a particular legitimate actor. The actor’s directionality of action is a performative, and potentially conscious, manner of constituting himself or herself as a particular type of actor. The actor can create social value or status through the directed actions.

The observation of the health mission workers shows that they orient their actions towards a counter-role occupied by the villagers. They construe their status as health workers during their verbal interactions with one another and potentially also the performance of their work and leisure.

In interactions with Madiha villagers in the work space, they occupy a central position and they regulate the flow of substances and communications. They manipulate a specific set of tools, apply a specific body of knowledge and employ a specific set of skills. The orientation of their actions towards a counter-role implicitly establishes their own role in the relationship. The directionality of their actions imply, not just that villagers are patients, but also that they are health workers. The directionality of their actions establishes their value as legitimate actors.

In the domestic space, the intentionality of the health mission workers' actions may establish their status to one another as equals and as different from villagers. On the boat, their actions are not oriented towards a counter-role that is present in the physical space. Their actions appear fairly identical. The actions appear to emphasize their sameness to one another. The counter-role, instead, may be located outside of the domestic space. The counter-role may remain only implicit when they are alone with one another in the domestic space, but it comes alive when villagers attempt to integrate the health workers' domestic space. On those occasions, the villagers are not integrated into the domestic activities as equals.

The counter-role is possibly also manifest in the health workers' spontaneous conversations with each other in the domestic space. Usually, the health mission workers' conversations emphasize their social similarity to each other. When they talk about the villagers, they may position themselves as their trustees.

Capacity to act references the actor's relative social position or status compared to the other actors. Capacity to act is an indicator of how the actor is socially situated relative to the other actors. In the case of the health mission workers, their capacity to act identifies their social position as health workers compared to the villagers, who occupy the status of patients.

The health workers' agency, understood as capacity to act, indexes their social status relative to the patients. This type of agency cannot be understood independently from the social relations it references. Instead, it emerges from those patterned relations because they distribute the role behaviors that are executed in the directed actions.

10.2.2 The value of the act: functionality and the use of resources

The use of resources establishes the value of the act. Resources, such as material tools or forms of knowledge, determine the functionality of the action. The functionality of the action is the purpose. Resources are only recognizable as such so long as they are functional.

Health mission workers make use of a particular set of tools and skills in their interactions with villagers in the work space. These tools and skills render the interaction comprehensible as medical acts, and more specifically, acts of biomedicine. The particular manner of using these tools determines the purpose of the interaction.

These tools are not wielded in the leisure interactions in the workers' domestic space. Instead, other instruments, such as cutlery and crockery, playing cards, or the television and DVD player, determine the function of the interactions in the domestic space.

Therefore, functionality indicates the actor's ability to act. Ability to act references the relative value of resources to accomplish the purpose of the action. Ability to act indicates how the resources are situated relative to the purpose or intent of the action. In the case of the health mission workers, their ability to act as health workers identifies the amount, quality and types of biomedical technologies and knowledge they can wield in health care interactions.

The health workers' agency, understood as ability to act, indicates the relative value of resources to accomplish action goals. This type of agency cannot be understood independently

from the purpose of action it references. Instead, it transpires from the purpose because that is what determines the utility of the resource.

10.3 AGENCY OF HEALTH MISSION WORKERS

The interviews and participant observations provide indications that the value of resources and the value of social position or status depend on who is interacting with who. This means that statements or understandings of agency are not fixed, whether to the actor or to the resources. Rather, they are circumstantially anchored to a particular interaction. Therefore, notions of agency, i.e., notions of capacities and abilities, are indexical. They acquire meaning only in the context of specific relations of actors to one another and to resources.

For instance, the interviews provide indications that the value of resources and the value of the status of the actors in interactions with villagers are different for permanent staff and transient staff. The same set of resources, such as biomedical knowledge or educational credentials, has a different value according to a worker's duration in the job. Likewise, the relative degree of camaraderie with villagers also has a different value according to a worker's duration in the job.

Similarly, the health workers and the villagers did not agree on the value of the aluminum boat as an acceptable transport means during the episode of the dying baby. The same resource had a different value, as each faction perceived its utility according to a different standard of evaluation. For the health workers, the baby's critical condition urged them to utilize the available means in order not to lose time. For the villagers, the baby's critical condition cautioned them to avoid using the available means, given the baby's condition.

The brief examples provided above illustrate that capacity and ability are not characteristics of the resources or of the actors, but of how such elements are evaluated in a particular context.

In the missionary enterprise, the relative value of biomedical resources and of camaraderie with the patient faction changes according to the social space of interaction. The value of these elements varies depending on who the health mission workers interact with in each social space and the purpose of the interaction.

For the health mission workers, interactions in the work space highlight their status as outsiders skilled and equipped with foreign technologies and knowledge. In this social space, the foreign status dominates the interaction. Here, their interactions with co-workers and with villagers follow strict behavioral routines that display the workers' association with biomedicine. Their interactions with villagers are typically procedural and silent, responding to an unambiguous distinction of roles. Their interactions between professionals and assistants in a team are also procedural and silent displaying, not just role difference, but also the fact that both parties are aware of the meaning of the other's actions and can respond without need of verbal communication. In this space, capacities and abilities rely on the foreign status of the tools, procedures and workers. Coherently, the workers express a desire to increase their access to such equipment and materials. That is, the foreign status of the resources and workers provides their value. In this space, the workers' agency indexes their status as foreigners.

In the health mission workers' domestic space, a similar configuration is observable. Their behaviors, conversations and routines show that they constantly assert their social similarity to one another and that their home is elsewhere, in Manoel Urbano city. The assertion of their similarity implicitly contrasts them to the villagers. Their separation from villagers is

identifiable in their conversations about them, but also when villagers attempt to integrate this space. When villagers come to the workers' domestic space, behavioral routines and a different use of the same resources (such as plates, food or chairs) emphasize their perception of the villagers' status as different to theirs.

However, the missionary enterprise is vexed by a structural paradox. It is ineffective for health workers only to assert their difference with villagers in order to implement their work agenda. Health mission workers are poised in a social context in which they cannot draw attention only to their biomedical qualifications and skills, and to their similarity with one another, in order to achieve competence. In fact, the workers with a longer time frame of experience in the job expressly note that doing so is counter-productive.

Given that they work among a social group noted for its difference, the missionaries cannot use their biomedical status as an entitlement to implement their agenda. The health workers' access to the missionary status depends on their representation of a foreign medical system that, in their view, promises to resolve the patients' health problems. It doesn't use local resources or local knowledge. This difference reduces the missionaries' potential to access a local status among the patients as legitimate healers. The health workers perceive themselves as legitimate biomedical workers due to the foreign knowledge and skills that they import into the villages, but the otherness of such knowledge and skills simultaneously is an obstacle to local reception.

During the crisis of the dying baby, the physician attempted to access the desired status by explaining in detail blood circulatory physiology to representatives of the patient faction. That is, he tried to use his expertise as a representative of biomedical knowledge to achieve consent.

This approach is known as “informed consent”, and is habitually touted as a desirable strategy. Yet, in this context, it did not work.

The health mission workers with a longer time frame of acquaintance with the job, such as the permanent staff, express that patient consent must be achieved through other mechanisms, and not through the ostentation of the workers’ status as representatives of biomedicine. In this case, they realize that they must assert their similarity to the patient faction in order to acquire the desired legitimacy. They do this by attempting, though not extensively, to participate as equals in the patients’ domestic space. In particular, they find it useful to participate in villagers’ recreational activities.

The health mission workers’ reception requires them to participate in three different social spaces. The behaviors in the spaces acquire legitimacy from relations in the other spaces. They mutually reference each other. The health workers’ legitimacy as biomedical representatives matters in their mutual relations with co-workers, which they construct in their domestic space on the boat. The health workers’ legitimacy among the villagers to carry out biomedical procedures, instead, is obtained from their association with villagers in the villagers’ domestic space. In the work space, the workers’ actions reference two different domestic spaces. The legitimacy of the acts in the work space is derived from social spaces that are different for the patients than for the co-workers. That is, the workers’ agency references or remits to a different type of relationship for each type of participant.

