CHILDREN IN TCHETTI, BENIN

THEIR IDEAS AND PRACTICES CONCERNING DIRT, HYGIENE AND DISEASE TRANSMISSION: DIARRHOEA AND OTHER GASTRO-INTESTINAL DISEASES

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August 2001

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Front page picture: Child defecating in the trench in front of our house
INTRODUCTION

This thesis is written on basis of the results of an exploratory research, conducted during a fieldwork period of seven weeks in a rural town in Benin, West-Africa. I performed this research to fulfil the final stage of the "Amsterdam Master’s in Medical Anthropology" course, of which I hope to graduate in the end of August. During the AMMA course, I was particularly interested in the modules “Children, Health and Well-being” and “Ethnographies in Health and Health Care in Africa”. It was during the children’s module that I decided to focus my research on children. I have worked with children before as a nurse on a children’s ward and at a day-care centre and I have always enjoyed working with them. The prospect of performing a research with children exited me tremendously. With the opportunity to perform such a research in Africa, a continent that has always intrigued me because of its history, nature, cultures and politics, I finally saw part of my curiosity and interest getting satisfied (although having had a taste of it now, makes me crave for more).

With the research I conducted, I want to

- identify ideas that children have with regard to the transmission of diseases, in particular diarrhoeal diseases, dirt and hygiene, and practices of children that might influence (negatively or positively) the transmission of diarrhoea
- analyse how these ideas are constructed, how they are connected to practices and whether or not or in how far children in Tchetti have perceptions on diarrhoea, dirt and hygiene that are unique to them

In order to be able to give an answer to these research objectives, I formulated eight research questions, which will be answered in this thesis. The objectives as described above and the research questions below, are directly taken from the research proposal and are unaltered.

What are children’s ideas about the causes and transmission of diarrhoea? (The child’s explanatory model)
What are children’s ideas with regard to risk and prevention of diarrhoea?
What practices do they display that might influence (from a biomedical point of view) the transmission of diarrhoea?
In what way are these practices connected to the ideas children have with regard to diarrhoea and disease transmission?
What household tasks, important in the route of disease transmission, are carried out by children?
What are the sources children get their information from and from whom do they learn risky or beneficial practices related to diarrhoea?
What environmental and economical factors influence the prevalence of diarrhoea and how do they influence it?
Do children’s ideas differ from the ideas of adults and if so, how do they differ?

The children are studied from an anthropological perspective that views children as not necessarily reflecting the ideas of adults, but as mixing and creating an understanding of the world through information from many different sources. An understanding of children’s views might contribute to an improvement of health and hygiene promotion programmes. Unfortunately, researchers have only recently become more interested in child-centred research. Because of the recent onset of this kind of research, not much literature can be found about children’s perceptions of health, illness and related topics, let alone literature on research about (West-)African children and their ideas about disease transmission. This is why I had to limit my literature study to the ideas of West-African adults, with regard to disease transmission, diarrhoea, dirt and hygiene. The results of this literature study will be described in the second chapter of this thesis. I will start with a description of how I performed the research, the role of my interpreter in it, the interactions with the children and the advantages and disadvantages of being a white stranger in an unknown culture. In the chapter that follows after the literature study of chapter two, I give a description of the location of the fieldwork and the participants of the research: Tchetti and its children. I will also discuss the factors that, from a biomedical point of view, promote the occurrence of certain childhood diseases in Tchetti. The forth chapter describes the results of the fieldwork. It deals with the ideas and practices of the children and a few adults concerning dirt, hygiene, disease transmission, diarrhoea and other (gastro-intestinal) diseases. In the last chapter I will apply the theories and hypotheses as described in the second chapter to the findings as described in the third and forth chapter, resulting in a conclusion with which I will finish this thesis.
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CHAPTER 1 PERFORMING RESEARCH WITH CHILDREN: INTERACTIONS, METHODOLOGY AND TECHNIQUES

1.1 Study type and design

The fieldwork was performed in Benin, a country in West-Africa, in a rural town called Tchetti, during a period of seven weeks, that started on the eleventh of May and ended on the fourth of July in the year 2001 (a map can be found in Appendix 1 and a description of Tchetti in section 3.1). Because of the limited time and resources, the research was designed and executed as an exploratory and mainly descriptive study. Most data was collected through the techniques of (participant) observation and ethnographic interviewing. In the end of the research I had spoken with more than 40 children, most of them between eight and twelve years old, except for a few who were no younger than seven and no older than fourteen. I conducted eight in-depth interviews with children or little groups of children (three interviews with two children, two interviews with four children and three interviews with one child only), four in-depth interviews with adults and one Focus Group Discussion (FGD) that started with nine children but finished with sixteen. The informants were kept anonymous. The FGD and all except one interview were taped and transcribed. I used a list of questions to guide the interviews, which can be found in Appendix 2.

1.2 Introduction to the inhabitants

I accompanied my fellow student and good friend Jennifer Fagan, who had worked in Benin before, with Global 2000, the Guinea worm eradication programme and who went to Benin to conduct a research in Tchetti herself:’ Because I had not visited Benin or any other place in Africa before, I was very happy to get this opportunity and to be guided by someone as experienced and knowledgeable as she is. It was through her contacts that we found a house to rent in Tchetti. We spend the first week and a half of our stay in Tchetti to get to know the town, to talk with the people, to introduce ourselves to the mayor of the town, the customs and police officers, some of the village elderly and to the teachers and directors of some of the schools in Tchetti. We also made the local radio station broadcast a message in

* The title of her thesis is: “Sweet Water: Local Perceptions of Guinea worm in Tchetti, Benin”.
French and Ifè, the main local language, in which our presence and intentions were explained to the people. It was at the radio station where I met my interpreter for the first time.

1.3 The interaction between interpreter, researcher and children

The name of my interpreter was Hugues and he was one of the broadcasters of the radio station. Hugues was thirty years old, had studied Economy in Cotonou (Benin) but had ceased that study after a long strike of the university, after which he went to Lagos (Nigeria) where he studied English, Journalism and later Radio and Television Productions. Although it was not my intention to work with an adult interpreter (initially I wanted a child to interpret for me), the fact that he spoke fluent English persuaded me to work with him. He was a friendly guy, interested in my research and enthusiastic about helping me and practising his English. In the beginning I was disappointed not to have a child interpreter, because I thought such an interpreter would be more suitable and useful for my research, but the time constraints plus the language advantage made me realise I was happy to find an interpreter like Hugues. We became good friends, but Hugues communication skills and attitude towards children needed some refinement in my eyes. Like most adult males in Benin, he regarded children as inferior and in the beginning he did not found it necessary to ask children permission for interviews or for taping, he just commanded them. He did not think informed consent was necessary and he was simply astonished to see I gave the children Parker pens (which I had got for free) and balloons as a token of my appreciation for their co-operation.

For the first interview, we went to the street to look for children who had time and wanted to help us with my research. There were two boys, who I already knew a bit from playing soccer, and I told Hugues to ask them if they wanted to help me and to explain to them the rough outlines of my research. Of course I could not understand what he was discussing with them, but I thought he said what I had asked him to say and the boys followed us to my house. We started interviewing and I was amazed by the formal, organised, somewhat schoolish way in which it went. I asked a question, Hugues translated it and then nodded to one of the boys. The boy then would answer, until Hugues would frown, silencing the boy and then translated it back to me. The boys were apparently
intimidated by Hugues and were a bit shy with responding. When they spoke, they spoke softly and we got a lot of “I don’t know answers”. This irritated Hugues who would raise his voice and sternly told the boys that they should give an answer, that ‘I don’t know’ would not do. In the end of the interview, the boys were dismissed and went home, but before they left, they said something about the radio. I asked Hugues what the boys had said and he told me that the boys were informing when the interview was going to be broadcast. I asked him what the hell he was talking about and he told me he had said to the boys that he wanted them to come with him for an interview, that would be taped and broadcast by the radio, because he was afraid that otherwise they would not want to follow us to the house and help us with the interview. I was pretty angry. The rest of that day and the following two days, I worked hard on explaining Hugues concepts like ‘informed consent’, ethical considerations, power relations, informant-researcher ‘rapport’ and the consequences of these for the quality of data obtained. I told him I could not work with him, if he did not exactly translate my words and if he would not change his attitude towards the children. To be honest, I did not expect much improvement, but Hugues changed and became aware of the fact that children became more talkative and gave more useful information when the purpose of the interview was exactly explained to them and when we would give them room to speak freely. After a week, Hugues did not complain anymore that he thought the children did not know anything, that they were to shy or that they simply did not understand things very well.

The children were reacting good on Hugues too. In the beginning a bit hesitant and suspicious, but quickly appreciating the situation and taking advantage of the attention given by two ‘important’ persons, the radio broadcaster and a white researcher. They were almost eager to give their opinion about things and liked showing off to their friends that they were important enough to be interviewed and that they really had helped us with an important research. Only if there were other adults around, Hugues changed back to the distant, respected, superior man he was before, not wanting to show others he treated children as equivalent and in a respectful way as he did when we were alone, probably afraid to lose some of his own respect with other adults. This was one of the reasons to go back to the house for interviewing, where it was reasonably quiet and where there were no interruptions and distractions. The children themselves were more talkative and at ease as well, compared to when we talked with them on the street, at their school or at their homes. When we approached children on the street and started talking with them, people in the surrounding area became curious what the white stranger was discussing with the children.
and walked over to listen. Once there was one person walking over, other people followed, curious about the reasons for the gathering. The gatherers would interfere and meddle with the things we were discussing with the children. Sometimes this led to interesting discussions, held between the people that were attracted, in a Focus Group kind of way. But the children became silent once adults started to talk. The more reason thus, to ask the children if they would mind going to the house with us for interviewing, which they never mind. As a matter of fact, I think they found it quite interesting to go to the yovo (white person's) place. And although it was nice and quiet inside the house, friends of the interviewee and other children pressed together in front of the closed door and windows, trying to catch a word of what was said inside the house. I don’t think this was negatively influencing the interview or distracting the participants of the interview, though. As I said, I got the impression that many children we interviewed, were happy with all the attention, not only the attention from me and Hugues, but especially the attention of friends and other children when they came out of the house and could tell about the interview and show the others the present that they had received. Children even started to approach me or came to the house to ask if they could help me with something. The fact that I gave away balloons and pens and that I liked to play soccer and had a ball, made me even more popular. I sometimes felt like I was a child again myself, with friends coming at the door to ask if I could play outside and Jennifer kicking us out of the house, telling us not to make so much noise.

*children pressing together in front of the window*
1.4 Advantages and disadvantages of being a white stranger for the collection of data

Being a white stranger helped me to attract children because it made me interesting for them from the start. I had no problems whatsoever to come in contact with them. From the moment we entered our new house in Tchetti, we were surrounded by children. The neighbour kids helped us with sweeping the rooms, fetching water and buying kerosene for the lanterns. When they saw me unpack my soccer ball and when I asked them if they wanted to play a game of soccer with me, they were very happy to do so. The neighbour children brought friends to play along and in this (snowball) way I found my first informants. Other informants were picked up from the street, while we were walking through the different areas of Tchetti. We asked all informants to accompany us to the house for the reasons described above. There we would start the conversation in an informal way, in a natural way reaching topics of interest for my research. If the child or children were ‘at ease’ and talkative, I asked them if I could tape the conversation in order to be able to listen to it again more carefully. Most of the time I showed how the tape recorder worked and let them play with it for a while. When we started the interview, I tried to keep the formulation of the questions simple, but this did not mean that the questions themselves needed to be simple. Mostly, the children were very capable of answering even the ‘hard’ questions, they did not mind my probing and were willing to explain things to me over and over again. Being an ignorant stranger in their eyes, made it more easy for me to ask for explanations and to ask ‘weird’ questions. For example, they did not mind informing me about how and where they defecated and what they used to wipe their bottoms. I could ask them why they were embarrassed if they saw someone else defecating, or why they considered dirty things dirty. I heard Hugues using the word *yovo* when he translated my questions for the children, thereby emphasising that the ‘white stranger’ wanted to know how things were with them. Sometimes they had to laugh, that I did not knew why things were dirty. But they could imagine that things were different in my country (sometimes they even asked about that) and therefore explained things to me in detail, trying to make me understand ‘their ways’. Using ‘real life’ examples, also made it easier to talk about certain things. For instance, I used to tell them that I had become sick myself in Tchetti and if they could tell me what they thought caused my diarrhoea. It seemed they liked to hypothesise about the causes and they also liked the ‘being consulted by the *yovo* about things she is ignorant of and they have knowledge about’.
On the average, the interviews lasted for approximately one and a half hour. I thought this might be too long for the children to stay focused and concentrated, but it was not. As a matter of fact, some children were even disappointed when the interview ended and did not want to leave the house. We had to clearly thank and dismiss those children before they wanted to leave.

Because many interviews were held with two or more children at the same time, I did not find it necessary to conduct more than one FGD, especially since the FGD did not uncover more information than one got out of the interviews. The FGD was not hard to organise, as one can imagine. I started a water balloon fight with the neighbour children which attracted not only other children, but adults as well. Within five minutes there were more than ten children and five adult men playing at the ground between our house and our neighbour’s house, circled around by a group of women who were laughing, making remarks and clapping their hands every time one of the balloons splat. After the game, I asked the children to accompany me inside the house, where they drew pictures of the ‘inside of the human body’ and where we conducted a group discussion of one hour.

attracting informants  Focus Group Discussion

Thus, being a white stranger had its advantages. But it had few disadvantages as well, of which the biggest was that I could never become ‘invisible’. If I wanted to participate in something, like fetching water or even games, they would always notice my presence and start to ‘show off’. Even if the children did not notice or forgot about my presence, which was rare, there was always somebody else who would point it out again. So in that sense, I could not really conduct much participant observation while being invisible. I had to observe them from a distant or participant observe them and acknowledge the fact that their behaviour was influenced by my presence.
Another problem was the fact that girls were by far not as talkative as boys. Especially when we interviewed girls when there were boys around, they did not open their mouths or could not answer the more difficult questions. They were also more intimidated by Hugues presence than the boys. To be able to also receive information from girls, I had to make sure that during the interview, there was no male presence around other than Hugues. Then we had to slowly and carefully try to make the girl(s) talk freely, which most of the time took a lot of effort and did not always work out. It became obvious that most girls in Tchetti were not encouraged to express their thoughts and ideas, even more than children in general, especially in the presence of males.

The final problem was, that the presents that I gave to the children to thank them for their co-operation, were regarded by adults as too valuable for them. It was not only Hugues who thought this, a few times I saw parents or an older brother take away the pen from the child I had just interviewed. I had not foreseen this problem and felt bad for these children.