Thus, the value of the resources and the value of the actors remit to particular relations that are contextual and therefore not independent properties of the resources or actors.

10.4 SPACES OF ROLE PERFORMANCE

10.4.1 Front and backstage

In many ways, the health workers' constant oscillation of behaviors between each of the two or three core social spaces of a health mission trip suggest a front and backstage type of interaction structure, similar to that posed by Goffman (1959). The behavior patterns for the work space may appear as a form of front and the workers' convivial interactions in the domestic space as a form of backstage. In each of these spaces, health workers behave in ways that convey conformity with their role as health missionaries.

Goffman presents a model in which individuals manipulate their social image in order to induce impressions in their audience. The individual in Goffman's model is an entrepreneur of impression management. He states that, "as performers we are merchants of morality" (1959:251). Goffman says that the "performed self" is a "kind of image, usually creditable, which the individual on stage and in character effectively attempts to induce others to hold in regard to him" (1959:252). Individuals observed by an audience of observers can "reorient their frame of reference and devote their efforts to the creation of desired impressions" (1959:250).

In this way, a social actor's performance of a role has a communicative function. Goffman explains that, "activity oriented towards work-tasks tends to be converted into activity oriented towards communication" (1959:65). That is, expression of an activity can be "treated in terms of the communicative role it plays during social interaction" (1959:248).

Goffman further adds that impression management is a collaborative effort in which teams of individuals collude to jointly create a certain impression in others defined as an

audience. The team members make use of the limitations of the audience's perspective in order to sustain their performance.

Goffman says that, "a social establishment is any place surrounded by fixed barriers to perception in which a particular kind of activity regularly takes place. [...] Within the walls of a social establishment we find a team of performers who cooperate to present to an audience a given definition of the situation. This will include the conception of own team and of audience" (1959:238).

The behavior of the team members differ when the audience is present from when the audience is absent. Goffman calls these two types of interaction "front" and "backstage". The presence of the audience induces the front performance, in which the performers' difference with the audience is stressed. When the audience is absent, the team members behave in ways that emphasize their complicity with one another, which he calls backstage. He says that,

We often find a division into a back region, where the performance of a routine is prepared, and front region, where the performance is presented. Access to these regions is controlled in order to prevent the audience from seeing backstage and to prevent outsiders from coming into a performance that is not addressed to them. Among members of the team we find that familiarity prevails, solidarity is likely to develop, and that secrets that could give the show away are shared and kept. [...] Typically, but not always, agreement is stressed and opposition is underplayed. The resulting working consensus tends to be contradicted by the attitude toward the audience which the performers express in the absence of the audience and by carefully controlled communication out of character conveyed by the performers while the audience is present (Goffman 1959:238).

During a health mission trip, the health workers behave in different manners in the work and domestic space. Similar to Goffman's model, the workers emphasize their difference with Madiha villagers in the work space. The work space appears as a form of front region. There, they carry out rigid role performances that highlight their status as biomedical professionals conducting health work and medical consultations. In contrast, the workers emphasize their similarity and solidarity with one another in the domestic space. The domestic space appears as a

form of back region. Coherent with Goffman's model, the health workers resist the Madiha villagers' attempts to integrate this space and to participate as equals.

Nonetheless, observations suggest that the behaviors of the domestic space are also rigid performances. Despite the conviviality and solidarity, the workers' behaviors appear to be just as structured as in the work space. Health mission workers appear subject to a moral pressure to conform to the sociality norms of the domestic space. Thus, they are also required to manage their social selves in this space in which their co-workers are their audience of reference.

Therefore, the utility of Goffman's model requires the clarification that the backstage is also a space of performance and not a place in which social rules or role behaviors are lax. Rather, interactions are defined just as rigidly in the domestic space as in the work space. The difference of behavior between each space is due to the change of each actor's audience of reference.

This understanding is reinforced by the observation that the only time in which the health mission workers engage in individualistic and dissimilar behaviors is when they are alone in bed and social interactions have been suspended. This is the only time in which they do not occupy a social role.

10.4.2 Role distance: situational agency

In Goffman's model, the social actor's entrepreneurial potential for impression management does not respond to an intrinsic trait but to socially created opportunities for maneuverability. Goffman underscores the difference between philosophical juridical models of the social actor from sociological models by explaining that social actors are enmeshed simultaneously in multiple role engagements, even when carrying out a single dominant activity. Goffman explains

that, “much of our legal framework, which imputes individual responsibility, deals with the individual as a historically continuous, uniquely identifiable entity, not as a person-in-role or a person as a set of role-slices” (1961:142 n. 45).

In this way, individuals can draw upon a variety of behavioral, moral and social selfhood parameters during the course of an activity. Goffman explains that “while manifestly participating in one system of roles, the individual will have some capacity to hold in abeyance his involvement in other patterns, thus sustaining one or more dormant roles that are enacted roles on other occasions” (1961:91). An individual’s enactment of dormant other roles during an activity creates an impression in the audience that he or she has some measure of detachment or distance from the dominant role.

For Goffman, “role distance is merely an extreme instance of expressions not a part of the self virtually available in a role, and that many other, less opposing, expressions can also occur. As long as the dominion of the situated role is not challenged, other role identities, ones different from but not necessarily opposed to the officially available self, can be sustained too.” (1961:133). Therefore, according to Goffman, “when the individual withdraws from a situated self he does not withdraw into some psychological world that he creates for himself but rather acts in the name of some other socially created identity” (1961:120).

The opportunities to depart from a dominant role and to create an impression of freedom are proportional to the degree of formalization of the role behaviors. Goffman says that, “the more extensive the trappings of a role, the more opportunity to display role distance” (1961:115). Or, in other words, “the liberty [an individual] takes in regard to a situated self is taken because of other, equally social, constraints” (1961:120). Goffman provides a telling example from the therapist and patient relation. He describes that, “from the therapist’s view of the patient’s

motivation, [...] resistance expresses some rejection of the constraints of one's role as patient" (1961:112). That is, sociologically, patient resistance is not an expression of an intrinsic emancipatory thrust, but the patient's deviation from one set of highly structured role formalities.

Consequently, the apparent freedom of individuals is an impression created by each social context's provision of opportunities to enact legitimate alternative roles. Goffman says about the individual that, "the image of him that is generated for him by the routine entailed in his mere participation—his virtual self in the context—is an image from which he apparently withdraws by actively manipulating the situation" (1961:107). Thus, the impression that an individual exercises freedom is created by his or her distancing from expected roles. Goffman adds, "the individual must be seen as someone who organizes his expressive situational behavior *in relation to* situated activity roles, but that in doing this he uses whatever means are at hand to introduce a margin of freedom and maneuverability, of pointed disidentification, between himself and the self virtually available for him in the situation" (1961:133, emphasis original).

The implication of Goffman's model is that the agency expressed by social actors is situational. Agency is tied to the role expectations of each particular activity. Expressions of freedom of action are enactments of alternative role sets that are carried out in the context of a dominant set of role expectations. That is, multiple activities or situations mutually reference one another in an actor's behaviors, creating the impression of freedom. The variation of behaviors creates an impression of a self that is somehow detached or detachable from the roles. This impression may be forged in the perception of the audience and also subjectively in the actor, but responds sociologically to the multiple role expectations that the actor simultaneously follows.

10.5 INTENTION AND INTENTIONALITY

Ortner's (2006) and Mahmood's (2006) models of agency both assume that there is a correspondence between the actor's agency and the social spaces of action. Both authors assume that social position and individual projects coalesce in the formation of the agent. The observation of health mission workers potentially suggests that this assumption does not hold for this type of social actor. Missionaries have an agency configuration that simultaneously references two different social spaces: that of their own society of origin and that of the society of execution of the missionary activities. Their missionary activities must find a way to show that they belong to both social spaces simultaneously or they will suffer from lack of legitimacy in one or both social spaces.

Ortner (2006) argues that agency emerges at the articulation of power relations and projects. According to her, social position creates desires and projects in individual actors, but also provides the power for implementing these projects. This view has difficulty to explain how missionaries reference multiple social positions simultaneously, including that of their dependents. If agency is an achievement that ensues from cooperation between dissimilar parties, when missionaries must establish an "agency relation" in order to act, their agency does not emerge from a partisan confluence of power and personal desires but when they are capable of articulating such power and projects simultaneously to those of their wards.

Mahmood (2006, 2001a) argues that agency is an effect of *habitus*. In her model, individuals engage in routinized practices that mold their dispositions to act. This view has difficulty to explain how missionaries need to engage with a multiplicity of disparate practices, which include those of their dependents. Missionaries must establish an "agency relation" with actors from a different social world in order to act. In their case, agency is an achievement that

ensues from an actor's skill to transcend the restrictions of a *habitus* and demonstrate plasticity to integrate disparate activities. Their agency does not emerge solely from perfecting their skills as expert foreign workers (e.g., concentrating on improving their skills to diagnose disease or to vaccinate), but when they are capable of articulating these practices simultaneously to those that will induce legitimacy in their wards (e.g., playing soccer) and which are not immediately relevant to their overt expertise.

In missionary activity the spaces of formation of the agent and exercise of agency are located in different social contexts. This creates a theoretical problem for more liberal models, such as Ortner's (2006), as well as for post-structuralist models, such as Mahmood's (2006). The spaces that create and support the legitimacy of the actor's projects are not the same spaces in which they then occupy the positions of power to execute those projects. The practices that form the agent do not coincide with the practices the agent executes.

Potentially, this theoretical problem occurs if Ortner (2006) and Mahmood (2006) conflate intention with intentionality. The conflation possibly occurs in Ortner (2006), as the two terms are co-referential in her exposition. For instance, she asserts that agency "takes shape as specific desires and intentions" (2006:110), later stating that "desires and motives" are "the stuff of intentionality" (2006:132).

Ortner defines intentionality as "a wide range of states, both cognitive and emotional, and at various levels of consciousness, that are directed forward toward some end" (2006:134). That is, "intentionality as a concept is meant to include all the ways in which action is cognitively and emotionally pointed toward some purpose" (2006:134, emphasis removed). She specifically states that "intentionality in agency" includes "plots and plans and schemes", "aims, goals, and ideals" and "desires, wants, and needs" (2006:134).

The conflation of “intentionality” with “intention” loses a precision in the two terms. The precision can explain how actors can purposefully carry out the desires of others. The conflation is between “intentionality” understood as the purposiveness of action, and “intention” understood as desire (Bratman 1984). That is, action that is not automatic and is carried out purposively is intentional action. The purposiveness or intentionality is a characteristic of the action, not of the cognitive state of the actor. This is not the same as intention, which is a plan or desire. Intention is a characteristic of the actor. Intention pertains to the cognitive state of the actor.

The relations between intentionality and intention have been debated in the philosophy of action (e.g., Bratman 1984). Here I will highlight the distinction in order to state that the conflation of the two terms is distinctive of the model of agency as a property of actors because such a model presumes that actors carry out their own intentions in their intentional actions. However, intention and intentionality are not connected by necessity and it is possible to carry out an intentional act by fulfilling someone else’s intentions. This is the core aspect of an “agency relation”, among other types of delegated forms of action.

Humans may be distinguished from other types of beings because they can carry out actions purposively, as opposed to automatically or instinctively. Whether such actions also coincide with their desires and aspirations is a separate matter.

In this dissertation, I argue that the purposiveness of action is referential. That is, intentionality remits to the agent’s position relative to another actor. I do not debate whether individual desires and aspirations are properties of an acting subject; but I do stress that they should not be conflated with the purposiveness of the action.

10.6 REVIEW OF THREE APPROACHES IN MEDICAL ANTHROPOLOGY STUDIES

10.6.1 Autonomy

Authors persuaded by the model of agency as a property of social actors may habitually associate agency with autonomy. An example of this is Koenig (2011). In his study of patient and physician interactions, Koenig (2011) identifies agency in patients' behaviors that he interprets as demonstrations of autonomy. These are behaviors in which the patient questions the physician or shows resistance to acceptance of protocols.

His interpretation relies on a model of social interaction as a contractual arrangement between actors already imbued with agency independently from the relation. This is why he signals autonomy when actors disagree with one another, as this is when they would assert their original pre-social condition of autonomy.

However, autonomy is never a property of entities but a qualification of their relations to other entities. Autonomy, like its opposite, dependency, is a qualification of how entities are related to one another. This is why autonomy is contingent on changes in relationships. When a relationship between entities changes, the entities may lose or gain autonomy relative to one another. This would not happen if autonomy was a given constitutive condition of an entity. Therefore, autonomy is not a characteristic of actions or actors, but of how they stand in relation to other acts or actors. Autonomy is an indicator of relative status.

Consequently, an actor's autonomy is a sign of his or her relative position in reference to other actors. Koenig's association of agency with autonomy would indicate the patient's status relative to the physician, not a pre-social constitutive condition of the patient.

Koenig's association of agency with autonomy would be a description of the patient's status in the relationship in terms of rights and duties. When Koenig asserts that the patient demonstrates agency by showing autonomy, I would say that he perceives the patient exercise rights that are unexpected or unusual in that type of relationship. That is, the patient is behaving according to a status that is not habitually associated with the role, or at least not in the way that Koenig habitually thinks about that role.

Therefore, the perception of agency is not a given condition of actors but an indicator of their status relative to other actors. The capacity to act, understood as legitimate status to act, is an evaluation of actors' rights and duties relative to one another.

10.6.2 Intentionality and intention

The conflation of intentionality and intention makes the "agency relation" in health care perplexing to authors persuaded by the model of agency as a property of actors. It makes the patient's role appear to involve submission and alienation. Authors feel obliged to find ways to explain or justify that patients preserve moral integrity in the relation.

An example of this is Tannassi (2004). In her study of expectant mothers and hospitalization, she recurs to the creation of two analytically different types of agency in order to explain how the women move from being owners of their acts and intentions before hospitalization to becoming compliant subjects willingly objectified upon hospitalization (Tanassi 2004:2055). She describes their original agency as "a bounded body that is able to act 'as the agent of one's embodied actions and intentions'" (Tanassi 2004:2055). Upon hospitalization, this type of agency is replaced by "embodied agency", which "refers to subjects

who, even though no longer agents of their own intentions, continued to see themselves on a trajectory of subjectification” (Tanassi 2004:2055).

Tanassi tries to justify the women’s compliance during hospitalization by explaining that the “mothers maintained a sense of agency throughout the pre-patient [and] the inpatient phase” (Tanassi 2004:2063, emphasis removed). During hospitalization, the mothers had a subjective “sense of agency enduring in the face of substantial objectification and lack of autonomous choice” (Tanassi 2004:2063). She explains that “embodied agency was retained as long as the actor had a sense of purpose” (Tanassi 2004:2063).

That is, the mothers retained a subjective sense of agency so long as they retained a sense of purpose for their actions. That is, so long as their actions were purposive, they perceived themselves as having agency. Thus, the mothers intuitively understood that agency was related to intentionality or purposiveness of action, and that it did not necessarily have to be associated with their personal intentions and desires, which they had relinquished upon hospitalization. During hospitalization they carry out the intentions of the hospital staff and know that they do so purposively.

As Tanassi never says so, I would explain that the patients undergo an apparent change in their agency when they are hospitalized because they enter into an “agency relation”. Before hospitalization, the women do not yet have an “agency relation” as they are pursuing the search of a physician. In that phase, their actions respond to their own intentions because they have not established a relation with another actor. Once they enter the hospital, the context of action changes with hospitalization. The actors’ relative statuses change as the women enter an “agency relation” with hospital staff. From then on, their actions are purposive but now respond to the intentions of the hospital staff.

In my view, there is no remarkable change in the women's agency, understood as ability for intentional or purposive action. What changes is that they carry out others' intentions, which is a characteristic of the "agency relation".

10.6.3 Subjectivity

The conflation of an actor's intentionality with his or her intentions may lead authors to assume a necessary association between agency and subjectivity. Ortner represents an example. She states, "I see subjectivity as the basis of 'agency'" (Ortner 2006:110). For her, agency "takes shape as specific desires and intentions within a matrix of subjectivity" (Ortner 2006:110). Subjectivity, for her, is "feelings, thoughts, and meanings" or "consciousness" (Ortner 2006:110).