A more elaborate description of Tchetti and its children can be found in Chapter 3. The issues about the reliability of the data provided by children, will be discussed in Chapter 5, section 5.6. In Chapter 4, parts of the literal transcription of some of the interviews are integrated for illustration. The M in front of the sentence represents my question or remark, the H stands for Hugues, translating the answer of the child. Because it is a literal transcription, we are talking about the child or children in the third person.
CHAPTER 2 PERCEPTIONS OF DISEASE TRANSMISSION, DIARRHOEA, DIRT AND HYGIENE: AN OVERVIEW

2.1 Factors influencing the transmission of contagious diseases like diarrhoea

2.1.1 Disease transmission: the biomedical view

If we talk about disease transmission in biomedicine, we are automatically talking about contagious diseases (often called infectious diseases) in contrast to the non-communicable diseases. Infectious diseases are caused by an agent, the overall term for bacteria, fungi, parasites, viruses and prions (often called pathogens, microbes or germs). These disease causing agents are transmitted to a person (the host) through direct or indirect routes, the modes of transmission. Direct transmission takes place through contact with bodily secretions while indirect transmission takes place through a vehicle (e.g. food, water, instruments, objects), a vector (e.g. mosquitoes, flies, ticks, dogs, monkeys), the air (airborne viruses) or parenterale transmission (transmission that goes around the digestive system, for instance by subcutaneous, intramuscular and intravenous ways). There are many factors which influence the extent of infectiousness of an agent, for instance the pathogenicity and virulence of the agent itself (how strong it is, how easy it can cause disease), the dose, the susceptibility and immune response of the host and environmental factors (climate, geography, social-economical factors like crowding and urbanisation, etc.). Crowding and urbanisation are seen as risk factors, as are age, health, immune status, specific occupations, travelling and specific life-styles. In biomedicine, the modes of control of disease transmission are quarantine, good hygiene (proper sanitation, disinfection of the water supply), change of life-style (for instance in relation with STD’s), elimination of the vector and immunisation of the population.

If we take the example of diarrhoeal disease, the agent is present in the faeces of the sick person. Faecal materials containing the agent can be transferred to drinking water, to flies, to hands, etc. From there it can be transmitted directly to a new host or reinfect the sick person, or it can reach these persons indirectly via food. Prevention aims at stopping infectious organisms from getting from the faeces into the environment, for instance by the save disposal of stools. This type of prevention is called primary barrier, because it prevents pathogens from spreading in the primary stage of the route of transmission: from the source
into the environment. Once in the environment, the pathogen can spread and reach new host. Practices that prevent this from happening are called secondary barriers and can be formed by good hygiene practices like hand washing.\textsuperscript{1} Because bad hygiene, unsafe water and unsanitary conditions have a direct negative effect on health, many health promotion programmes are focused on promoting hygiene and improving water supplies and sanitary conditions.\textsuperscript{1,2,3}

2.1.2 Water, sanitation and health in Benin

Diseases related to contaminated drinking water, unsanitary food preparation, inadequate excreta disposal and unclean household environments constitute a major burden on the health of people in the developing world and are among the leading causes of ill-health.\textsuperscript{2} Like in many sub-Saharan developing countries, the access to safe water and sanitation in Benin is poor. Table 1 shows Benin’s water supply and sanitation coverage (= the percentage of the population provided with safe water and/or sanitation) in the year 2000, according to the statistics of the W.H.O. Global Water Supply and Sanitation Assessment 2000.

Table 1: Water supply and sanitation coverage in 2000 in Benin\textsuperscript{4}

<table>
<thead>
<tr>
<th>% of water supply coverage</th>
<th>% of sanitation coverage</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>Urban</td>
</tr>
<tr>
<td>74</td>
<td>55</td>
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According to these figures, Benin’s water and sanitation coverage is very low, even in comparison with the average percentages found in Africa. Especially the low sanitation coverage in Benin’s rural areas is striking.

As said earlier, poor access to safe water and poor sanitary means have a negative effect on health. In Benin, like many other sub-Saharan countries, the poor safe water and sanitation situation has contributed to the presence of many endemic diseases, of which diarrhoeal diseases are among the most occurring. The WHO has estimated that in Africa, every child has five episodes of diarrhoea per year and 800,000 children die each year from diarrhoea and dehydration.\textsuperscript{5}
To accelerate the effort to expand water supply and sanitation services to the unserved and underserved poor populations, the decade 1981 – 1990 was declared “The International Drinking Water Supply and Sanitation Decade”. But despite this focussed attention, fairly little progress was made. While some 1600 million people were served with safe water and about 750 million people with adequate excreta disposal facilities, the rapid population growth and lagging rates of coverage expansion has left more people without access to basic sanitation today than in 1990. Besides the rapid population growth an increasingly popular explanation for the little progress that has been made, is the failure to achieve sustainability. The latrine programmes are said to have disregarded the complex characteristics of improved sanitation, the adoption and maintenance of which requires a substantial financial investment at the household level and a significant change in personal and domestic hygiene practices. In Benin a study was carried out that explored the decision making of private households in rural areas to install a pit latrine. In the dissertation written as a result of this study, Jenkins describes some general observations about the adoption of private latrines by rural households in developing countries, like Benin. These observations are:

- Adoption of latrines is best described as a household consumer decision made, in most cases, by the head of the household.
- By standards of cost and income, a latrine is usually a costly, major investment.
- In most developing countries, using a latrine is a significant departure from prevailing rural defecation habits and adopting one further entails changing the management of faeces.
Defecation and faeces are almost universally associated with cultural notions of taboo, pollution, dirt and/or danger.

In rural areas where extensive bush land and fields provide free alternative open defecation sites, latrines are perceived as a luxury more than a necessity.

Latrines are an innovation entering many rural societies through urban and foreign contacts and/or by externally directed sanitation programmes. (Jenkins 1999:9)

According to Jenkins, some of these observations show directly the importance of understanding the cultural dimensions of latrine adoption and of sanitation and hygiene related topics in general. Culture-based explanations and defecation-related beliefs have largely been ignored and been unknown by sanitation planners and managers working in developing countries and should be further explored to develop sustainable sanitation improvement.3

The attitude of children towards latrines and the influence of the water and sanitary situation in Tchetti on health and childhood diseases will be discussed in the next chapters and will be more closely considered in chapter 5.

2.2 Analysis of dirt and hygiene

2.2.1 The power of disgust

In her dissertation “The Dangers of Dirt”, Curtis believes that among the reasons for hygiene improvement programmes to be of limited success is the lack of understanding what hygiene means to people, the complexity of the subject of hygiene, the problem of identifying specific risk practices and the lack of strategic thinking in planning interventions (Curtis 1998:summary). She spends much attention to the analysis of the social-cultural foundations of dirt and hygiene, following Douglas’ statement that ‘dirt is matter out of place’, threatening order, causing pollution and defilement, creating disorder, and hygiene as serving to preserve order and to provide a barrier to chaos and disorder.16 In the western world dirt is considered dangerous because it can contain germs and therefore poses a threat to health and should be combated through means of hygiene. Curtis however, argues that hygiene practices and ideas about the dangers of dirt can be found in all cultures and
societies and in every religious or ideological system, whether people believe in germs and microbes or not. Social rules for hygiene and dirt avoidance existed long before the discovery of bacteria and viruses. According to her, the biomedical perspective on dirt and hygiene seems too narrow. If hygiene is a social phenomenon then it cannot be understood except in a social context. Hygiene can be seen not only as the private practices of individuals, but as a requirement of each society. Rules of hygiene are an essential part of order, rules that serve to reward conformity and co-operation and to outlaw and punish sin and antisocial behaviour, in order to prevent social collapse. Dirt is not only physical objects which are in the wrong place, the label “dirty” is also given to marginal behaviours and social categories which provide a threat to the social order.

Thus, Curtis argues, the wellspring of hygiene is the psychological and social need to create order by chasing out what is ‘dirty’. A concern with hygiene for the sake of disease avoidance is secondary, but often serves to rationalise the underlying concern, which is the search for order. The underlying motivations for domestic hygiene, both in developed and developing countries, lie not in the avoidance of specific diseases, but in subtler social forces.

If dirt can be seen as matter out of place, then what exactly is seen as dirt depends on what is regarded the right place for the right thing. Therefore dirt as a concept is relative, it exists only “in the eye of the beholder” and thus can change from culture to culture. But although what is regarded as dirt in one culture can vary from what is regarded as dirt in another and although ideas about dirt have changed over the centuries, Curtis suggests that there is an universal aversion of a specific kind of dirt: bodily excreta, contaminated food, small animals and insects. Van der Geest suggests that faeces are regarded dirty in all cultures, although there are different gradations in how dirty they are, depending on the context. It seems as if bodily excreta, like faeces, but also urine, pus, vomit, menstrual blood, saliva, snot and sputum and the process of production of these excreta, belong to a core set of events and substances that can provoke the emotion of disgust.

In her article, ‘Dirt and Disgust’, Curtis argues that the wellspring of hygiene is not only psychological and socio-cultural, but that the explanation for especially the universal aversion of certain kinds of dirt could be Darwinian (Curtis et al. 1999:144). Curtis applies Darwin’s theory of evolution and natural selection on the topics of dirt and hygiene. Evolution, or the selective acquisition of beneficial, heritable mutations, produced the characteristics that enabled the ancestors of humans to survive and reproduce successfully in the environment in which they lived. These adaptive characteristics were not all purely
physical. Evolution has equipped humans with the psychological architecture for a number of behaviours. An innate sense of disgust for that which is dangerous to health would have conferred an evolutionary advantage on the holder and so be selected for. Avoiding faeces, especially those of others, would have been highly advantageous to the health of our ancestors. Avoiding any possible ingestion of contaminated or toxic food would have assisted survival as well.\(^6\)

An extensive dissection of the concept of disgust is undertaken by Miller in his book “The Anatomy of Disgust”.\(^8\) He describes the complex and paradoxical content of disgust and its implications for our moral sensibility, love, politics, and our sense of self. Miller too refers to Darwin in explaining the wellsprings of disgust, but Miller emphasises that disgust is not only connected to food and taste, but involves the other senses like smell and touch and even at times sight and hearing. Miller adds that above all, disgust is a moral and social sentiment. “It plays a motivating and confirming role in moral judgement in a particular way that has little if any connection with ideas of oral incorporation. It ranks people and things in a kind of cosmic ordering” (Miller 1997:2). Like Douglas and Curtis did with dirt and hygiene, Miller connects disgust with order.

\[2.2.2 \text{ Relevance for health promotion programmes}\]

Whether hygiene and dirt avoidance are cultural constructions in search for order, rational constructions looking for ways to prevent diseases or evolutionary adaptations driven by the powerful emotion of disgust, or (more likely) a combination of these: hygiene and dirt avoidance are present in all societies. Curtis’ main message is that understanding what is regarded as dirt and disgusting by a specific population and stimulating the already existing ideas about hygiene could form an important weapon on the side of disease prevention and health promotion programmes.

The argument of looking for already existing ideas about dirt, hygiene and disease transmission and to incorporate these ideas in prevention programmes is not only shared by Jenkins and Curtis, but also by Kochar and Green. Kochar argues that epidemiologists and public health workers have only been concerned with risk factors for health and have neglected beneficial behaviour that already exists in populations. Beneficial behaviours that already exist can, for instance, be the strict avoidance of stools in selecting a squatting place, an universal avoidance of pollution of fields under crops, the use of the left hand only in
handling faeces and the avoidance of using the left hand in handling food and eating. These examples are only four of a list, selected by Kochar, of 22 protective factors for the infection with hookworm in the villages he studied. He recommends that these beneficial practices should be incorporated in health promotion programmes and should be reinforced through those programmes.9

Green states that contagious diseases are currently making a strong comeback after several decades in which antibiotics, immunisations, environmental sanitation, and other interventions seemed to be making substantial health gains. “If there are to be effective interventions, it is more important than ever to understand how Africans (and others) understand contagious diseases” (Green, 1999:16).10 In his book “Indigenous theories of contagious disease”, Green attempts to show

“…that Africans understand contagious disease in ways that are in some fundamental ways not very different from Western biomedicine. It is to show that there is sufficient common ground between the two systems to develop public health approaches that can build on and even incorporate elements of indigenous contagion theory”.

(Green 1999:75)

This ought to result in

“…interventions that are more culturally meaningful and therefore likely to influence behaviour. It should galvanise the support of existing, indigenous health opinion leaders and practitioners, forging potentially powerful alliances in, for example, AIDS or childhood diarrhoea prevention campaigns”.

(Green 1999:219)

In the last chapter of this thesis I will verify the arguments of Curtis, Jenkins, Kochar and Green with the results of my own fieldwork and I will discuss the ideas of children concerning dirt, hygiene and disease transmission and the relevance of having knowledge about these ideas for health promotion programmes.
2.3 West-African perceptions related to diarrhoea and disease transmission: the emic view

Much of the literature dealing with West-African perceptions of disease causation and transmission tells us that West-African explanations often differ substantially from western biomedical explanations. West-African perceptions often do not include the western notion of microbes and germs that can be held responsible for diseases. Mothers in Burkina Faso for instance, studied and described by Curtis, did not perceive diarrhoea as a distinct clinical entity with a single set of causes. They rather attributed diarrhoea to a variety of social, climatic and environmental factors which include teething, evil eye, transgressing certain social rules, unsuitable foods and the presence of other concurrent illnesses. Only “la diarrhée des blancs” which was added to their taxonomy recently, is believed to be caused by dirt, parasites and worms and must be treated biomedically. The other diarrhoeas were most often treated at home with ‘traditional’ medicines or by a ‘traditional’ healer. In Burkina Faso, many preventative and curative practices that are undertaken in relation to diarrhoea, include the use of purgatives and enemas. The importance of emetics, purgatives and enemas for the prevention and treatment of diseases, is also mentioned by Olivier de Sardan, who described the West-African notion of internal-illness entities. These entities are regarded as the cause of a lot of disorders and diseases, including diarrhoea, and occupy a central position in daily health and therapeutic ideas and practices. They are frequently complained of and treated, mainly by local remedies, but there is no real cure. The digestive system often plays a central role in the pathologies caused by these entities. The entities are seen as a congenital predisposition, someone is born with it. The entity is “hidden” and latent in the body, it is chronic, progressive and hereditary. The entity can become active and express itself in numerous different internal pains and diseases and in some cases it happens to “get up” or “grab hold” of an organ and metamorphoses into a specific ailment. It can also move through the body and cause illnesses elsewhere. The entities are seen as God’s diseases and are rarely attributed to supernatural agents. Because the illness makes itself known through excretion, the urine, vomit and stools are examined commonly and thoroughly. Constipation is often very disturbing, while diarrhoea, sweating and vomiting are seen as ambiguous processes: these are both signs of sickness and signs of its evacuation. Vomiting, urinating, but especially defecating is seen as a matter of getting rid of filth. That is also the reason for the important role accorded to emetics, purgatives and enemas in West-African countries. Defecation as seen as getting rid of dirt, is also described by Van der Geest. In
Kwahu-Tafo in Ghana the presence of dirt in the body is seen as the most important cause of sickness. If one does not go to the toilet every day and one allows faeces to remain in the body for too long, the dirt in the bowels will start to ferment and heat as happens in a dunghill. This may cause all kinds of illnesses and therefore defecation is seen as ultimately hygienic: it promotes health and prevents outbreak of illnesses.\textsuperscript{12}