Gunson (2010) exemplifies an association between agency and subjectivity. Gunson (2010) identifies agency in the use of ambivalent discourses as a productive strategy of self-definition. For Gunson, agency is evidenced in patients' use of ambivalent discourses to re-create their identities and understandings of bodily processes. She claims that patients construct their identity and meanings through the use of ambivalent discourses.

I think that Gunson (2010) perceives the use of ambivalences as a strategy of self-definition because she perceives an association of intentionality of action with intention. The reflexivity implied in Gunson's analysis takes for granted the subject's intention. For Gunson, the subject's intention, perhaps not fully conscious to the subject, is to develop his or her subjectivity through the intentional use of discourses. That is, she views the subject's purposive use of the discourses as an attempt to reconcile his or her experience of identity and meanings of bodily processes.

I would argue that subjectivity can be uncoupled from agency in some cases. By this I mean that an actor's intentions may not always conflate with the purposiveness of his or her actions.

Subjectivity and agency may be conjoined in numerous occasions, since the institutions that shape an actor's subjectivity also shape the actor's experience of himself or herself as an agent (Wisnewski 2008). However, analytically, the two elements are not automatically connected, given that actors may achieve and express agency in more ways than when acting in self-interest or with self-awareness.

10.7 CONCLUSION

10.7.1 Agency indicates position in a type of relationship

In this dissertation, I have attempted to provide arguments in support of considering agency as an indicator of position in a relationship. I will not claim to have proven this proposition conclusively. Instead, I hope to have provided sufficient arguments to open the space for reconsidering agency in these terms. It will be a matter of future research and debate to design studies that can assess the proposition in more detail and among a broader variety of ethnographic contexts.

The central proposition I have considered is that agency or perceptions of agency reference an actor's relative capacities and abilities. That is, agency indicates how the actor is situated relative to other actors. In this sense, agency is not descriptive of the actor's constitutive properties, but how such properties stand relative to the purpose of action within a specific

context of actions or interactions. For this reason, agency cannot be considered a property of the actor but, instead, an evaluation of how the actor is situated to achieve the action, relative to his or her context. Therefore, agency is indexical.

I have distinguished two components in the agency concept. Effectively, these are two types of agency. The first is the “capacity” to act, by which I mean the actor’s status as a legitimate author of action. This is a socially defined status in which the actor is attributed with the rights and duties to author action. The actor is recognizable as the author or responsible party of the action. The second is the “ability” to act, by which I mean the functionality of the empirical resources (tools, knowledge, and other technologies) to execute action. The ability is an evaluation of how the resources stand relative to the purpose of the action. Capacities and abilities are both judgments of the relative value of the actor and of the resources to accomplish the goals. They are value judgments. They indicate how the actor and the resources stand relative to other actors and resources, in terms of accomplishing the goal of action. Thus, the attribution of agency is a value judgment and should not be considered descriptive of properties.

I have contrasted the proposition that agency is an index with a widespread perception of agency as a property of the acting subject. I have argued that the model of agency as a property of the actor may include a conflation of intention and intentionality. This conflation is appreciable in numerous studies of actors who act as agents for themselves, but becomes problematic for actors who act as agents for others or who delegate action onto others. In the latter cases, agency does not emerge from the actors independently, but only when they engage in a particular type of relationship. In such cases, the agency is an effect of how they are positioned in the relationship relative to one another. I have used the “agency relation” implicit in health care interactions as the model to distinguish these two aspects. In such circumstances,

the agent acts with another actor in mind in terms of intentionality, and executes the interests of the other actor in terms of intentions.

10.7.2 Directions for future research and enquiry

Ahearn's (2001) article on language and agency does not articulate the proposition that agency should be approached as a sociogrammatical construct instead of as an empirical property. The author provides extensive examples of how "each language has its own set of linguistic resources that can be used to exercise, attribute, or deny agency" (Ahearn 2001:120). She does not conclude that agency may be a situational device to attribute authorship of action. She states that languages "encode agency differently in their grammatical categories" (Ahearn 2001:122), possibly taking for granted that agency exists independently from how action is described and conceived.

It may be possible to assess whether there is merit to consider that agency is a syntactical position in grammars, including social grammars. Objects may be imagined as agents because of the syntactical position they occupy.

I have considered a similar approach in this dissertation. I have proposed that agency is not a property of the actors and is, instead, an interpretation given by the position they occupy relative to other actors. Therefore, one future line of research may use the insights of linguists and grammarians to further assess the notion that agency may be an indicator of relative position. The assessment of the possible indexicality of agency is a potential avenue to pursue.

A second line of further research is to uncover the meanings and understandings of agency for the patient population described in this dissertation. Alas, this is a major shortcoming of this study. I was not able to engage sufficiently with the Madiha villagers in order to

complement my statements about the health workers' agency configurations. I hope that I have provided sufficient information to state my theoretical claim, but I realize that the study will benefit from future examination of the patient population's participation in the health care interactions.

Drawing from the ethnographies, Madiha have a notion of agency that is substantial. Agency exists as genuine substances that move, activate and drive people to act in certain ways. In the case of men, *dori* is a corporeal substance that "permeates and largely defines the bodies of men" (Pollock 2004:203). Pollock explains that *dori* is "a dangerous, caustic substance" which "creates maleness and the properties of maleness" (Pollock 2004:203). *Dori* makes a man a hunter (Pollock 2004:203). Shamans (sorcerers) can cast their *dori* into a victim, causing illness and eventually death (Pollock 2004:203). *Dori* is also present in male animals and some plants (Pollock 2004:204).

Pollock observed that there is a constant and predictable relationship between interhousehold violence and *dori* sorcery accusations as a diagnosis of illness (Pollock 2004:206). Sorcerers are always affines and blame is always projected outwards towards powerful men in other villages, while the victim is still sick (Pollock 2004:207). If the patient dies, then Madiha assume the sorcerer is in the village and will lay blame on a socially marginal male (Pollock 2004:205).

Therefore, Pollock's observations show that people's conception of the distribution of *dori* (a predatory masculine agency) is a sign of their degree of affinity or consanguinity to them. It is a sign of how the *dori*-imbued agent causing the illness is situated relative to them in kinship terms, underscoring its moral implications. Under everyday circumstances of village conviviality, such predatory agency is discursively located outside of the convivial village of

consanguines (Pollock 2004:205). When a person dies, then the discourse changes and villagers feel that the predatory agent is among them, creating divisions within the village (Pollock 2004:205). They search for the culprit among the men who do not show acceptable social integration (Pollock 2004:205).

Consequently, although Madiha may be convinced that *dori* is a genuine property of social actors, Pollock's observations suggest that *dori* attribution is a sign of an individual's perceived predatory ability. In regards to community cohesion, the attribution of *dori* is an index of the perceived evaluation of an individual's relative status as a predatory affine or convivial consanguine.

Pollock's observations suggest that agency may be thought of as an indexical of relative position in relationships also for the case of Madiha, even though this understanding emerges from an entirely different ethnographic background than the health workers discussed in this dissertation. Future research into the patient population's understandings of agency will help to further assess the theoretical pertinence of the dissertation's central proposition.

APPENDIX A

INTERVIEW GUIDE FOR HEALTH WORKERS

Nome [Name]

Profissão [Career]

Tarefa [Job tasks]

Onde estudou [School]

Outros empregos [Other employments]

Experiência em saúde indígena [Experience in Indian Health]

Como chegou à CASAI? [How did you come to the CASAI?]

Duração contrato [Contract duration]

Contratado por quem? [Hired by whom?]

Emprego em outras áreas de saúde pública, estadual, SUS? [Work in other areas of public health, state-level, national health system?]

Training, *preparo* [preparation] to work with Indians and specific epidemiology

Sociological profile

Iniciativa [Initiative]

Capacidade [Capacity]

Logros [Achievements]

Sucesos [Successes]

Fracassos [Failures]

If you wanted to change something, how would you do this?

Have you ever changed anything?

- Nome
 - profissão
 - tarefa *
~~estudo~~
 - onde estudou
 - outros empregos
 - experiência em Saúde indígena
 - ~~como~~ como chegou a CASAI
 - quem foi o contato
 contato x quem?
 - have you been to aldeia?
 - emprego em outras áreas de
 Saúde pública /
 estatal / SUS?
 - training, prepare to work with
 Indians + specific epi
 - sociological profile
 - If you wanted to change
 something, how ~~do you~~
 would you do this?
 - Have you ever changed
 anything?

iniciativa
 capacidade
 logros
 sucessos
 fracassos

Figure 47. Interview guide for health workers

APPENDIX B

INTERVIEW GUIDE FOR DSEI ADMINISTRATORS

Page one:

Questions for Conceição

Three-tiered model

Diferenciado [Differential]

Capacitação [Training]

Duration of contracts and staff retention

Administration and staff-user relations

Controle social [Social control]

Agency where is power located

 health care agency

 public health agency

Parallel, integrated; specificity, decentralization

Envillagement (*aldeamento*)

History and memories of service

Traditional (native) medicine

parallel

AIS [Lay health monitors]

Degree of acquaintance with Indians

FUNASA and municipal government relations

Agency theory: Bandura

Empoderamento [Empowerment]

How is power distributed and understood by actors?

Corrupção? [Corruption?]

Indigenization

Indigenous (native) public health system

Decolonization

Page two:

Medico [Physician]; CRM [license]; Bolivian schools, credentials and licensing.

FUNASA 2000, p. 19.

Sistemas de información [Information systems]; SIASI [Indian Health Surveillance System]

responses from Brasilia

planning

Engenharia sanitaria [Sanitation engineering]

Educação em saúde [Health education]: including evaluation of *palestra* [speeches] effectiveness

Capacitação AIS [Training for lay health monitors]

Sustitución del administrador del Polo Base por tres gerentes: técnico, logístico, educacional y controle social. [Substitution of the Base Post administrator for three managers: technical, logistic, education and social control]

CASAI

UFAC - long-term effects

curso “antropología da saúde indígena” [“Anthropology of Indian Health” course]

pesquisa nutrição Kaxarari [Kaxarari nutrition research]

estagio enfermagem [Nursing practicum]

chronic diseases and long-term treatments: *estudos de coorte* [cohort studies]

epidemiological indicators: biased? comparativity; non-ethnic, age, sex, etc.

DST [STD] strategies (prevention)

Discrimination tipo de atendimento [type of health service]:

Odontologico: [Dental]

Fluor [Fluoride]

Escovação [Brushing]

Extracción [Extraction]

influências politico – partidarias [Political party influences]

escola técnica do SUS: [school of nursing of the national health system]

AIS [lay health monitor] training:

Metodologia [Methodology]

Coteúdos [Contents]

modelo agente comunitário de saúde [model of community health monitor]

secretaria de assuntos indigenas: MS [Secretariat of Indian Affairs, Ministry of Health]

indigenous public health system

renda [revenue]: development

agenciado por politicos [seized by politicians]

saúde [health]?: AIS needed?

questions for Conceição

- 3 tiered model
- diferenciação
- capacitação
- duration of contracts + ^{performance} staff retention
- admin / staff / user relations
- controle social
- agency of where is power located?
 - ↘ HC agency
 - ↘ PH agency
- parallel / integrated // specificity decentralization
- envolvimento
- history + memory of service
- parallel:
 - traditional medicine
 - SIS
 - SIS training
 - degree acquaintance w/ Indians
 - funasa - municipality relations

Agency theory - Bandura

- CORRUPÇÃO
- indigenization
- indigenous PH system
- decentralization

Empoderamento

How is power distributed and understood by actors?

Figure 48. Interview guide for DSEI administrators (page one)

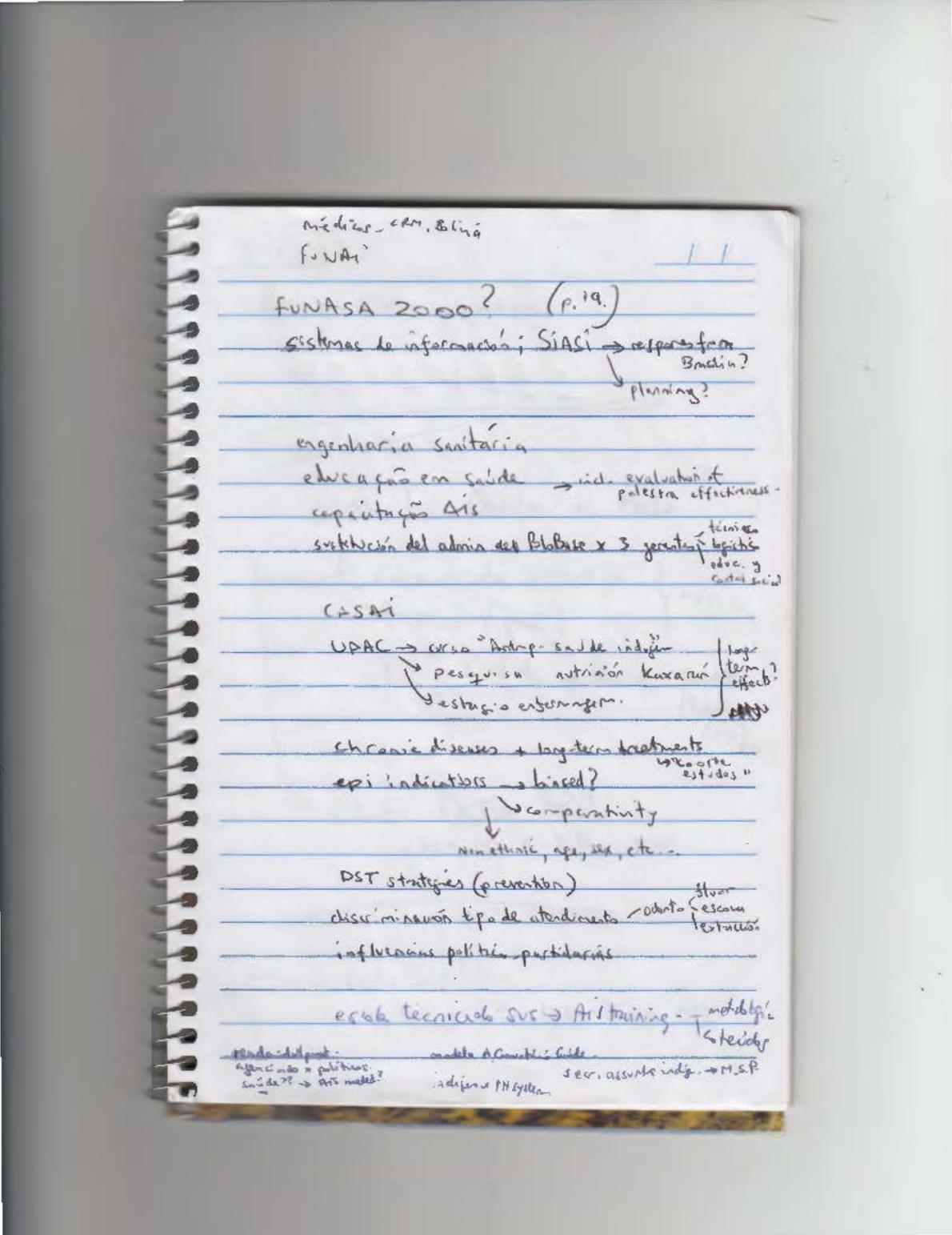


Figure 49. Interview guide for DSEI administrators (page two)

APPENDIX C

INSTITUTIONAL REVIEW BOARD (IRB) EXEMPTION APPROVAL



University of Pittsburgh

OSIRIS[Christian Frenopoulo](#) | [My Home](#) | [Logout](#)[Home](#) [Help](#)[Studies](#) > [Agencies, Bodies, Perspectives and Others](#) > [Exempt Approved details](#)**Activity Details (Exempt Approved)**

Author:	Nicholas Landolina (U of Pgh Other)	Activity Date:	12/16/2008 12:57 PM EST
For Person:		Created Date:	12/16/2008 12:57 PM

Logged For (Study): Agencies, Bodies, Perspectives and Others

Activity Form [Property Changes](#) [Documents / Tasks / Notifications](#)**University of Pittsburgh**
Institutional Review Board3500 Fifth Avenue
Pittsburgh, PA 15213
(412) 383-1480
(412) 383-1508 (fax)
<http://www.irb.pitt.edu>**Memorandum**

To: Christian Frenopoulo
 From: Sue Beers, Ph.D., Vice Chair
 Date: 12/16/2008
 IRB#: PRO08120207
 Subject: Agencies, Bodies, Perspectives and Others: Healthcare for Indigenous peoples in the western Brazilian Amazon.