The interesting notion described by Olivier de Sardan, of internal illness entities that lie hidden in the belly of people from the moment they are born and can cause pain and diseases when provoked, seem to resemble some perceptions of worms, described by Bierlich and Geissler.\textsuperscript{13,14} These authors argued that the people they studied in Kenya and Ghana, believed that they were born with worms in their blood or bowels and that worms were regarded as being an obligatory presence in the body. Intestinal worms are often seen as having the task to grind the food before it can be digested by the person itself. Bad food and other influences can make the worms angry and they might refuse to perform there tasks, in that way causing illness to its host. Similar to the internal illness entities described above, worms are seen as internal forces too, which are always present in healthy bodies and will only emerge and cause illness through outside provocations. Both authors concluded that these ideas about worms correlated with larger concepts of health and disease. Medicines, herbal as well as western pharmaceuticals, are used to appease the worms or as a preventative strategy to keep the inner forces in balance. But worms shouldn’t be killed, because then the person him/herself would die too.\textsuperscript{13,14}

Green describes a survey of ethnomedical literature on childhood diarrhoea that suggests that most African etiologic belief about diarrhoea is naturalistic. Childhood diarrhoea is usually believed caused by eating bad or incompatible food, breastfeeding under certain conditions, teething, parents having sex with other partners, bad water, poor hygiene and sometimes it is caused by bad air and worms. He also describes the notion of a snake, believed to inhabit the sufferer’s stomach. It reacts on dirt or impurities, introduced into the body, by causing diarrhoea, which flushes the dirt out of the body.\textsuperscript{10} This “\textit{internal snake}” concept seems to resemble the disease causing worms described by Geissler and Bierlich. Green spends a whole chapter of his book “Indigenous theories of contagious disease” to explain this internal snake concept, which is, according to him, a widespread believe in large parts of southern and east Africa. But although this belief is widespread, Green complaints about the little amount of attention and publications that concern this subject. The internal snake concept is described as the belief in the existence of an invisible internal snake that dwells in the stomach. It is designated by the local term for snake, or less
often, a local word for worm is used, perhaps signalling a different concept. The internal snake may be conceived of as a life force with a personality, having its own food preferences and most of the time performing vital digestion functions. If dirt, impurities or certain kinds of food (bad, spoiled, mixed, etc.) enter the stomach, it will react with displeasure, causing pain and discomfort and provoking various bodily discharges such as diarrhoea and vomiting. Most of the time gastro-intestinal diseases are caused, but sometimes it was said to be able to also cause STD’s, epilepsy, convulsions, mental retardation, growth abnormalities, helminthic infections, fecundity, prenatal development and childbirth and barrenness.¹⁰

Green argues that in sub-Saharan Africa, the explanation given to diarrhoea, like most other contagious diseases, is mostly naturalistic and that, in his view, “the internal snake is a cultural metaphor that reflects pollution and contagion ideas as well as related concepts such as respect for natural bodily processes, physiological homeostasis and resistance to disease” (Green 1999:90). This would support his argument, that in Africa most serious diseases tend to be interpreted within a framework that is essentially naturalistic and impersonal, a framework Green calls Indigenous Contagion Theory (ICT).¹ In most societies that hold to this theory, the agents of infection are described as worms or tiny insects rather than germs. ICT comprises at least three interrelated types of etiologic belief (Green 1999:13-14): (1) naturalistic infection, or what has been called folk germ theory, (2) mystical contagion or pollution and (3) environmental dangers. Green explains that both pollution and naturalistic infection involve unseen agents that may cause illness in anyone who comes into contact with such agents. The tiny or unseen agents of naturalistic infection (insects or worms) closely resemble the infectious disease agents of biomedicine. Agents of pollution illness are conceived as dangerous essences such as impurity, filth, or dirt; menstrual blood and other reproductive and bodily fluids; and death. Environmental dangers comprehend the belief that elements in the physical environment can cause or spread illness, for example, illnesses that can be carried through air or wind and by inhalation of unclean dust.¹⁰

Green concludes that ICT is an overlooked but important framework for the explanation of contagious disease within the ethnomedical systems, that knowledge about indigenous contagion theories might show many parallels with Western biomedicine and that those who would promote public health in developing countries would do well to modify approaches to accommodate and take advantage of these parallels.¹⁰

¹ There seems to be an increasing interest in cultural ideas about disease transmission in (African) etiologies, see for example “The topology of illness transmission localizing processes among Bissa in Burkina Faso”, by H. Samuelsen, “Tansmettre la maladie”, by A. Caprara, or “L’intérieur des choses”, by S. Fainzang.
In chapter 5, I will apply Green’s ideas about ICT on the results of my own fieldwork to find out in how far children explain diarrhoea and disease transmission in a naturalistic way and if their explanations have common ground with the biomedical ideas of transmission, as described in section 2.1.

Summarising these sections, one could say that in Benin, like many other sub-Saharan countries, the prevalence of diarrhoea among children is high. Important factors contributing to this high prevalence are poor hygiene practices and poor safe water supply and sanitation. Especially the poor sanitation coverage in Benin’s rural areas is striking. Factors involved in this problem are multiple and complex and the WHO and researchers like Curtis and Jenkins state that hygiene promotion, education and latrine programmes have up to now been of limited success. An important reason behind this, according to Curtis and Jenkins, is that these programmes have largely been ignoring culture-based explanations for diarrhoea and defecation related beliefs. A better understanding of the complexity of the subject of hygiene and what hygiene means to people is necessary, as is a better view on specific risk practices. Kochar suggests that programmes should also focus on already existing beneficial practices and reinforce these practices through their programmes.

Although West-African perceptions of disease transmission and diarrhoea do not include the western notion of germs as disease causing agents, West-African societies, like other societies, do have rules for hygienic behaviour. These rules might be more based on social construction which regard dirt as matter out of place rather than dangerous to health. Explanations given for contagious diseases, like diarrhoea in general, are rarely attributed to supernatural agents but mostly explained in naturalistic ways. When more closely examined, these perceptions might have some common ground and similarities with biomedical notions. This, together with the psycho-social and ‘inborn’ need for order and hygiene could be very useful to prevention programmes. Existing beneficial practices should be incorporated and reinforced and programmes should build on existing notions of dirt, hygiene and disease transmission. Thus for prevention programmes to be more successful, a good understanding of the emic perceptions of disease causation, disease transmission, dirt and hygiene is essential. The importance of the role of children in this, is a second focus of this study.
2.4 The children’s point of view: does it matter, or is it out of place?

Until recently children have been viewed by anthropologists as continually assimilating, learning and responding to the adult, having little autonomy, contributing nothing to social values or behaviour except the latent outpourings of earlier acquired experiences. According to this view children are transformed over time into mature, rational adults. Until then, children are seen as culturally incomplete. As a consequence, research about children mainly focussed on child-adult interaction while child thoughts and social behaviour were interpreted in adult terms. Furthermore, children were and still are commonly believed to lack the communication, cognitive and social skills that are the prerequisite of good respondents. There is also the discussion about the practical and methodological problems in conducting interviews with children, like the problem with language use, literacy and different stages of cognitive development. There is a concern about the quality and reliability of the data obtained, because children might have a rich imagination or might be influenced by the power relation between the researcher and the child. In addition there is also the issue of confidentiality and ethics that becomes especially important when interviewing minors. Only recently a shift in the ideas about children has taken place and anthropologists became aware of the fact that the perspective as described above, leaves more or less unaddressed the understanding of children as social persons with their own experiences, perceptions and actions in the social and cultural world. The argument that ‘the best people to provide information on the child’s perspective, actions and attitudes are children themselves’, got more and more support.

Toren, in her article “Why children should be central to anthropological research”, argues that children should be central to anthropological research because children are bound to reveal what adult informants can neither tell nor show the anthropologist: the process through which one comes to know what one knows. According to Toren, understanding how children constitute their knowledge of the world is necessary for explaining how people come to do what they do and why they hold the ideas they hold.

Focusing on children’s constitution of knowledge, several studies have concluded that children do contribute to the development of their own identity and are actively engaged in the production of their own social world. Their ideas do not necessarily reflect early development of adult culture. At the level of behaviour, values, symbols, games, beliefs and oral traditions, there is a dimension exclusive to the child. Also with regard to ideas and understandings of illness, what causes it and how it should be treated, these studies
made it more plausible that children have their own unique ideas and that like adults, their ideas often have a very clear internal logic, even if they are not scientific. Furthermore, experimental research has demonstrated that even pre-school children can be reliable respondents and are able to appreciate someone else’s point of view, can make social judgements and even identify false intentions and beliefs, although cognitive capacity clearly does increase with age (Astington et al 1988, quoted in Christensen et. al. 1999:101). Modern psychological and medical evidence suggests that children are more reliable as witnesses than previously thought and reliability can be increased by skilful interviewing.

A nice example of ideas about a disease exclusive to the children is shown by Geissler in his article about the Luo children’s thought about worms and illness in Kenya. The article shows that the children he studied were very capable of mixing ideas and information of different sources together or incorporate new elements in older ideas and thus form unique ideas about diseases and modes of transmission. According to Geissler, knowledge about what children’s ideas maintain and how they are developed, means understanding the transformation of medical systems over time. Following children and their ideas now, means knowing how they came to the ideas they have in the future. It adds to our understanding of how health care attitudes and practices of the coming generations are shaped.

In the developing world, children start to participate in social and economical roles at an early age and often form an important source of income for their families. This is an important reason why childhood in developing countries differs from childhood in developed countries, where the leading opinion about children is that they should have a protected and untroubled childhood with the opportunity to go to school and play. Children in developing countries on the other hand look more like young adults and often have important responsibilities in the household, which includes fetching water, preparing food, looking after their younger siblings but also helping to care for sick people. Geissler argues that due to the ever increasing incidence of AIDS, which mainly kills adults, the role of children in care increases. Research on their participation in care, helps us to understand community health and to plan educational interventions.

Studying children with regard to their ideas and practices related to dirt, hygiene, diarrhoea and disease transmission, might provide insight in how children constitute their ideas. With regard to dirt it might be interesting to see if their ideas differ from that of adults, if what they see as dirt can also be explained as matter out of place. And whether there is something like an inborn feeling of disgust and avoidance of dirt, or if they are taught what is dirty and what not, and by whom. The ideas they hold, might influence their hygienic
behaviour and practices which, in turn, have consequences for the transmission of diarrhoeal diseases.

Having knowledge about children’s ideas and practices can therefore be important for hygiene promotion programmes. If programmes can develop hygiene improving education which builds on children’s ideas, it might prove to have a direct positive effect on the health of the children themselves and indirectly on the health of others, because disease transmission from the child to others, through important household tasks which are carried out by children, might also decrease. Furthermore, Curtis suggests in her recommendations for the improvement of hygiene promotion programmes, that people from the target audience of these programmes: “...are unlikely to succeed in modifying risk behaviour without the support of their immediate entourage; neighbours, friends, relatives, etc.” (Curtis, 1998, p. 138). It can be suggested that this “secondary target group” could be formed by children. Mothers (or parents) and children might reinforce each other’s hygiene practices. But further research need to be done to make it more plausible that health education and prevention, adjusted to the ideas of children and focussing on them, help to decrease the prevalence of diarrhoea.

Again, the hypotheses described above, will be verified with the results of my own fieldwork and will be discussed in chapter 5.

Thus, if prevention programmes want to be successful, they should also try to understand children’s views, since they will not necessarily reflect the ideas of adults because children use information from many different sources in mixing and creating an understanding of the world. Furthermore, studying the ideas of children will help us to better understand how adults hold the ideas they hold, it can give us an idea about the constitution of their ideas. Besides that, following children’s ideas now, means a better understanding of the ideas they will have in the future. Finally, including children in prevention programmes which are adjusted to their ideas will probably improve the efficacy of the programs that focus on the adult population because these two groups can reinforce and support each other.
CHAPTER 3  TCHETTI AND ITS CHILDREN

3.1 Introduction

In this chapter I will give a description of the research setting, including a description of some of the factors that influence the prevalence of diarrhoea, from a biomedical point of view. With these descriptions I will give an answer to the seventh research question of my research proposal:

*What environmental and economical factors influence the prevalence of diarrhoea and how do they influence this?*

3.2 Description of the Location of the Fieldwork: Tchetti

The fieldwork was performed in a small town on the border with Togo, the name of this town is Tchetti (see the map in appendix 1). There is one main road passing through Tchetti, connecting Savalou, the capital city of the Zou department to which Tchetti belongs, with Togo. Savalou is situated 38 kilometres to the east from Tchetti and has a hospital. Tchetti probably has around 14,000 inhabitants and is growing. The older quarters consist of houses constructed with dried mud or mud bricks, the newer quarters consist of houses made of concrete. Most houses have corrugated iron roofs and are small, with no more than two or three rooms. Tchetti is situated on an elevated piece of land and is surrounded by three rocky hills and (corn)fields. A friend of me, who is a geologist and who saw the pictures of these rocky hills, told me it were most probably the remnants of former volcanoes. The outer layers of the volcanoes have vanished through the process of erosion, but the plug inside the hart of the volcano remained, because it is composed of extremely hard materials. This might explain why the rest of the landscape was rather flat.

*One of Tchetti’s rocks (defecation spot in foreground)*
In Tchetti there are two mosques and six or seven churches, including an Evangelists church, a Catholic church, three churches of the ‘Chrétien Céleste’ (Celestial Christians) and a Baptists Church. I have seen five schools, of which three were elementary schools, one was a Koran school and one was a high school, but there might have been more schools in the outskirts of Tchetti. There is one health centre in Tchetti, three private medical practices and, according to one of the doctors, a lot of ‘traditional’ healers. Because Tchetti is situated on the border with Togo along a main road, a customs office is established on the side of the border with Togo. Tchetti has a community founded radio station (Radio Ore-Ôfé) accommodated in a fairly modern building. The station broadcasts programmes in French and Ifè of which are many health educating programmes.

Tchetti has two major problems, according to many inhabitants; it has no running water or fresh water sources and there is no electricity. Attempts have been made and are made to collect money from the community to improve the situation, but up till now there have been problems with the cash management. Illumination takes place through kerosene lanterns and offices like the customs house, the radio and two pubs with television are powered by generators. For their water supply, the people in Tchetti are dependent on wells and the three water pumps in town. Because Tchetti is situated on an elevated level and on rocky ground, it is hard to bore for groundwater. Through the lack of fresh water sources most people are dependent on rain water. If it has not rained for a few weeks, the water in most of the wells starts to become turbid.