The above-referenced project has been reviewed by the Institutional Review Board. Based on the information provided, this project meets all the necessary criteria for an exemption, and is hereby designated as "exempt" under section 45 CFR 46.101(b)(2) Tests, surveys, interviews, observations of public behavior

Please note the following information:

- If any modifications are made to this project, use the "Send Comments to IRB Staff" process from the project workspace to request a review to ensure it continues to meet the exempt category.
- Upon completion of your project, be sure to finalize the project by submitting a "Study Completed" report from the project workspace.

Please be advised that your research study may be audited periodically by the University of Pittsburgh Research Conduct and Compliance Office.

Expiration Date:12/31/2500

Figure 50. Institutional review board (IRB) exemption approval

APPENDIX D

LETTERS OF APPROVAL FOR RESEARCH FROM FUNASA



SCDWER - FUNASA,MS
UP
25106 004 798/2008-77

MINISTÉRIO DA SAÚDE
FUNDAÇÃO NACIONAL DE SAÚDE
Av. Antônio da Rocha Vianna, nº 1504 - Vila Ivonele
Rio Branco - AC - CEP: 69.914-810
Fone: (68) 3223-1170/1172 - Fax: (68) 3223-9214

Ofício nº 172/CORT-AC.

Rio Branco, 25 de julho de 2008.

A Sua Senhoria o Senhor
DR. MARK NORDENBERG
Reitor Universidade de Pittsburgh
CEP: 15260, U.S.A

Assunto: Autorização de pesquisas na área indígena.

Prezado Senhor,

Por meio da presente autorizo ao senhor CHRISTIAN FRINOPOULO estudante de Pós-Graduação em Antropologia e em Saúde Pública da Universidade de Pittsburgh a realizar pesquisas na área indígena no período de maio de 2009, até agosto de 2010.

2. Informo também que os métodos de pesquisa utilizados são: (observações passivas, entrevistas informais e outros) que são apropriados para o pessoal pesquisado.

3. Declaro que o pesquisador se compromete a se ajustar aos métodos de interação de trabalho das Equipes Multidisciplinares dos Pólos Base e dos outros participantes da pesquisa para não incomodá-los e para ajustar aos seus usos culturais.

4. Sendo que no período programado de pesquisa esta autorizado a realizar as pesquisas:

- No Pólo Base de Manoel Urbano;
- Na Equipe de Saúde do Pólo Base de Manoel Urbano nas Viagens às aldeias indígenas;
- Autorizo realizar pesquisa nos outros Pólos Base do DSEI Alto Rio Purus;
- Autorizo a pesquisa na Casa de Saúde do Índio (CASAI) de Rio Branco-AC.

Atenciosamente,

JOSÉ CARLOS FERTURA LIRA
Coordenador Regional do Acre

Figure 51. Letter of research approval from FUNASA regional coordinator



Ministério da Saúde
Fundação Nacional de Saúde
Departamento de Saúde Indígena

Manoel Urbano-AC, 16 de julho de 2008.

AUTORIZAÇÃO PARA PESQUISA

Por meio da presente carta, confirmo que **CHRISTIAN FRENOPOULO**, estudante de pós-graduação da Universidade de Pittsburgh, fica autorizado a fazer pesquisa no Pólo Base de Manoel Urbano e acompanhar às viagens da Equipe Multidisciplinar de Saúde Indígena até as aldeias dos índios Kulina, no período de maio de 2009 à agosto de 2010.

O conheço pessoalmente e observei os métodos de pesquisa que ele utiliza (ex.: observação, entrevista, filmagem, gravação e fotografia) quando ele nos acompanhou numa viagem até às aldeias dos índios em julho de 2008. Ele se comportou com respeito para com todos os membros da Equipe e também mostrou sensibilidade para com os índios Kulina, seus costumes e modo de vida. Portanto, eu constatei que seu modo de interagir com os índios é culturalmente sensível e também é apropriado para pesquisar o trabalho da nossa Equipe de Saúde Indígena.

Conheço a sua temática de pesquisa e considero que é de grande proveito e importância para a compreensão de nosso trabalho e a melhora da saúde indígena nesta região.

Atenciosamente,

Neiva da Silva e Silva

Enf. Neiva da Silva e Silva
Administradora do Polo-Base

Figure 52. Letter of research approval from FUNASA administrator of Manoel Urbano Base Post

BIBLIOGRAPHY

- Acre. Governo do Estado. Fundação de Tecnologia do Estado do Acre
2008 Atlas do Estado do Acre. Rio Branco: FUNTAC (Fundação de Tecnologia do Estado do Acre).
- Acre. Governo do Estado do Acre. Programa Estadual de Zoneamento Ecológico-Econômico do Estado do Acre
2006 Zoneamento Ecológico-Econômico do Acre Fase II: documento Síntese – Escala 1:250.000. Rio Branco: SEMA (Secretaria de Estado de Meio Ambiente e Recursos Naturais).
- Adams, Patsy
1962 Textos Culina. Folklore Americano, año X, nº 10, Lima, Perú.
- Ahearn, Laura
2001 Language and Agency. *Annual Review of Anthropology* 30(2001):109-137.
- Arluke, Arnold, Louanne Kennedy and Ronald C. Kessler
1979 Reexamining the Sick-Role Concept: An Empirical Assessment. *Journal of Health and Social Behavior* 20:30-36.
- Archer, Margaret
1995 *Realist social theory: the morphogenetic approach*. Cambridge: Cambridge University Press.
- Bainbridge, R.
2011 Becoming empowered: a grounded theory study of Aboriginal women's agency. *Australas Psychiatry* 19 Suppl 1:S26-29.
- Barnett, JP, E Maticka-Tyndale and HP4RY Team.
2011 The gift of agency: sexual exchange scripts among Nigerian youth. *J Sex Res* 48(4):349-359.
- Baumgartner, Wilhem and Jörg Klawitter
1990 Intentionality of Perception: An inquiry concerning J. R. Searle's conception of intentionality with special reference to Husserl. *In: Armin Burkhardt, ed. Speech Acts,*

Meaning, and Intentions: Critical Approaches to the Philosophy of John R. Searle. Pp. 212-225. New York: Walter de Gruyter.

Bloom, Samuel W. and Pamela Summey

1976 Models of the Doctor-Patient Relationship: A History of the Social Systems Concept. *In: The Doctor-Patient Relationship in the Changing Health Scene*. Eugene B. Gallagher, ed. DHEW Publication No. (NIH). Pp. 78-183. Washington, D.C.: U.S. Government Printing Office.

Brasil. Ministério da Saúde (MS)

2012a Conheça o DSEI Alto Rio Purus.

http://portal.saude.gov.br/portal/saude/Gestor/area.cfm?id_area=1753, accessed February 22, 2012.

2009 Proposta para implantação da autonomia política, administrativa e financeira do Distrito Sanitário Especial Indígena, GT Portaria 3034/2009/MS, Subgrupo Autonomia dos Dsei, Brasília, 23 de janeiro de 2009. Unpublished MS.

N.d. Principais atribuições [do quadro profissional do DSEI]. UnpublishedMS.

Brasil. Fundação Nacional de Saúde (FUNASA)

2012b. Organização do Distrito Sanitário.

http://www.funasa.gov.br/internet/organ_dsei.asp, accessed February 22, 2012.

2002 Política Nacional de Atenção à Saúde dos Povos Indígenas. Aprovada pela Portaria do Ministério da Saúde nº 254, de 31 de janeiro de 2002. 2ª edição. Brasília: Ministério da Saúde. Fundação Nacional de Saúde.

Bratman, Michael

1984 Two Faces of Intention. *The Philosophical Review* 93(3):375-405.

Bryan, Stirling, Paramjit Gill, Sheila Greenfield, Kerry Gutridge and Tom Marshall

2006 The myth of agency and patient choice in health care? The case of drug treatments to prevent coronary disease. *Social Science & Medicine* 63(2006):2698-2701.

Chandless, William

1869 Notes of a Journey up the River Juruá. *Journal of the Royal Geographical Society of London* 39:296-311.

1866 Ascent of the River Purus. *Journal of the Royal Geographical Society of London* 36:86-118.

Coe, Rodney M

1981 The Sick Role Revisited. *In: Elderly Patients and Their Doctors*. Marie R. Haug, ed. Pp. 22-33. New York: Springer Publishing Company.

CPI/AC (Comissão Pró-Índio do Acre)

1999 Projeto Capacitação de agentes de saúde em higiene e saneamento ambiental e assistência primária de saúde. Rio Branco: CPI/AC. Unpublished MS.

Dienst, Stefan

2006 A reference grammar of Kulina, an Arawa language. PhD dissertation, La Trobe University, Australia.

Evangelista, Adriana Cristina, Maria Cleudes Lira Leon, Maria da Conceição da Silva Leitão and Nairlane Souza da Silva

2006 A gestão da saúde indígena no DSEI Alto Rio Purus: análise de um processo em construção. Thesis, Departamento de Ciências da Saúde, Universidade Federal do Acre.

Evans Pritchard, Edward E.

1976 [1937] Witchcraft, Oracles and Magic among the Azande. Oxford: Oxford University Press.

Fleck, David

2007 Did the Kulinas become the Marubos? A Linguistic and Ethnohistorical Investigation. *Tipiti* 5(2):137-207.

Frenopoulo, Christian

2009 Dissertation Overview: Agencies, Bodies, Perspectives and Others: Healthcare for Indigenous peoples in the western Brazilian Amazon. Department of Anthropology, University of Pittsburgh. Unpublished MS.

FUNAI (Fundação Nacional do Índio). Ministério da Justiça

2006 Mapa da Situação Fundiária Indígena – Brasil.

<http://www.mutiraoamazonia.org.br/pub/publicacoes/6b575b79cc2f7b50f423f12c90b39a8c.pdf>, accessed, April 23, 2012.

FUNASA (Fundação Nacional da Saúde). Ministério da Saúde

2006 FUNASA 15 anos. Fundação Nacional de Saúde/Ministério da Saúde.

Gafni, Amiram, Cathy Charles and Tim Whelan

1998 The physician-patient encounter: The physician as a perfect agent for the patient *versus* the informed treatment decision-making model. *Social Science & Medicine* 47(3):347-354.

Garnelo, Luiza and Sully Sampaio

2005 Organizações indígenas e distritalização sanitária: os riscos de “fazer ver” e “fazer crer” nas políticas de saúde. *Cadernos de Saúde Pública* 21(4):1217-1223.

2003 Bases sócio-culturais do controle social em saúde indígena: problemas e questões na Região Norte do Brasil. *Cadernos de Saúde Pública* 19(1):311-317.

- Gerhardt, Uta
1979 The Parsonian Paradigm and the Identity of Medical Sociology. *Sociological Review* 27:229-251.
- Ghobadzadeh, N.
2010 A multiculturalism-feminism dispute: Muslim women and the Sharia debate in Canada and Australia. *Commonw Comp Polit* 48(3):301-319.
- Giddens, Anthony
1984 *The Constitution of Society: Outline of a Theory of Structuration*. Berkeley and Los Angeles: University of California Press.
- Goffman, Erving
1961 Role Distance *In: Erving Goffman, Encounters: Two Studies in the Sociology of Interaction*. Pp. 85-152. Indianapolis: The Bobbs-Merrill Company.
1959 *The Presentation of Self in Everyday Life*. New York: Doubleday Anchor Books.
- Gunson, Jessica Shipman
2010 “More natural but less normal”: Reconsidering medicalization and agency through women’s accounts of menstrual suppression. *Social Science & Medicine* 71(2010):1324-1331.
- Haug, Marie. R.
1976 Issues in Patient Acceptance of Physician Authority in Great Britain. *In: The Doctor-Patient Relationship in the Changing Health Scene*. Eugene B. Gallagher, ed. DHEW Publication No. (NIH) 78-183. Pp. 239-254. Washington, D.C.: U.S. Government Printing Office.
- Haverroth, M., P.R.M. Negreiros and L.C.P. Barros
2010 Ethnobiology and Health among the Kulina from the Upper Envira River, State of Acre, Brazil. *The Open Complementary Medicine Journal* 2:42-57.
- Howes, Moira
2007 Maternal Agency and the Immunological Paradox of Pregnancy. *In: Establishing Medical Reality: Essays in the Metaphysics and Epistemology of Biomedical Science*. Harold Kincaid and Jennifer McKittrick, eds. Pp. 179-198. Dordrecht: Springer.
- IBGE (Instituto Brasileiro de Geografia e Estatística)
2012a Mapa do Brasil – Unidades da Federação – Acre (AC).
<http://www.ibge.gov.br/7a12/mapas/ufs/acre.pdf>, accessed April 23, 2012.

2012b Mapa do Brasil - Grandes Regiões.
http://www.ibge.gov.br/7a12/mapas/brasil/brasil_grandes_regioes.pdf, accessed April 23, 2012.

2012c Mapa Político-Administrativo da Região Norte.
ftp://geoftp.ibge.gov.br/mapas_tematicos/politico/regionais/norte_politico.pdf, accessed April 23, 2012.

Iglesias, Marcelo and Terri Valle de Aquino

2005 Povos e Terras Indígenas no Estado do Acre (Relatório Preliminar). Governo do Estado do Acre, Secretaria de Estado de Meio Ambiente e Recursos Naturais, Programa Estadual de Zoneamento Ecológico-Económico do Estado de Acre – Fase II. Rio Branco, Acre. Maio, 2005. Rio Branco: Secretaria de Estado de Meio Ambiente e Recursos Naturais. Unpublished MS

IPL2

2012 States ranked by size and population.
<http://www.ipl.org/div/stateknow/popchart.html#statesbysize>, accessed February 12, 2012.

Kaxinawá, Edson Medeiros Ixã Kaxinawá

2006 Plantas Medicinais: Doenças e Curas do Povo Huni Kuĩ. Rio Branco: Comissão Pró-Índio do Acre.

Kaxinawá, Isaías Sales Ibã Kaxinawá

2006 Nixi pae: O Espírito da Floresta. Rio Branco: Comissão Pró-Índio do Acre.

Keane, Webb

2003 Self-Interpretation, Agency and the Objects of Anthropology: Reflections on a Genealogy. *Comparative Studies in Society and History* 45(2):222-248.

Kockelman, Paul

2007 The Relation between Meaning, Power and Knowledge. *Current Anthropology* 48(3):375-401.

Koenig, Christopher J.

2011 Patient resistance as agency in treatment decisions. *Social Science & Medicine* 72(2011):1105-1114.

Kowal, Emma and Yin Paradies

2005 Ambivalent helpers and unhealthy choices: public health practitioners' narratives of Indigenous ill-health. *Social Science & Medicine* 60:1347-1357.

Latour, Bruno

2005 *Reassembling the Social: An Introduction to Actor-Network-Theory*. Oxford: Oxford University Press.

Linton, Ralph

1936 *The Study of Man*. New York: Appleton-Century-Crofts.