Next to the lack of electricity and water, I would say a major problem, at least for health, is the lack of sanitation. There are only a few latrines in Tchetti, no more then ten according to two informants, although I think there are a few more because the newly build houses often have a shared latrine. But it is fair to say that the large majority of the inhabitants of Tchetti do not have access to a latrine and defecate in certain areas near the mountain or in the bush. The places that do have a latrine are places like the customs office, the schools, the health centre, the radio, the biggest pub and at some private households. As I said, some of the newer compounds are equipped with a shared latrine.

Although Tchetti has many inhabitants, it is a quiet town with not much traffic. Most people go on foot or take a bike, some have a moped for transport and only a few are wealthy enough to own a car (which is most of the time a very old one). Only on market day, which is on Mondays, the town transforms into a busy, crowded place with cars and mopeds
carrying people and merchandise from and to Tchetti. There are also more people selling food on the streets on the market day compared to normal days.

According to a midwife that works for the health centre of Tchetti, most women in Tchetti get between six and ten children. Contraception and birth spacing are promoted by health workers and used and accepted by most of the women in Tchetti, but the women consciously choose to have many children. They start getting children at a young age and most do not stop having children until they are 30 or older. According to the midwife, it is expected by the community that couples get many children, first of all because it is a custom, but also because other people would ask whether you are too lazy to raise more children. Furthermore, children can be a source of income for their parents, for instance they help to cultivate the fields and to sell the crops.

As the diversity of churches already indicates, the inhabitants of Tchetti have many different ethnic and religious backgrounds. I have heard people speak Hausa, Fon, Kotokolé, Dendi, Yoruba and Fufulde, but most of them speak Ifè. French is used when people do not speak each other’s language.

Some Islamic men in Tchetti, who are wealthy enough, have more than one wife. The wealthier people live, most of the time, in the newer quarters in the more recently built houses, while the poorer people live in the older quarters in the poorer houses. But although there is a noticeable difference between the poorer people and the wealthier people, I got the impression that, on the average, the differences are not that big between the people, except for a few very rich men who had a second house in Tchetti. Many families in Tchetti own a piece of land that they cultivate, next to their ordinary job.

The house we rented and lived in ourselves, was large and new compared to the houses in our neighbourhood. We had to share this house with a group of bats, that lived between the roof and the ceiling and with a couple of mice and lizards. Our house was one of the few houses in Tchetti with a latrine. This latrine was made of concrete and consisted of a cone shaped construction that ended on a five meter deep hole. This hole turned out to be the habitat of many insects and reptiles. Before using the latrine, we always had to chase away “Larry the lizard” and wait a few minutes before most of the flies had left. Using the latrine at night meant being watched by a couple of giant cockroaches.

our latrine
Like most of the inhabitants of Tchetti, we ate at the little places alongside the road, which consisted most of the time of a few tables and chairs and at some places there was a small, open hut. We used the water from the well between our house and the neighbours’ house for drinking and bathing. This water was sometimes muddy and we needed to filter it, to filter out the dirt, the mosquito larvae and the cyclops that carries gynea worm cysts. After filtering we treated the water with chlorine. The water we ended up with for drinking, tasted like muddy swimming pool water. Looking back, it does not seem very weird that we had some gastro-intestinal problems every now and then.

Our neighbours had informed us that we could dump our garbage in the trench in front of our house. I had asked them if that was not going to make a mess and stink if it would stay there for a while, but they had told me that the water from the rain that drained into the trench would wash away the dirt. It hardly rained the first three weeks of our stay in Tchetti though, and although the animals took care of a lot of dirt and sometimes people burnt a part of it, it stank tremendously.

_the trench_

When it finally started to rain, I saw that it worked: the trench started to become a small stream and the running water washed away the dirt that was in there (to where, I don’t know). But the system was only partially functioning because during those three or more weeks, the dirt had accumulated not only in the trench but also around it. This dirt stayed where it was. Often the trench was not only occupied with goats, chicken and dogs, that were looking for something to eat, but also with children. If mothers or older brothers and sisters did not pay attention, it also turned into a popular playground for small children. More than once I saw our small neighbour kids in front of our door playing with the carbon boxes or eating the three day old bread that I had just thrown into the trench that same morning. When I was interviewing children or playing with them in our house, sometimes one of them got hold of our garbage bag when I wasn’t paying attention for a second,
curiously looking for something useful or to play with and always managing to find something. These children were often a bit older, between eight and twelve years of age.

3.3 Children in Tchetti

Because women have many children and people do not grow very old in Benin and in Tchetti, a large part of the population consists of children. During the first three weeks of my stay in Tchetti, most of those children went to school from 8 a.m. till 11 a.m. and from 3 p.m. till 5 p.m. After those three weeks, summer holidays started and many children spent part of their ‘free’ time on the fields helping their parents. Next to helping on the fields, children perform a range of household tasks of which I will tell more in section 4.5. But they have time to play as well and the most popular games to play were soccer, cards and running after a bicycle wheel with a stick. Older children could watch one of the two televisions for a small entry fee and see one of the old movies that were shown every afternoon.

Children are raised in a way in which they learn to respect adults. They will not easily talk back and are, in my eyes, amazingly obedient. They are often used as ‘delivery boys’; if one needed something, one could send a child to get it. We were told we could use the neighbour kids if we needed anything, water, food, drinks, kerosene, things from the market etc. We did make use of this service, but often let the children keep the change which resulted in an argument between the kids about who’s turn it was to help us when we called them. The respect children have for adults also becomes clear when an adult talks to them, like when my interpreter spoke with them. They only speak back when spoken to, and if there are many of them, they wait with speaking until they are nodded at. And when they speak with adults, boys tend to be more communicative than girls, who are very shy and do not look into your eyes too long, especially when there are more people or other men or boys around. But although they are shy and obedient around adults, the children were very curious and very able to play some tricks and mischief. One time one of the neighbour children opened a window of our house, while we were in the back of the house studying. When he jumped in we heard the noise an caught him in the act of trying to grasp the soccer ball. We took him to his older brother (16 years) who took a twig and whipped the boy on his forearm. He started to cry and I was afraid I lost one of my informants, but the next day he came over to our place to ask if he could have a balloon to play with, a gesture I interpreted as ‘we are friends again’.
Whipping was a popular way of bringing children to heel, even in church there was a woman with a branch threatening to hit the children when they were not paying attention for a moment or not sitting the proper way. I must admit that I was pretty scared myself for the woman with the branch and copied all the movements and actions of my neighbour churchgoer in detail, until I found out that the whip woman was there just for the kids. I had to get used to this way of raising children, especially since I am from a culture where adults ‘negotiate’ with their children.

3.4 Childhood Diseases in Tchetti

In order to get more insight into the major childhood health problems in Tchetti, I interviewed a doctor who owns a private medical practice in Tchetti and who helped me to get better when I was struck down by an episode of diarrhoea. He had studied medicine and combined his biomedical knowledge with phytotherapy, a healing art involving plants that he had learned from his father and mother. Next to those therapies, he used bioterrorapy to treat his patients, meaning a combination of aromatherapy and homeopathy. Because he combined what he called ‘modern’ medicine and ‘natural’ medicine, he was very popular with many people in Tchetti and surroundings and his ‘cabinet médical’ was flourishing. Every Sunday, he gave health education talks for a program of the local radio station.

I asked him what childhood diseases he saw most in Tchetti. He answered that the most frequent disease he sees was diarrhoea, followed by malaria and flu. There was one particular diarrhoea children had most: the diarrhoea caused by Candida Albicans. Candida Albicans is an opportunistic yeast that normally is harmless in healthy persons but can cause infections from tiny skin lesions up to lethal systemic diseases in persons who are immunocompromised, that is to say persons whose immune system works less and thus have less ‘resistance’. In Tchetti, the food and water is often populated with Candida yeast, especially if the food is fermented, like dairy products. Next to that, the quality of the food is low, the diet of the people does not consist of enough proteins, which can lead to a depression of the immune system. The fact that many children are sick so often and in no more than a moderate health condition, undermines their immune system as well, making them susceptible for opportunistic infections like Candida. Most children he sees with diarrhoea caused by Candida are between zero and two years old. Children with diarrhoea who are
between two and six years old, often have diarrhoea caused by *Giardia lamblia*, an intestinal parasite of the protozoa type, flagellates to be precise. The parasite is spread through water and food contaminated with the cyst of the parasite. Because there is no running water in Tchetti and people drink water from stagnant water sources without treating the water with disinfecting chemicals or boiling it, many people in Tchetti get infected, often becoming asymptomatic carriers but many also get diarrhoea. The bad sanitary situation in Tchetti is another facilitating factor for diarrhoea causing agents to spread easily. People have to defecate in the bush where they have more chance of getting into contact with other people’s and their own defecation, spreading diseases by way of the faecal-oral route. The defecation sites are nurseries for flies that bring and spread diseases around people. There is the problem of parasites that can be transmitted from the bush: used for defecation step into faeces and the problem of amoebas being transferred from the water that stands in the leaves to the anus of people using these leaves to wipe their anus.

The doctor estimated that a child gets diarrhoea about four times a year, especially the smaller children. He had performed a study in a small place not far from Tchetti about causes and mortality rates concerning childhood diseases. According to this study, he said, of all the children that die of diseases, 40% dies of diarrhoea, followed by 35% of malaria. The third most deadly disease for children is respiratory infections. The main reason so many children die of diarrhoea, is because of the negligence of the parents, according to the doctor. They think the diarrhoea is caused by food, try to treat the child themselves at home and often do not bring the child to a doctor or a hospital until it becomes really bad and the child is already suffering from dehydration, anaemia or even convulsions. Many parents use decoctions of boiled plants and leaves to treat the diarrhoea of their children. If that does not work, they go to the market to buy medicine, often an antibiotic or antihelminthic drug, depending on the advise of the market salesman or saleswoman and not on the results of a lab test or on the advise of a health worker.‘ (The antibiotic sold at the market and most often bought and named by the children, concerned red and black tablets. Those tablets are most
likely the antibiotic *Amoxycilline.* If these drugs don’t work either and the situation has deteriorated, they finally seek the help of a modern or traditional healer. If the modern or traditional healer cannot find a cure either, they refer to each other or to the hospital. Biomedical doctors and health workers then are often confronted with the problem of resistance against antibiotics, the most serious consequence of people buying antibiotics at the market without the advise or a prescription of a competent specialist. That is one of the reasons for the doctor I interviewed, to use phytotherapy and biotherapy in combination with biomedicine, because it provides him with alternative treatments. I must say, though, that he made it look like the antibiotic resistance was to blame on the patients or the parents of the patients, but I think part of the problem lies with the medical staff themselves. One time when I was in Savalou and suffering from gastro-intestinal problems, I visited the hospital to find out what was wrong. I was seen by two nurses who did not sent me to see the doctor but asked a few questions and wrote a prescription themselves for a drug that kills intestinal worms and an antibiotic. I asked them if they did not want to examine some faecal material through the microscope to find out exactly what was the cause of my problem. They said that was not necessary. I did not take the drugs but went back to Tchetti and made the doctor whose interview I am describing now, to check it with a microscope. The test was negative and the cause had to be found somewhere else. Taking the drugs prescribed at the hospital would probably not have helped a bit, other than helping to develop antibiotic resistant bacteria.

I finished the interview by asking the doctor whether people were more inclined to visit a ‘traditional healer’ than a ‘biomedical healer’, but he said that there is no particular preference. People take all the help they can get, if the treatment with one healer does not work, they go to another healer to try another type of treatment. Healers and doctors refer to each other if they see that their own treatment doesn’t work and in case the situation is getting worse. I asked him if he knew if diarrhoea in Tchetti was caused by sorcery often. He said that I should know that every disease in Africa could be caused by sorcery. If he encounters a case that does not react on standard biomedical treatment or a patient that falls ill all the time, he refers to a traditional healer. Some cases are suspicious, for instance snake bites and scorpion bites. He can treat the poison in the bite, but refers the patient to somebody who can help the patient answer the question why he was bitten. Sometimes he tries to cure diseases caused by sorcery himself. “Sorcerers”, he said, “often use plants to make people ill. Since I know something about plants I try to find the plant that can neutralise the effect of
the plant used by the sorcerer”. But he added that unfortunately, he was not always successful in finding those neutralising plants.
CHAPTER 4 IDEAS AND PRACTICES CONCERNING DIRT, HYGIENE, DISEASE TRANSMISSION, DIARRHOEA AND OTHER (GASTRO-INTESTINAL) DISEASES

4.1 Introduction

As stated in the research proposal, the first objective of the research was to:
“identify ideas that children have with regard to the transmission of diseases, in particular diarrhoeal diseases, dirt and hygiene, and practices of children that might influence (negatively or positively) the transmission of diarrhoea”.

In order to identify these ideas and practices, I formulated the following research questions in the proposal:

What are children’s ideas about the causes and transmission of diarrhoea? (The child’s explanatory model)
What are children’s ideas with regard to risk and prevention of diarrhoea?
What practices do they display that might influence (from a biomedical point of view) the transmission of diarrhoea?
In what way are these practices connected to the ideas children have with regard to diarrhoea and disease transmission?
What household tasks, important in the route of disease transmission, are carried out by children?
What are the sources children get their information from and from whom do they learn risky or beneficial practices related to diarrhoea?

I’ll start with a description of the ideas of the children with regard to the causes of diarrhoea, because from there it is more easy, following their logic, to understand ideas about prevention, treatment and contagion and the consequences it has on practices and ideas related to dirt, hygiene and defecation. Part of the first research question will be dealt with in the section about the causes of diarrhoea, the other part of that research question will be treated in the section about the contagiousness of diarrhoea. Research question 2 will be discussed in the section about prevention and treatment. In the section about practices and household task concerning dirt and hygiene, the results concerning research questions 3, 4 and 5 will be shown. I’ll end with a description of the sources the children claimed to have their information from, giving an answer to research question 6. In the next chapter I will
look more closely at the results described in this and the previous chapter and I will try to apply or verify the theories and hypotheses stated in chapter 2.

4.2 Causes of Diarrhoea

Of the more than 40 children that I’ve been talking with about diarrhoea, only two said they had never had diarrhoea themselves. The majority had had diarrhoea several times in life. All of them said they knew what diarrhoea was, most of them defining it as frequent, watery defecation, sometimes accompanied with blood. In the focus group discussion one kid added: “and if you have to fart, you start defecating because it is too liquid”.

To my question what had caused their diarrhoea, all the kids, no exceptions, said it was caused by a particular food. Most frequently named were mango, rice, beans, starch (like yam and patte) but also meat, soup and candy. When I asked why exactly these kinds of food gave them diarrhoea, they often told me: “because it did not fit my stomach”. Another frequently heard reason was: “because I ate too much of it”. Other reasons named, were: “because it was spoiled food”, “because the food was not well cooked” and “because I had mixed the food”. I explained to them that I got diarrhoea myself when I came to Tchetti and asked them if they had any idea how that was caused. Many said that it was because I ate food that did not fit me or maybe because I wasn’t accustomed to their food, especially to the spices.

To my question how diarrhoea is caused by food that does not fit you, too much food, spoiled, badly cooked and/or mixed food, they gave me the following answers:

“If the food does not fit your stomach, the stomach cannot accept that food and sends it away.”

“If you eat to much food, the stomach cannot contain all the food and that is when you get diarrhoea.”

“Maybe there are worms in the mango that get inside your stomach and they cause pain and you have to remove them, that is why you have diarrhoea. By defecating you send the dirt and worms away”.

H Because you have stomach-ache it can give you diarrhoea as well.
M But why? What has that to do with stomach-ache?
H Since you have a problem inside your stomach it cannot stay there, you have to throw it out, so it can cause diarrhoea.

Other causes were not named directly in reaction to the question, but later on in the conversation or even when we had not started to talk about diarrhoea yet. These other causes were often named when we were talking about dirt, defecation and hand washing. In most
cases the children were talking about diseases in general and when I asked what kind of diseases, most of the time they were talking about vomiting, constipation and stomach-ache. Sometimes diarrhoea was added to the list, others emphasised that diarrhoea did not belong to that list.

I often started the interview with asking what they had done that day or what they were planning to do. Many of the children had helped with cleaning the house and because this was a nice entrance point for my questioning, we often started talking about household tasks, cleaning up and dirt. When I asked them why they got rid of the dirt, many stated it was to avoid sickness. If I asked them to explain to me how dirt could cause sickness, they told me that:

H If you don't sweep the room and don't throw away the dust and dirt, it will start smelling and it will attract flies, worms and goats.
M And how does that make you ill?
H The flies will come on top of the dirt and pose on your food if you don’t cover your food or if you don’t pay attention. You will eat the dirt and that will make you ill.

“If you don’t bring the dirt to the dump but leave it in the house, it will start to smell and if you can feel the smell, it can make you sick”.

“If you don’t wash your plates and later on you eat from the dirty plate, the dirty things from the plate will enter the food and enter your stomach and you will become sick”.

To my question why you get sick when dirt enters your stomach or when you smell the dirt, they explained to me that the dirt, but also the smell, will ‘disturb’ the stomach, the stomach cannot ‘accept’ the dirt or the smell. That is why it causes stomach-ache, constipation, vomiting and sometimes diarrhoea. This was also a reason not to share food with a dirty person and why you had to wash your hands. Smell seemed a very important perceived cause of diseases including diarrhoea, because it was named by the majority of the children. Although I argued that smell is in the air and therefore enters the lungs and not the stomach, they persistently tried to convince me that smell enters and upsets the stomach.

All the children I spoke with, told me that they wash their hands after defecation and before eating. My observations can confirm that hand washing seemed a standard ritual before every meal, for adults as well as children. Even at the places on the street where people sell and buy food (often named by the children as examples of ‘unhygienic food
preparation’), water and soap were always offered to the clients for washing their hands. When I asked the children why they washed their hands, they told me to avoid diseases, the same ones as stated above. I asked all my informants to explain exactly to me what would happen if you do not wash your hands and how not washing your hands could make you sick. There were some minor differences between the children, but overall the explanation, or at least the way I understood them, is as follows:

You have to wash your hands after defecation, because while you were wiping your bottom, your hand could have touched the defecation. If you eat with that hand, defecation can enter your stomach together with the food. For the same reason the stomach cannot accept ‘bad food’, ‘bad smell’ and dirt, it cannot accept faecal material either. I asked them why the stomach cannot accept defecation, since it originates from there. Some of them said it was because of the “bad smell of the defecation”, others said “defecation is something that you send away from your stomach and when you send it back, it will cause you problems”. During the F.G.D. it was stated that “defecation is all those things that are not good for the body. You defecate to get rid of them. If such a thing gets into your stomach, surely it will cause you sickness”. One of my first informants told me that the defecation that enters your stomach, because you did not wash your hands or because flies had touched the food, will turn into invisible worms inside your stomach. It is these worms that cause the stomach pain and make you sick. The boy used the Ifè word *kokoro* when he talked about the worms. In later interviews the word *kokoro* returned many times, but its exact meaning remained uncertain for a while and I am still not totally sure of it. I mainly came across it during conversations about flies, another route through which defecation could enter the stomach. Flies, children told me, sit on defecation and then they fly to food and sit on the food or on plates while they have defecation on their legs that will get into the food. One of them told me that if the defecation came from a sick person, the sickness could also stay inside the defecation of that person and if you swallow a bit of this defecation, you eat that sickness as well and you would become sick too. Yet this was only applicable for ‘other sicknesses’ like stomach-ache, not for diarrhoea, as he told me. The pain was caused by the stomach that was “trying to fight the sickness”. Some children told me it was not only the defecation the flies brought to the food, but once the flies sit on the food, they defecate on it themselves as well, causing the same problems for the stomach as human defecation would do.

There were two children (a ten years old boy and an eight years old girl) who, in two separate interviews, were mentioning microbes as an agent that could be causing diseases.
They told me that microbes are inside dirty things, that they are invisible and could be carried to food by flies or hands, causing diseases like cholera, stomach-ache and, according to the boy, sexual infections. Later on in the interview with this boy, I got confused because he was using the words microbe and worm to describe the same thing. When I asked my interpreter for an explanation, he said the boy was talking about kokoro, something he translated with the English word worm, while the boy himself at the same time was using the French word microbe, which was translated by my interpreter with the English word microbe. He told me the boy was using these two words as synonyms. When the girl was using the French word microbe, I was on my guard and I asked her to explain to me what microbes are. She told me microbes give diseases to people, they are everywhere, mainly in dirty things and that “if there is sand somewhere and you pour water on it, it becomes microbes”. A minute later she was describing what sounded like microbes to me, but now she was using the Ifè word bibi, which was translated by my interpreter with the word worms (which I thought was kokoro in Ifè). I asked her the difference between bibi, microbes and worms and she told me those were all inside dirty things, but could give different diseases. She could not explain the exact differences or similarities, so I turned to my interpreter for an explanation. He told me that bibi means small ants and that it was, as he said, Ifè ‘slang’ for kokoro. According to him, both the girl and the boy made the mistake to translate it with the French word microbe, while they were really talking about worms. In a later interview with an adult, the adult was using the word kokoro and translated it himself with the French word insect. It was then (after a moment of total confusion) that I learned that kokoro actually means insects that cannot fly, insects without wings, thus including ants and worms.

Several children told me flies carry kokoro from defecation to food. They said:

H There are some worms (kokoro) inside the flies. By the time they sit on the defecation of somebody else, they carry those worms and sit on the food in somebody’s house. That will cause sickness.
M Exactly how do they cause sickness?
H The worms will get inside the food and they get in your body and they can cause pain and diarrhoea.
M Can you see these worms?
H The worms inside the flies are white and you can see them.
M But then you can see that they are in your food and you will not eat it?
H If they are on top of the defecation you can see them. But by the time the flies bring them to the food, you cannot see them.

In other interviews I had learned that several children thought that defecation, after being dropped in the bush or the latrine, will become sand or worms (again the word kokoro
was used). This might explain the ideas of the boy quoted earlier, that defecation inside the stomach turns into worms. They described the worms on the defecation as white, visible worms that are brought there by flies or come out of the mud and turn into flies themselves, after they have eaten the defecation. During the F.G.D. one boy said that defecation already contains *kokoro*, but the rest of the group disagreed substantially, telling the boy that he did not understand these things very well.

I was, and still am, a bit confused about the (in)visibility of *kokoro*. I got too little information to be sure how to interpret correctly everything that has been said about *kokoro*. An adult explained to me that the *kokoro* inside your body is invisible, but that the *kokoro* outside the body is visible, like ants and worms in water and dirt. The children that spoke about *kokoro* seemed to think the same. When they spoke about worms in water, spoiled food and defecation, they talked about visible worms. When they talked about worms inside the stomach they said you could not see them. The contradictions seem to be about the visibility of the worms that are carried by or are inside the flies and after the flies have dropped the *kokoro* on/in the food. Maybe the above quoted part can be interpreted as a transformation process: the white worm is visible in the defecation, but when the fly brings it to the food and it enters the food it becomes invisible and stays invisible once it is inside the body.

Again I would like to emphasise, that most children, when they were talking about diseases caused by dirt, defecation, smell or *kokoro* entering the stomach, they were talking about “other” diseases like stomach-ache, constipation and vomiting. Only a few added diarrhoea to this list and only after I asked them if it could also cause diarrhoea.

Finally, another cause of diarrhoea in young children, named by a few children, is teething. A cause that they did not voluntarily talked about, but what they recognised as a cause after I started talking about it, is sorcery or *gris-gris* in French. I asked them if diarrhoea could be caused by sorcery and they told me that all diseases, including diarrhoea, could be caused by sorcery. It leads to far to go into details about the children’s ideas about sorcery in this thesis, but I would like to say something about it. The children I spoke with about sorcery, told me that sorcery is not only something that concerns adults, although it concerns them more than children. A group of 4 boys told me that they were afraid of *gris-gris* men, not only for their own sake, but mainly because they were afraid something might happen to their parents. One of them said that if he could change one thing in his life, he would make
an end to all the *gris-gris* men so there would no longer be any sorcery. This group of boys also told me that they and children in general, were too young to go to a *gris-gris* man to ask him to send sickness to an enemy. But there were certain children in Tchetti, who got the gris-gris power from their parents and those children could make other children sick if they were jealous of others or envied somebody. This was confirmed by another group of 3 boys and 1 girl. I asked them if they could do something to protect themselves against *gris-gris* and they said they could not do anything themselves but they had to go to adults who could bring them to a specific adult who has the means to protect you.

I combined all the information the children gave me about the causes of diarrhoea in Figure 2: The Children’s Explanatory Model, on the next page.
4.3 Contagiousness of Diarrhoea

Although the children were quite cognisant of the faecal-oral route of disease transmission (see the previous section and Figure 2: The Explanatory Model) all the children, no exceptions, told me that diarrhoea is not contagious. Initially I found that very confusing, as the next quote of one of the interviews shows. The interview also shows the logic of the boy who tried to explain to me how things work:

M  If, lets say, his brother has diarrhoea, and that brother did not wash his hands after defecation and with that hand he touches things in the house and then he (the interviewee) will come and touches the same things in the house, can he get diarrhoea then?
H  It might not give you diarrhoea, but it might cause another sickness.
M  What other sickness?
H  Constipation
M  Why?
H  By the time you eat together with such a person, that food will not fit you and will give you another sickness like constipation and you feel like throwing up.
M  Is it always that all the next times that you eat that particular food, it makes you ill?
H  Only for the first time, you will throw up, after eating with such a person you will throw up, but if it goes on like that, after some time eating with such a person it will give you another illness, like constipation.
M  But only if you eat with the person who is sick?
H  aha…take it again (my interpreter is confused).
M  He said, that if you eat with someone that has diarrhoea, you will not get diarrhoea, but you will get other sicknesses, I asked why and he said it was because of the food, that the food did not fit him well. But that has nothing to do with the guy he is eating the food with, the guy who is sick. So I wonder, if the sick person is not around and you eat that particular food that does not fit you, you become ill, that is what he said before. But how, what, what does that person do that you share your food with, how does that make you sick, because that has nothing to do with fitting food or whatever.
H  It’s because the person who is sick with whom you eat, his hands are dirty. By the time you eat, even if the food fits you and the food is good for you, you don’t have any problems with the food. But for the part that you eat with such a person, a person who’s hands are dirty, it is for that reason you become ill.
M  But if that person has diarrhoea, and he has dirt on his hands, and you get that dirt inside you, why do you get another disease and not diarrhoea?
H  What causes the diarrhoea for him, you don’t know. You don’t eat that…if that is the food, you don’t eat that food, so it cannot cause you diarrhoea. Because you don’t eat the same food. You don’t know what food caused him diarrhoea. So by eating with him, without washing his hands, that one cannot give you diarrhoea, it can give you another illness.
M  Aha! Because it is two separate things. There is the dirt, it does not matter if the person is sick or not, that can cause the illness.
H  (after translating for verification) Yes
It took me a while before I understood that swallowing a bit of diarrhoea does not
give you diarrhoea because it contains noxious agents of some kind, but that it gives other
diseases like stomach-ache, vomiting and constipation, because diarrhoea is defecation and
defecation causes “other diseases”. The only thing that can cause diarrhoea is “bad” food
and therefore diarrhoea is not contagious. The “other diseases” on the other hand can be
transmitted from person to person by way of flies, worms, hands, dirt, defecation and smell.

M Is it possible that if he has got diarrhoea, that he can give it to somebody else?
H No
M Ok, so, if somebody else is sick and I would get something of his defecation in my
stomach, I would get the same sickness as that person? (I thought I was still talking
about diarrhoea, but instead I used the word sickness)
H Yes
M So it is contagious, it is transmittable after all?
H Yes, not diarrhoea, but other sicknesses
M But if somebody has diarrhoea and I will eat his defecation I....
H No, only other sicknesses
Like stomach-ache

Because a few of my informants told me that diarrhoea might be caused by dirt,
defecation or smell entering the stomach, I asked the participants of the F.G.D. if they were
sure that diarrhoea is not transmittable. Although they had already answered my question
whether one person could give diarrhoea to another, with a strong No, a discussion followed
about whether food contaminated with defecation or worms should belong to the “bad food”
category. They concluded that:

H Diarrhoea is not a sickness that somebody can see like that, you cannot give it to
somebody. But if you go and defecate somewhere and a person goes there too
and if he touches your diarrhoea and does not wash that hand and eat with that
hand, he can get diarrhoea, but he can get other sicknesses as well.
M Do others agree with him?
H Yes, it is true.

It seems to me that the children I spoke with did not think of diarrhoea as being
contagious, like the “other” diseases (stomach-ache, constipation and vomiting). Only when
they had said earlier in the conversation that diarrhoea might be caused by those agents as
well as the “other” diseases, I confronted them with it. Following their own logic, they often
changed their opinion and diarrhoea was said to be contagious after all.

I have inserted the ideas children have about contagion in Figure 2: The Explanatory
Model. I got the idea that what is in the upper half of the scheme is perceived as not
contagious, while what is in the lower half of the scheme is perceived as contagious. The arrows that cross the separation line, are the topics where there was some confusion or contradiction.

4.4 Prevention and Treatment of Diarrhoea

Since the children I interviewed perceive diarrhoea as caused by “bad” food, it is not hard to understand that they said diarrhoea is preventable by avoidance of eating the food that caused diarrhoea in earlier episodes. If the diarrhoea was caused by eating too much, you simply have to eat less, they said. Furthermore, you should take care not to mix your food, not to eat food that is not well-cooked or that is left-over for more than a day and not to drink water that has been stored for more than four days.