- Locke, John
1975 [1689] *An Essay Concerning Human Understanding*. Oxford: Oxford University Press.
- Lorrain, Claire
2000 Cosmic Reproduction, Economics and Politics among the Kulina of Southwest Amazonia. *Journal of the Royal Anthropological Institute* 6(2):293-310.
- Macinko J, I Dourado, R Aquino, Pde F Bonolo, MF Lima-Costa, MG Medina, E Mota, VB de Oliveira and MA Turci
2010 Major expansion of primary care in Brazil linked to decline in unnecessary hospitalization. *Health Affairs* 29(12):2149-2160
- Mahmood, Saba
2006 *Politics of piety: the Islamic revival and the feminist subject*. Princeton: Princeton University Press.
- 2001a Feminist Theory, Embodiment and the Docile Agent: Some Reflections on the Egyptian Islamic Revival. *Cultural Anthropology* 16(2):202-236.
- 2001b Rehearsed Spontaneity and the Conventionality of Ritual: Disciplines of “Şalāt”. *American Ethnologist* 28(4):827-853.
- McLean, Robert A.
1989 Agency costs and complex contracts in health care organizations. *Health Care Manage Rev.* 14(1):65-71.
- Medina, C. and DI Rios
2011 An alternate HIV preventive strategy: sex scripts in media for women of color. *Soc Work Public Health* 26(3):260-277.
- Merriam-Webster
2012 Intention. Merriam-Webster Dictionary. Encyclopaedia Britannica Company. <http://www.merriam-webster.com/dictionary/intention>, accessed June 2, 2012.
- Mill, James Stuart
1963 [1844] *Elements of Political Economy*. 3rd ed. New York: Augustus M. Kelly Bookseller.
- Mongobay.com
2012 World Statistics [sorted by Area]: [Stats were last updated 07-Dec-2008]. http://www.mongabay.com/igapo/world_statistics_by_area.htm, accessed February 12, 2012.

- Montserrat, Ruth M. F. and Abel O. Silva (Kanaú)
1986 Gramática da Língua Kulina, Dialeto do Igarapé do Anjo. Acre: Conselho Indigenista Missionário.
- Oliver, V, and R. Cheff
2012 Sexual Health: The Role of Sexual Health Services Among Homeless Young Women Living in Toronto, Canada. *Health Promot Pract.* 13:370-377
- Ortner, Sherry B.
2006 *Anthropology and Social Theory: Culture, Power and the Acting Subject.* Durham: Duke University Press.

2001 Specifying Agency: The Comaroffs and Their Critics. *Interventions* 1:271-278.
- Parsons, Talcott
1981 [1958] Definition of Health and Illness in the Light of American Values and Social Structure. *In: Concepts of Health and Disease: Interdisciplinary Perspectives.* Arthur Caplan, H. Tristram Engelhart, James McCartney, eds. Pp. 57-81. Reading: Addison-Wesley Publishing Company.

1975 The Sick Role and the Role of the Physician Reconsidered. *The Milbank Memorial Fund Quarterly. Health and Society* 53(3):257-278.

1951a The Social System. New York: The Free Press.

1951b Illness and the role of the Physician: A sociological perspective. *American Journal of Orthopsychiatry* 21(3):452-460.
- PBMU *see* Pólo Base de Manoel Urbano (PBMU)
- Peres, Ellen M., Ana M Andrade, Mario R Dal Poz and Nuno R Grande
2006 The practice of physicians and nurses in the Brazilian Family Health Programme – evidences of change in the delivery health care model. *Human Resources for Health* 4:25.
- Pérez Gil, Laura
2007 Políticas de Saúde, Pluralidade Terapêutica e Identidade na Amazônia. *Saúde Soc. São Paulo* 16(2):48-60.
- Pólo Base de Manoel Urbano (PBMU)
2008 Relatório anual do consolidado de morbidades – ano 2008. Ministério da Saúde, Fundação Nacional de Saúde, Departamento de Saúde Indígena, DSEI Alto Rio Purus, Monitoramento de Atenção à Saúde Indígena. Unpublished MS.

- 2007 Relatório anual do consolidado de morbidades – ano 2007. Ministério da Saúde, Fundação Nacional de Saúde, Departamento de Saúde Indígena, DSEI Alto Rio Purus, Monitoramento de Atenção à Saúde Indígena. Unpublished MS.
- Pollock, Donald K.
2004 Siblings and Sorcerers: The Paradox of Kinship among the Kulina. *In: In Darkness and Secrecy: The Anthropology of Assault Sorcery and Witchcraft in Amazonia*. Neil L. Whitehead and Robin Wright, eds. Pp. 202-214. Durham: Duke University Press
- 1996 Personhood and Illness among the Kulina. *Medical Anthropology Quarterly* 10(3):319-341.
- 1988 Health Care Among the Culina, Western Amazonia. *Cultural Survival Quarterly* 12(1):28-32.
- 1985 Personhood and Illness among the Culina of Western Brazil. PhD dissertation, Department of Anthropology, University of Rochester.
- Pontes, Manuel C.
1995 Agency theory: A framework for analyzing physician services. *Health Care Manage Rev.* 20(4):57-67.
- Propper, Carol
1995 Agency and incentives in the NHS internal market. *Social Science & Medicine* 40(12):1683-1690.
- Ragnaud, JM, P Morlat, M Buisson, M Longy-Boursier, E Monlun, C Wone, M Lebras, J Beylot, and J Aubertin
1994 Epidemiological, clinical, biological and developmental aspects of leptospirosis: apropos of 30 cases in Aquitaine. *Rev. Med. Interne* 15(7):452-459.
- Schelotto, Felipe, Elba Hernández, Sabina González, Alicia del Monte, Silvana Ifran, Karina Flores, Lorena Pardo, Daniel Parada, Mercedes Filippini, Victoria Balseiro, Juan Pablo Geymonat, and Gustavo Varela
2012 A ten-year follow-up of human leptospirosis in Uruguay: an unresolved health problem. *Revista do Instituto de Medicina Tropical de São Paulo* 54(2):69-76.
- Searle, John.
1983 *Intentionality: An essay in the philosophy of mind* (Vol. 9). Cambridge: Cambridge University Press.
- Segall, Alexander
1976 Sociocultural Variation in Sick Role Behavioral Expectations. *Social Science and Medicine* 10:47-51.

- Silva, Abel O. (Kanaú)
N.d. A Cultura Material Kulina (Madija). Unpublished MS.
- Silva Abel O. (Kanaú) and Ruth M.F. Montserrat
1984 Dicionário Kulina-Português e Português-Kulina (Dialeto do Igarapé do Anjo). Acre: Conselho Indigenista Missionário.
- Silva, Domingos A.B.
1997 Música e Pessoaalidade: Por uma Anthropologia da Música entre os Kulina do Alto Purús. Master's thesis, Anthropology Department, UFSC.
- de Sousa, Maria Fátima and Edgar Merchán Hamman
2009 Programa Saúde da Família no Brasil: uma agenda incompleta? *Ciência & Saúde Coletiva* 14(Supl. 1):1325-1335.
- Strathern, Marilyn
1988 *The Gender of the Gift: Problems with Women and Problems with Society in Melanesia*. Berkeley and Los Angeles: University of California Press.
- Tanassi, Lucia M.
2004 Compliance as strategy: the importance of personalised relations in obstetric practice. *Social Science & Medicine* 59(2004):2053-2069.
- Toumela, Raimo
2007 *The Philosophy of Sociality: The Shared Point of View*. Oxford: Oxford University Press.
2001 Collective intentionality and social agents. Paper invited for the AI conference IMF, Toulouse, May 21-23.
- União das Nações Indígenas (UNI)
2002 Projeto de ações básicas de prevenção de doenças dos distritos sanitários especiais indígenas do Alto Purus e Alto Juruá. Rio Branco: UNI-AC. Unpublished MS.
- Viveiros de Castro, Eduardo
2004a *Perspectival Anthropology and the Method of Controlled Equivocation*. *Tipiti* 2(1):3-22.
2004b *Exchanging perspectives: the transformation of objects into subjects in Amerindian ontologies*. *Common Knowledge* 10:463-484
1998 *Cosmological Deixis and Amerindian Perspectivism*. *J. Roy. Anthropol. Inst. (N.S.)* 4:469-488.
- Waitzkin, Howard and Barbara Waterman
1974 *Social Theory and Medicine*. In: *The Exploitation of Illness in Capitalist Society*. Pp. 16-36. Indianapolis: The Bobbs-Merrill Company, Inc.

Weber, Max

1978 *Economy and Society: An outline of Interpretive Sociology*. Berkeley: University of California Press.

Wisnewski, Jeremy

2008 *The Politics of Agency: Toward a Pragmatic Approach to Philosophical Anthropology*. Aldershot: Ashgate Publishing Ltd.

Zweifel, Peter

1994 Agency relationships in psychotherapy: An economic analysis. *Social Science & Medicine* 39(5):621-628