I asked them why children were more troubled by diarrhoea than adults. They told me that: “when you are young, you have more chance of eating something that you have not eaten before then when you are old”. Following their logic it makes sense that when you are older, you know better what kind of food fits you and what you should avoid eating, from earlier experiences. Another reason was because: “Children do not know anything, they play and touch everything and it can cause them diarrhoea. Adults know better how to prevent diseases”. It was also stated that you should take care of getting rid of dirt in a proper way:

H  If they finish sweeping the room they gather the dirt and throw it away, they dig a hole and throw it in.
M  And they cover the hole again?
H  It's a big hole and only after it is filled with dirt they will cover it with sand.
M  Why do they do it like that?
H  To prevent little kids to play with the dirty things. Because kids they play with the dirt and inside the dirt there is defecation and all sorts of dirty things and the kids they don't know about those things and they will go towards those things and play with them.
M  And what will happen with those kids if they play with it?
H  They said that if it has happened that the kids will play with it, it will give the kids sicknesses like stomach-ache, constipation, diarrhoea and cold.
M  And can they explain to me why it is that the kids fall ill?
H  Since the dirt smells badly, the smell will make them sick.
M  The smell. And how does it work?
H  Apart from the smell the kid will play and touch the dirty things and they don't care about washing their hands and by doing that they will become ill.
M  But can they also become sick by smelling alone?
H  They say yes.
But if it smells so bad, why does the kid want to play with it?

Because they don’t know anything, for them playing is the best thing, they don’t care about the smell.

The boys I had this conversation with said that dirt, defecation and smell could also cause diarrhoea, while most of the other informants were speaking in general, that it could cause diseases, not really clarifying whether that included diarrhoea or not. The children told me you could prevent diseases by washing your hands after defecation and before eating and by covering food and water sources. You should take care not to touch somebody else’s defecation, that was why you should always wear flip-flops when you go to the bush to defecate. It was also one of the reasons why the children did not like to go to the bush at night, you could not see the other defecation and it was better to stay at the border of the bush, dig a hole and cover the hole again after you have defecated. Some children said they defecated near the house at night, if they really had to go, but made sure that they threw the defecation in the bush, first thing the next morning. All the children I asked what was better: the bush or the latrine, said the latrine was better because there was less smell, less flies and less chance of touching somebody else’s defecation. Besides, in the latrine you did not see the defecation like in the bush, which was also better. Finally, you should keep an eye on little children and prevent them from defecating near the house or on the street.

I asked them if it was sufficient to stop eating the food that causes the diarrhoea to stop the diarrhoea and the majority said that you should also take some medicine, because otherwise you would continue being sick and you might even die. I asked them how they were cured when they had diarrhoea and some said their mothers prepared a decoction from leaves that they drank, many of them got black-and-red-pills from the market (the antibiotic I talked about earlier), some took O.R.S. (Oral Rehydration Solution), one went to the hospital and got an injection and one child went to the doctor who gave her “medicine against the worms in her stomach”.

4.5 Practices and Household Tasks concerning Dirt and Hygiene

I already mentioned that I often started the interviews with asking the children what they had been doing that day or were planning to do. Always one or more household tasks were named in answers to this question. Two tasks were mentioned by all of them: sweeping
the rooms and fetching water. Other tasks often mentioned were washing the dishes, washing clothes, help to prepare food, take care of younger brothers and sisters and help in the fields/go to farm. This last task was especially often mentioned after the start of the summer vacation in the third week of my stay in Tchetti. I asked them if there were differences between the tasks for boys and girls, but they said it was the same. Girls said they had to help farming and boys said that their sisters helped farming too. Most of these tasks I have seen being performed by children, although I got the feeling that fetching water at the pump was mainly a task for girls and women. I asked them how they had to take care of their younger brothers and sisters and they said that they had to help them to bath, wash their clothes, give them food, accompany them if they were send somewhere, help them with their homework and if the sibling was little; help them when they had to defecate and with washing or cleaning their bottoms. I also asked the children if they had to help in case a family member falls ill. All said yes, but the type of caring differed a bit between the children. Some said they did not do anything active, just stay around the sick person and guard him, others said they had to fetch water and wash clothes for the sick person. Some said they would buy food and things from the market, including medicine if the sick person asked for that. One girl said she prepared medicine with leaves if somebody was sick. She had learned that from her mother and although she did not know much yet, as she said, she always paid close attention when her mother prepared medicine so she could do it the next time. Some children said they would bring the sick person to the doctor or to the hospital.

Since all of them said they had to sweep the rooms of the house, I asked all of them what they did with the dirt, why they swept the rooms, what they thought was dirty and why they thought that was dirty. Again, smell and flies turned out to be very important factors in the ideas and subsequent practices of the children. They cleaned and got rid of dirt, they said, to avoid sickness. “If you do not clean up, things will become dirty and start smelling”. As we saw in earlier sections, smell is perceived by the children as a very strong causal factor in the genesis of diseases. Furthermore, smell and dirt attract flies that can cause sickness through bringing dirt to food that will enter the stomach and that will cause diseases as explained in section 4.2. The children used to describe dirt to me as the consequence of not cleaning:

“if you don’t sweep the room it becomes dirty”
“If you don’t wash the plates they become dirty”
“If you don’t wash your clothes they become dirty”
“If you don’t bath, you will become dirty”, etc.
When I asked them exactly what it was in the room and on the plates, clothes and your body that was dirty or needed to be cleaned, they told me it was dust, sand, spilled food etc. If you left it there (in the room, on the plates, clothes, body etc.) it would become dirty, indicating (at least in my interpretation) that it was not dirty immediately, but needed a bit of time to ‘become’ dirty. Dirty things that were mentioned by the name immediately, were the dirty things on the street: the shells of groundnuts and corn and old plastic bags that people left on or near the streets were said to be dirty. Perceived as extremely dirty was the defecation of young children on the street or near the house. Defecation in the bush was very dirty too, but not as dirty as the defecation on the street. Defecation in the latrine could not been seen and was therefore not very dirty. But if there was defecation on the ground around the hole of the latrine, like at the latrines of the schools, that was extremely dirty again. Defecation containing worms was probably one of the most disgusting things they could think of, some saying that you could become sick only by looking at it. “It is not a good thing to see such a defecation, because it will make you feel like throwing up and you cannot eat a thing for a whole day”.

Another reason mentioned for cleaning up and especially for washing clothes and bathing, was because otherwise people “would run away from you”, or “would start to insult you and telling you to wash your clothes and to take a bath”. They would also start to gossip about you with other people. If you did not sweep your room and somebody would come to visit you, you would feel embarrassed. On the other hand, if the children encountered somebody that was dirty, they would run away from such a person themselves, so they told me. If somebody would invite them to his house, but if that house was dirty, they could not enter such a house. If the host would ask them why they did not want to come in, they would have to reply: “it smells inside and it is not good for a human body to live in such a filthy place”.

Like most people in Tchetti, the children did not have access to a latrine for defecation, except when they were at school or lived near the school and could use the school’s latrines. But most of them said they went to the bush or the mountain to defecate. It was not a private spot that they used alone, but certain areas that were used by lots of people. They did not like to go there, it stank, you had to pay attention not to touch other persons defecation (including to wear flip-flops), you had to walk a bit to go there and you had to search for a good spot where nobody else could see you and you could see nobody else. I asked them what they did if they saw somebody defecating. All except one said they
would feel embarrassed and would quickly look for another place. If somebody else would see them while they were defecating, they would feel embarrassed too, but most of the time the other would pretend not to have seen them (like they would do if they saw somebody else) and look for another place to squat. Sometimes though, some children told me, if it is an adult or an important person, they would chase you away or yell at you to hurry up and finish. My two neighbour kids told me that they normally went to the mountain. “The place is not so big so there’s not much space. There is one stone and you climb on it and defecate. And if you are there and if somebody comes, he will shout at you and make you hurry up, to finish. So that he can go after you. Some of them start to fight and some can push you and you can fall in the dirt”. They also told me that they would not go there at night, because:

H ...the place is a little bit dangerous, because there are snakes.
M Are there other places near by, where you can go at night?
H There is another place near by, where you can go, which is better because at the other place there are fierce animals.
M What kind of animals?
H (my interpreter laughs) He doesn’t know the name but if you go there at night these animals can catch you and eat you.

Most children said they could not go out to the bush or the mountain to defecate at night because of the snakes, but also because you could not see the other defecation. If you brought a flashlight you could go to the border of the bush and defecate there, but then it was better to dig a hole and cover your defecation, because it was not covered by plants and grass like it would happen in the bush itself. Some said that if they could not hold it and had to go at night, they would defecate near the house and throw it away in the bush the next morning.

As I already said in section 4.3, all the children that I asked which was better: the latrine or the bush, replied that the latrine was better. They said there was less smell and flies in the latrine, you could not see the other defecation and you had less chance of touching it. Another important reason was that it was much more convenient, a latrine is often close by the house, others could not see you and you could go there at night.

I asked them what they did after defecating. They told me they would wipe their bottoms with corn shells or if they had it, they would use paper. If they could not find anything they would use their hand. Then they would go home and wash their hands or wash their bottoms and their hands. This is what they told me, but I did not observe the actual defecation practices, other than that of the small children that used to defecate in the
trench between our house and the street (see chapter 3). They used the corn shells that were dumped in the trench as well or did not wipe their bottoms at all but pulled up their pants immediately. Most of them went on playing directly after, the others I did not follow. The children that used the trench were not older than five years, I estimate. As already described in chapter 3, small children used the trench also as playground and the dirt as toys.

4.6 Information Sources

I asked the children how they knew they had to wash their hands after defecation and before eating. All of them said they were told at home, at school or at both places. Only in one case the father was mentioned as the one who taught them about hand washing, all the other times it was the mother who had told them. I asked them how they knew about the causes of diarrhoea, the worms, the flies and the smell. Some told me that too was taught at school and/or at home, a few had heard people talking about it and picked it up, one said he had heard some at school but most he had thought of himself. They all said they taught their younger siblings about it, but none of them mentioned learning anything about diarrhoea and hand washing from their older siblings themselves. I also asked who taught small children where to defecate and what to do, when the small children stop wearing diapers. The mother was mentioned to be the one teaching small children to go to the bush and how to clean themselves, but if she was not around, one of the older brothers or sisters would take the smaller sibling to the bush or the mountain to help him or her to clean the bottom and hands.

I asked some children if they would draw a map or to make a picture of the inside of a belly, so that I would better understand them when they were talking about the stomach and the process of defecation and diarrhoea. I was astonished when I saw the results: an almost perfect scheme of the human digestive system, including pharynx, oesophagus, stomach, small and large intestine with appendix, pancreas and gallbladder. Only those last two were mixed up now and then.

body mapping
I asked them how they knew the inside of the human body so well and found out they were copying the big map of the human body that hung on one of the walls of their school. They could also explain pretty well to me the functions of the organs they had drawn.

\[\text{body map drawn by one of the children}\]

### 4.7 Adult views

The final research question (research question 4.7) stated in the proposal was:

*Do children’s ideas differ from the ideas of adults and if so, how do they differ?*

This research question will be answered in the next chapter (section 5.7) but in this section, I will give a description of the ideas the adults had about diarrhoea.

It happened that, during my fieldwork, I spoke to several adults about diarrhoea. Next to the interviews with the doctor and the midwife, I interviewed three adults specifically about their ideas concerning diarrhoea. The first adult I did an in-depth interview with was a mother of one of the children I interviewed. While I was interviewing the daughter inside my house, the mother was waiting on the doorstep in front of the closed doors. I was not aware of her presence at first until my interpreter pointed it out to me. I found it disrespectful to let her wait on the doorstep and since I was almost finished with interviewing the girl, I asked the mother to come in. I explained to her what her daughter and I were talking about and asked her for her opinion. The conversation turned out to be quite interesting. She named non-fitting food, not well cooked food and teething as causes of diarrhoea, like the children did. But in contrast to the children, she immediately named dirt and flies bringing dirt to food as a cause of diarrhoea. She also stated that the dirt, after entering the stomach, would become small, invisible worms, *kokoro*. She was the first one telling me, without any guidance, that diarrhoea was contagious. “If you don’t take care when
you clean the defecation from somebody who has diarrhoea, then that defecation can get on your hands and if you eat with that hand, you will get diarrhoea too. For example if you throw away diapers with diarrhoea”. I told her that some children had told me that you could become sick from smelling something bad and if she could confirm that. She said that it was possible and that it was because of the microbes in the smell that enter your body through the air that you breath. She also confirmed the tasks children were claiming to perform for their parents: washing plates and clothes, fetching water and sweeping rooms. But she told me that boys work in the field more often while girls were the ones performing the tasks that had more to do with the household. If one of her smaller children need to defecate, she brings them to the bush and wash their hands and bottoms afterwards. If she is not around it is her oldest daughter who takes over that task.

The second adult I interviewed was an older lady, between 60 and 70 years of age, the grand mother of another girl that I interviewed. After we asked the girl if she would help me with my research, we also asked permission from the lady. She would only give her permission if I promised to visit her again because she would like to talk with me and ask me questions about Europe and westerners. I made the promise and paid her a visit the next day. We started talking about all kinds of things, including her work as a seamstress and as the manager of a women group. I explained to her the reason for my stay in Tchetti and we started talking about diarrhoea and kokoro. I asked her if I could tape the conversation, but she said it would make her nervous, so I did not. She lived together with her daughters and their children, sixteen in total. A few family members joined us, but left the talking to the lady. One of the grand children was summoned and had to show his belly to me. The child, who was six years old, had an enormous scar, starting a few centimetres under his sternum, going down and around his belly button until a few centimetres above the pubic bone. The lady told me the boy had almost died of diarrhoea, like his younger brother who died of diarrhoea a year and a half ago, if the doctors had not removed the worm from his stomach. The worm, she said, was as large as her lower arm and had sucked up almost all the blood of the child. I asked her how the worm had come into the stomach of the child and she said that only God knew the answer to that question. But, so she told me, all of her grand children were born with kokoro inside of them, because she herself had transferred the kokoro she was infected with to her children when she was pregnant of them and her daughters had passed the kokoro on to their children as well. It was clear from the day of their birth that they carried the kokoro as well, because they were born with certain signs, the baby girls were born with a
red pelvic area and their anus was bloody. The baby boys had a bloody anus too, but were also born with wounds on their belly. It was the *kokoro* who was responsible for this. The mother who delivered these babies and who would carry the *kokoro* herself, would have big breasts with bad mother milk that pours out. If the babies would drink this milk, they would get diarrhoea. If this was the case, the mother had to go to the bush to search for a certain kind of tree bark which had to be grind and eaten. The breast milk would return to normal and the child that drank the milk would get cured. But if the worm was not killed at that moment, which happened lots of times, the child would get diarrhoea again later in life and might pass on the *kokoro* to her children (the lady was not sure whether sons could transfer the *kokoro* to their children as well). If the *kokoro* got very strong and the child got diarrhoea very badly and the *kokoro* could not be ‘chased away’ or calmed by ‘traditional’ medicine, a doctor needed to be consulted to remove the *kokoro* from the stomach, like in the case of the grand child with the scar. The *kokoro* she was talking about, was not the same thing as the white worms that you see in defecation sometimes, those worms are of a different type and brought there by flies (although these worms are called *kokoro* as well). My interpreter started telling a story in Ifè to the lady and her family, after which they all started laughing so hard that they had to hold their shaking bellies. I got curious and wanted to be involved, so I asked him what he had told them. He said that when he had just arrived in Tchetti for the first time and he had to defecate, he was looking for a latrine. He could not find one and his colleagues had sent him to the bush. After he finished he turned around to watch his defecation and he panicked because he saw white worms crawling out of it. He went back to his colleagues and told them about the worms. They started to laugh at him because there was no need to panic, the worms were brought there by flies while he was busy producing it. My interpreter, the lady and her family started to laugh again and I uncomfortably smiled along with them, while my interpreter was saying: “*How could I be so dumb!*”. I asked how flies could carry those worm and bring them to the defecation so quickly when he was not looking and if he was sure it were no intestinal parasites. “*No*, he said, “*those worms can only be brought there by flies!*”. The others agreed with him and started laughing again. When they finished laughing, I could ask the lady if diarrhoea was only caused by *kokoro* or if there were other causes as well. She said that children that start growing teeth would get diarrhoea. And because not everybody had *kokoro* inside their stomachs, but everybody could get diarrhoea, there was yet another reason and that was food. If a person would eat something that did not fit his stomach, he or she could get diarrhoea as well. These diarrhoeas could be treated with the same medicine that the mother with the bad breast milk would use to cure
herself and her babies. Diarrhoea, the lady told me, is not contagious, because it could only be caused by food or if you inherited the *kokoro*.

The last in-depth interview that I had with an adult, was with the interpreter of Jennifer, who we nicknamed Sjaak. We had become friends and one day, when we were walking around on the market, there was a woman who sold toffees. It was the first time in weeks that I found candy and because I did not know when I would have a second chance, I bought quite a lot of them and started eating it. Sjaak warned me not to eat too much of it, because otherwise I would get diarrhoea again. I (automatically) asked why. *“It is because of the sugar, the insects in your bowels won’t react good on it”*. We started to have a discussion and I asked him if we could arrange an interview with him and my interpreter, so I would be (more) sure that I understood him correctly and because then I could tape it. He agreed and a few days later the three of us started the interview. I asked him again to explain to me how an excess of sugar could cause diarrhoea and he told me that everybody has insects inside his bowels that like to eat sugar. And because the sugar sticks to the bowel, it might happen that those insects start eating the cells of the bowel as well, causing bloody diarrhoea. I asked them the Ifè word for *“des insect”* (French) and Sjaak said that in Ifè those insects or also parasites, are called *kokoro*. It was at this point, as I told before, that I learned that *kokoro* actually means ‘insects without wings or insects that cannot fly’. During the rest of the interview the word *kokoro* was used when they talked in Ifè and the word *parasite* was used when they talked French. Next to an excess of sugar, what causes diarrhoea was too much food, rice, non-fitting food and bad smell could cause diarrhoea. My own interpreter added laxatives to that list, but confirmed with the other causes. Too much food would cause diarrhoea because the *kokoro* would get exhausted. Rice already contains *kokoro* and if you eat to much of it, you would certainly get diarrhoea. Some food did not fit you, because the *kokoro* inside your stomach did not like that food and would not accept it. Bad smell could cause diarrhoea or other diseases, because there were microbes inside the air that carried the smell and if you would ‘feel’ that type of smell, surely you would get sick. He said that microbes are the things that become *kokoro* inside your stomach, later on he said that microbes are eaten by the *kokoro*. If the microbes that enter your body are ‘strong’ microbes and your body cannot fight them, then those microbes will become *kokoro*. A few minutes later he said that the *kokoro* would receive the strong microbes, ‘eat’ them and will become strong themselves. When the *kokoro* gets too strong, it will disturb you and you will get
diarrhoea. I asked Sjaak to tell me more about the *kokoro*, because I did not have a good understanding where it, or they, came from and its functions in the body:

H All those parasites, all those worms, some of them you are already born with them, but they are invisible.
M They are invisible. But they are inside your bowel?
H Yes they are inside your bowel. And it is when those worms see microbes, by the time you eat microbes, that is when they’ll come out in the form of kokoro.
M And are they still invisible, or are they visible then?
H Still invisible. You will not see anything but you will start feeling pain.
M So I have it too, I’m also born with it?
H Yes, you have parasites in your stomach and bowels.
M And is that one big one or are there many little invisible ones?
H Since you cannot see them, since they are invisible, you cannot tell, but it is for sure that there are many.
M And then, if you are born with it, and it is part of you, part of your body, is it a good thing or is it a bad thing? Because I only heard that if you eat microbes and they eat microbes, they can cause diarrhoea. But do they also have a positive reason for being there?
H Okay, well the parasites inside your bowel or stomach they are not so useful. They are useful, but on the other hand they are not so useful because they cause diarrhoea. But it is also useful that they cause diarrhoea, because he said before that, they do eat the microbes. By eating the microbes they help you with getting rid of the microbes. The worms or the parasites, they eat the microbes and become strong and then they cause you diarrhoea, because they get too strong, they will disturb your stomach and you will get diarrhoea. By getting diarrhoea, by defecating, you also defecate the microbes.
M But you also loose the parasites then?
H No, not the parasites, the microbes!

I asked Sjaak if it was possible for a mother who had *kokoro*, to give it to her babies during pregnancy. According to him this was possible. Sjaak also told me that you cannot kill all the *kokoro* and that they help with digestion. Some of the *kokoro* are inside your bowel, but you have *kokoro* in other parts too, everywhere in the body. But the *kokoro* in the other parts of the body cannot cause sickness, they don’t do anything, they just stay there. The ones in your body are different from the ones in your bowel. Within the *kokoro* of your bowel, there seems to be differences as well, at least, if I understood Sjaak correctly. He was talking about the time he had an appendicitis, that he had to go to the hospital and that the doctor removed a big worm. I asked him how the worm got there and if it was the same worm as the *kokoro* we were talking about. He said that normally, an appendicitis is caused if the appendix gets ‘spoiled’, for instance if food gets into the appendix and cannot get out and rot there. But in his case there was a worm inside his appendix.

H That type of worm is visible and you already have it in your body. And when the time arrives that it has to come out, it comes out anyhow and for his own case
instead of coming out through the anus, it got stuck in the appendix and caused problems. Because if a food, like the things inside the spice, if they enter there and disturb the worm, than the worm shakes and want to get out of the appendix. That is when it gives you stomach-ache and a doctor has to operate you to remove it.

I asked him if he thought diarrhoea was contagious or not and he said he wasn’t sure, that he could not say yes or no. He had never heard of diarrhoea being contagious, but in his opinion it might be. Because by smelling the diarrhoea of somebody else, it could cause you diarrhoea through contaminated air. I asked if it could also be spread by way of hands and he said that was possible. Hands, like flies could touch diarrhoea and than contaminate food. If you would eat that food, you would get diarrhoea. The spread through hands and flies was not because of the smell, but because of microbes, that stay inside dirty things. It was also microbes that cause cholera, but cholera could also be caused by eating the same type of food over and over again. “You need variation, otherwise you will get cholera”, according to Sjaak.

Because I had read that the use of enemas is a common practice in some parts of West-Africa, I asked Sjaak if he knew whether that was a custom in Benin as well. He said that his wife would give his three months old daughter enemas three times a day and that I could see the act for myself the next morning, which I did. They made a decoction of leaves and tree bark, mixed it with talcum powder and sucked it up in a little pump. The fluid was injected in the bowel of the baby through the anus. A moment later the baby started to defecate a mixture of the decoction with faeces.

I asked Sjaak the reason for giving his daughter enemas and he told me that it needed to be done because: “..babies between three months and one year cannot defecate on their own, they need help”. According to him most people did this with their children in that age range but it was not done with older children or adults, unless they have problems with defecating.

*mother giving an enema to her baby*
Unfortunately, I could not further examine the ideas of adults concerning diarrhoea. I am aware of the fact that the data I gathered is not sufficient to make any generalisations, nor to make a reliable comparison with the ideas children have about diarrhoea. However, I will make some propositions on how to interpret the data I gathered in the next chapter. Maybe future research will audit whether my conclusions are correct or not and which data I am missing.
CHAPTER 5  FINDINGS MORE CLOSELY CONSIDERED

5.1 Environmental factors influencing the prevalence of diarrhoea

The interview with the medical doctor and the observations during the sojourn of six weeks in Tchetti, made one thing clear to me: there are a few environmental factors strongly favouring the occurrence of diarrhoea in Tchetti (see also chapter 3). The first factor is the cutting lack of sanitary facilities. This is why the great majority of the population of Tchetti has to defecate at spots in the bush or near the mountain. Because of this, disease causing agents in the stools of sick or infected persons can spread easily by ways of direct contact with hands and feet, through flies and other insects, water etc. Although people try to avoid contact with other people’s stools, wearing footwear, trying to find spots free from defecation and hand washing directly after defecating, avoidance of contact with pathogenic agents is harder than when there would be proper sanitary facilities. The second factor is the lack of clean water sources, forcing people to use water from sources with stagnant water, which is an ideal environment for many parasites and bacteria to grow in and which often forms a reservoir for pathogens like Candida and Giardia but also mosquito larvae. The third factor is the low quality of much of the food that is eaten by many people in Tchetti, leading to a low protein diet, contributing to an undermining of the immune system, making people more amenable for diseases. These factors do not only contribute to the high prevalence of diarrhoeal diseases, but to other diseases like malaria as well. Because people and especially children, come into contact with diseases regularly, the immune system becomes compromised, leaving people with little resistance to fight pathogens and giving opportunistic infections like Candida Albicans a chance to cause diseases.

Because many sick people, especially children, do not see a professional health worker before a more severe stage of the disease, plus the fact that through the freely available antibiotics many bacteria have become resistant to therapy, serious complications and even death from diseases are more likely to occur.
5.2 Children’s ideas about the causes and contagiousness of diarrhoea and gastro-intestinal diseases

From the results of the interviews described in chapter 4, it became clear that the children thought that diarrhoea was caused by ‘bad’ food. This food did not ‘fit’ the stomach or could not be ‘accepted’ by the stomach. Because diarrhoea was seen as caused by bad food, it was not seen as a disease that could be transmitted between people: diarrhoea, in the eyes of the children, is not contagious.

‘Other’ (gastro-intestinal) diseases though, like stomach-ache, vomiting and constipation could be caused by dirt, defecation, kokoro, microbes and smell entering the stomach. Something (kokoro, microbes or dirt and defecation itself) could be transferred from dirt or defecation to food and then swallowed. There was quite some confusion about what exactly this “thing” was, that could be brought from dirt and defecation to food by flies and hands. Sometimes it was the dirt and defecation itself, that the stomach could not ‘accept’. For instance because it was said that defecation was all those things that were not good for the body and you defecate to get rid of them. If it was coming back to the stomach, the stomach would be disturbed and you would get sick. Or because it would turn into invisible worms (kokoro) inside the stomach and cause intestinal problems. Sometimes the “thing” was described as kokoro which is visible inside defecation but becomes invisible when flies bring them to food and when they are swallowed. A few times it was described as microbes, but then it was confused with invisible or tiny worms or ants (kokoro and bibi). But whatever description was used for the “thing” that causes the diseases, the children were convinced these things were transmittable because they came from dirt and defecation and could spread by ways of hands, flies and smell.

I found the way the children spoke about the stomach remarkable. Because words like ‘fitting’, ‘accepting’, ‘fighting’ and ‘sending away’ were used in context with the stomach, I felt like the stomach almost had a personality to the children, with its own food preferences and actively involved in examining the things that enter the body, as some kind of gatekeeper and reacting on that, if what entered could not be accepted. It reminded me of the examples Green gives in his book, but then it concerned internal snakes that seemed to have some gate-keeping qualities (see also section 2.3).

The children of Tchetti did not describe diarrhoea as caused by supernatural agents, but explained it in a naturalistic way, therefore confirming Green’s findings based on the literature survey that most African etiologic belief about diarrhoea is naturalistic. It did not
surprise me that there was some confusion about the exact description of the “thing” that could cause and spread diseases, since microbes, kokoro and worms or tiny insects seem to have much in common with each other and using them as synonyms does not seem really farfetched. The concept of invisible worms or insects and the biomedical concept of germs and microbes have both in common that they describe the agent as causing diseases, being invisible, contagious, and transmittable through flies and hands. And even more important: both are perceived of as preventable by good hygiene practices. This seems to be a good base for health promotion programmes to build their programmes on, as Green suggests (see section 2.2.2). Green argues that when explanations for contagious diseases are naturalistic and in some fundamental ways not very different from western biomedicine, the common ground between the two systems can be used to develop and build public health approaches on, that could even incorporate elements of indigenous contagion theory. As stated above, there seems to be a lot of common ground between the ideas of children in Tchetti and biomedical notions. It can be argued though, that the ideas about the causes and transmission of diarrhoea, although naturalistic, might not be as connecting to biomedical notions as the ideas about ‘other’ (gastro-intestinal) diseases. It is because of the ideas concerning these ‘other’ diseases that the children practice hygiene, the ideas about diarrhoea on their own, would not lead to this behaviour. I agree with Green, that having knowledge about the indigenous ideas about diarrhoea and contagion can help programmes to be more effective. Knowing about the motivations but also discouragements for hygienic behaviour can be very useful for these programmes. But I tend to agree with Van der Geest that Green might be a bit too optimistic about the connection between African and biomedical theories, even if both use naturalistic explanations and have much common ground. For example, the ideas children have about diarrhoea, are naturalistic and similar to western biomedical based notions about “bad” food causing diarrhoea. But this is not enough to promote hygiene practices. The children still have to be convinced of the contagiousness of diarrhoea, before they would practice hygiene to prevent diarrhoea. Like Van der Geest says, it can be questioned whether this other naturalistic explanation can be easily adjusted or replaced by a biomedical one. Fortunately, in the case of the children of Tchetti, there are also other motives for practising hygiene, therefore forming a barrier for the transmission of diarrhoea as well. These motives, plus the fact that an indigenous, naturalistic theory of contagion exist, might proof to be very useful for prevention programmes.
An often named and as important perceived cause of diseases was bad smell. Bad smell was said to enter and upset the stomach the same way dirt, defecation, kokoro and microbes would do. Some even said it was because of the smell, that the stomach could not accept defecation. Because smell could cause diseases, it was an important motive for cleaning. If you would leave dirt and not clean it up, it would cause diseases. Since it would start to smell too, it is not surprising that a connection was made between these two, smell, originating from dirt, causing diseases. Curtis did not mention smell in her argument, that an evolutionary adaptation to avoid universal dirt because of an inborn emotion of disgust motivates hygienic behaviour, but I would say it makes perfect sense to involve smell in this argument. Dirt becomes especially dangerous when it starts to smell (a by-product of decay and rotting caused by bacteria, fungi and parasites). Probably because of natural selection, ancestors who interpreted this smell as disgusting survived and passed the intrinsic emotion of disgust when smelling specific odours on to modern humans. Really bad smell can even trigger the reflex of retch, a reflex to protect the body from dangerous pathogens entering it.

Green too did not mention smell as naturalistic explanation given to the cause of diseases, although he did mention environmental dangers, comprehending the belief that elements in the physical environment can cause or spread illness, for example, illnesses that can be carried through air or wind and by inhalation of unclean dust. It surprised me that smell was not included in this description, since it seems to me an obvious and logical explanation for dirt causing diseases and for the explanation of disease transmission, which is a pretty abstract concept since it is an invisible process. As smell is invisible too, again, it makes total sense to me that it is named as a causal factor. I cannot believe the children and adults of Tchetti being the only ones naming it and was therefore amazed not to find it mentioned in such an elaborate book about naturalistic explanations like the one written by Green.

Someone who does mention smell, not so much as a cause of disease, but mainly in relation to disgust, is Miller (see section 2.2.1). In his book “The Anatomy of Disgust”, Miller analyses disgust and shows how it both horrifies us and brings order and meaning to our lives. He describes the role of the senses; vision, taste, touch, hearing and smell in triggering the emotion of disgust. Smell can be disgusting because:

“Smells are pervasive and invisible, capable of threatening like poison; smells are the very vehicles of contagion. Odors are thus especially contaminating and much more dangerous than localized substances one may or may not put in the mouth. Before germ theory existed nauseating smells bore the burden of carrying
disease, while good smells were curative. Germ theory did little to undo this belief, as makers of home cleaning products well know”.
(Miller 1997:66)

In contrast to Curtis and Green, Miller mentions smell as perceivable as contagious. He even gives the example of makers of home cleaning products who use this perception to sell their products, indicating that the idea of contaminating smell can be found close at home.

5.3 Preventive practices and motives for hygienic behaviour

Avoiding sickness by cleaning up dirt and avoiding faeces is not the only motive for hygienic behaviour. As said in the last section, smell, although rationalised as causing diseases, is a motive too, probably stimulating hygienic behaviour by triggering the feeling of aversion or the emotion of disgust. But another motive is to be found in the socio-cultural foundations of dirt and hygiene, as described by Curtis and Douglas (see section 2.2). They argued that social rules for hygiene are the underlying concern of cleaning, based on the need and search for order. These rules, Curtis says, are an essential part of order in societies, serving to reward conformity and co-operation and to outlaw and punish sin and antisocial behaviour, in order to prevent social collapse. The children described the social consequences of not cleaning and being dirty or having a dirty house very lively: people would run away from you, yell at you or start to insult you. You would feel embarrassed and they might start to gossip about you. Children would react the same way if they would enter a dirty house or encounter a dirty or defecating person. It is interesting to notice that encountering a defecating person or being encountered while defecating leads to embarrassment not only because of the situation, but mainly because of the embarrassment because of the smell.

The ideas children have about the causes and transmission of diseases and the socio-cultural and evolutionary foundations of hygiene behaviour, have important consequences for practices regarding dirt and hygiene. Although diarrhoea was not conceived of as being contagious, the aversion of faeces, the ideas about smell as causing diseases and the notion of other (gastro-intestinal) diseases as being contagious, resulted in several beneficial preventive practices. The children named washing their hands before eating, covering food
and water to prevent contact with flies and getting rid of dirt in a proper way, so that little children could not play with it. Dirt was cleaned to prevent smell, the attraction of flies and other insects and the negative reaction of others. The children said that when they went to the defecation spots, they would try to avoid contact with other people’s stools, wear footwear, try to find spots free from defecation and wash their hands directly after defecating. Because of the aversion of faeces, to see them as well as to smell them and the threat to step into them or touch them, next to the fact of inconvenience and the danger of snakes at night, made latrines said to be better than the bush. I have heard enough pro-latrine reasons to conclude that in Tchetti, at least among children, latrines would be accepted, used and probably well maintained.

5.4 Household tasks and the importance of knowledge of the ideas of children concerning diarrhoea and disease transmission

As stated in chapter 2, it might be important to have knowledge about the ideas of children concerning diarrhoea and disease transmission because children might form a risk group in the transmission of diseases and diarrhoea, but could also help to prevent diseases if they would have knowledge about preventive practices. If we look at the household tasks that are named and performed by the children, namely sweeping rooms, fetching water, washing dishes and clothes, helping to prepare food, help in the fields and helping to take care of younger siblings and sick people, it seems that children are directly linked through these tasks with the route of transmission of contagious diseases, especially diarrhoea. Many children are involved in cleaning tasks, getting rid of dirt, washing, sweeping etc. thereby coming into contact with disease causing agents and helping to prevent these agents from spreading at the same time. If children are not aware of the risks and of good hygiene practices they could easily help to spread diseases like diarrhoea to themselves and to others. This also counts for tasks like fetching water and helping to prepare food, sources that, once they become infected, could spread diseases to whole families. Farming (through which children come into contact with manure of animals and humans) and helping their younger siblings with going to the bush to defecate and help them with wiping, might influence disease transmission as well. Positively, if the child is aware of the risks and preventive measures, negatively when the child is unaware or indifferent about them. In the case of the children I spoke with, the children were pretty aware of risky behaviour, ways of
transmission and ways of preventing transmission. Although the details about the agent that causes the diseases varied a bit between the children and from biomedical explanations, the main ideas about ways of transmission were the same and therefore hygiene practices made sense to the children and were performed. The fact that diarrhoea was not perceived as contagious, did not negatively influence their practices, because prevention and hygienic behaviour were carried out to prevent “other” diseases, thereby forming a barrier for the transmission of diarrhoea as well.

These examples show how important it is to have knowledge about the ideas of children concerning disease causation and transmission. If their ideas do not lead to hygienic behaviour or if they are indifferent about it, children could form a serious (and large) risk group in transmitting diseases to themselves, each other and others. It seems to me that it would therefore be very important for prevention programmes to focus on this group of the population and adapt their programmes to the ideas, knowledge and already existing beneficial practices of children. The fact that many children stated to be actively involved in the care of sick people is yet another reason for programmes to also focus on this group of the population.

5.5 Information sources and the construction of ideas of children

The group of children I spoke with, was reasonably acquainted with risky and hygienic practices. They had learned most hygienic behaviour, like cleaning up and washing hands, at school or at home (mostly from their mother) and said they, in their turn, taught it to their younger siblings. I got the idea that, although they rationalised their hygienic behaviour by saying they did it to prevent diseases, an important motive for washing hands was custom, and for cleaning and being clean, the negative comments of other (esp. grown-up) people. Again, smell seemed a very important motivation for cleaning as well, but whether smell motivated because they had the idea it caused disease, because it was just disgusting or because it was learned to be disgusting, I don’t know. I think it is probably a combination of those.

They said that they got their ideas about causation and transmission of diseases from overhearing conversations and “picking up” things or from hearing about it at school or at home. I think that a lot of what they told me was thought of at the spot. It seemed to me that, in order to answer to my questions, they had to connect all loose pieces of information into a
coherent story, which, and that surprised me a bit, they managed to do in a resourceful and impressive way. I gave them a pretty hard time with all my “but why?” and “I don’t understand, can you explain that to me?”-questions, in the beginning a bit afraid of getting many “I don’t know”-answers (and of course I got a few), but noticing that many children liked that challenge, taking some time to think about it and sometimes discussing it, to come up with logical answers I myself (I must admit) would never had thought of. With some children it even became some sort of a game, in which I tried to think of more difficult questions each next time and the child trying to impress me or others or just liking the ‘test-taking-game’ and giving me answers, until one of us would give up. By playing these kind of games, I got the opportunity to follow their process of making sense of things, because they were thinking aloud. It convinced me that most of them did not just reproduce standard answers of what they had learned or heard at school or at home, but that they were actively processing information and adding and dropping ideas, until something made sense to them. Often this went in the form of discussions with fellow children, one of the reasons why I interviewed, and enjoyed interviewing, little groups of children. The fact that two of them tried to intertwine microbes in their story showed to me how they use information from different sources to construct their ideas.

5.6 The child as reliable informant

As described in chapter 1 and section 2.4, there are a few specific concerns in conducting research with children. Here I want to argue that despite the problems that research with children entails, children can be reliable informants who can give valid, meaningful, insightful and useful information about matters that concern them. As said in section 2.4, there is a concern about the quality and reliability of data provided by children. Some say that children do not have enough cognitive, social and communicable skills to be good informants. It is said that children have a rich imagination, are susceptible for suggestion and are influenced by the power relations and generation differences between child and researcher, making the reliability of the data they provide questionable.

It is true that children can have a rich imagination, like the child telling about the fierce animals that come to defecation spots at night and could eat you (section 4.5). Yet, this kind of information is useful, because to the child this is true and it will be a motive for him
not to go to this spot for defecation at night. Imagination can lead to certain practices that might be of interest for the researcher and should therefore also be listened to.

It is also true that children can lie and that they can be as resourceful and intelligent in constructing lies as in constructing ‘true’ ideas. But I think that as long as the researcher is aware of why informants (and not only children) lie, the researcher can try to diminish the motives for lying, by giving informants as little reasons for lying as possible. In my case, I tried to make the children feel like they could speak freely, by explaining to them that I was interested at what they thought, not in what they thought I thought was the correct answer. I tried to make the interview as informal as possible. I think that lies emanate from three motives: self protection (for instance in case of distrust or in case of sensitive topics), trying to impress others and telling lies because the informant expects that is the answer the researcher wants to hear. These last motives were reasons for one of the girls that I interviewed, to lie to me. As I usually did, I started by asking her what she had done that day. She told me she had worked hard at school. This was not such an intelligent lie, since it was Saturday and the schools were closed. I confronted her with this fact and she told me that she had to lie a little because it was a serious interview and she wanted to give me correct answers. I learned my lesson and to avoid that children would lie to me in the future, I tried to make them feel as comfortable as possible. For instance, I let them play with the tape recorder, which often resulted in singing songs that they were very interested in hearing back. The way of asking questions and the formulation of those questions seemed important in reducing stress and formality as well. I tried to ask clear, uncomplicated, simply formulated questions, even when the questions themselves were sometimes “hard”, meaning challenging the child to think of an intelligent answer. Of course I have to admit that because of having to use an interpreter, I was less in control of this formulation of questions than I would have liked.

The context in which the interview took place, was one of the most important influences on the quality of the data that I got. Talking with children on the streets or at the schools gave me way less information than talking with them in our house or at the soccer fields, because of the presence of adults (see also chapter 1). Interviewing more than one child at the same time did not only lead to interesting discussions that made me follow their process of thought, it also kept them a bit from lying or not being sincere, since there was some social control, at least, that is the impression that I got. Maybe the most important factor in getting reliable, high quality data, was talking about matters that concerned them, of which they had an opinion because it interested them. Of course there were inter-personal
differences between the child informants, like there would be between adult informants. One simply might be more talkative, shy, at ease, nervous or reliable than the other.

Next to trying to give the informant no reason for giving untruthful information, I think the researcher has some “tricks” to check reliability. First of all, more informants are interviewed. It is highly unlikely that they would all come up with the same lies, except maybe in the case of sensitive topics. Furthermore, internal consistency can be checked by asking the same question more than once, but in a different way and by confronting the informant with contradictions. I always tested whether an informant was susceptible for suggestions or persistent, by purposely telling him or her that I disagreed, that something did not make sense to me, if he or she maybe meant something else (and giving a suggestion) or by telling that others had told me another story and asking the informant to react to that. Personally, I had expected many children to be more susceptible to suggestions or not to have the courage to disagree with me. Surprisingly and happily, often they did have this courage. They were trying the best they could to persuade me to believe their point of view, explaining things to me over and over again, or, even if they had no explanation, persistently saying that they did not know why, but that what they said was the way it was.

Although I am aware of certain practical and methodological problems in performing research with children, I must conclude that the majority of the children did have enough cognitive, social and communicative skills to have the potential of being good and useful informants, providing reliable and high quality data. The quality and reliability of the data gathered, seem mostly dependent of context, way of interviewing and the “rapport” between interviewee and interviewer, factors that are in control of the researcher. In this way, conducting research with children is not much different from conducting research with adults. I suggest that those who are sceptical about the reliability and usefulness of data provided by children, while reading this thesis, should imagine that I am not talking about the ideas and practices of children, but of adults.

* In a research about condom use among sexworkers, which I performed in Guatemala in 1999, the use of condoms turned out to be such a topic which was lied about. More than 80% of the sexworkers told us that they always used condoms, while many of them suffered from S.T.D.’s at that same moment.
5.7 Ideas of adults concerning diarrhoea and disease transmission and the comparison with the ideas of children

When I started this research, I was curious about whether the ideas of children would differ from the ideas of adults (see research question 8), considering they use information from many different sources in mixing and creating an understanding of the world. That was one of the reasons for me to interview a few adults, although it was not the main focus of my research. I have too little data and too few informants to draw any conclusions, but I would still like to point out a few interesting points in the analysis of the ideas of adults concerning diarrhoea and disease transmission and the comparison with the ideas of children. Maybe future research will find out whether my findings and analysis are accurate or not.

Like the children, the three adults I interviewed believed that certain kinds of food are not “accepted” by the stomach and can lead to diarrhoea. Unlike children, there seems a bigger role for microbes and *kokoro* in the causation and transmission of diarrhoea. Microbes were said to be in dirt and in smell and that was the reason why dirt and smell could cause diarrhoea. But once the microbes or dirt had entered the stomach, it would become *kokoro* or eaten by *kokoro*, making the *kokoro* “stronger”. Whether the *kokoro* was inherited and ran in certain families, whether everybody had it since birth, or whether it was acquired from eating dirt or microbes, the *kokoro* was said to be an invisible worm or worms, that dwell(s) in the stomach and will react on “bad” food, dirt and microbes by causing diarrhoea. There are certain foods that the *kokoro* might dislike or prefer. *Kokoro* could help with digestion and could not be killed. Its presence was ambivalent, it helped with digestion and with getting rid of dirt and microbes, but it might also make its host seriously ill by causing diarrhoea and sometimes needed to be “chased away” with medicines, or removed by a doctor. There were some contradictions between the descriptions of *kokoro* by the adults. These contradictions mainly concerned the (in)visibility, how it came into the stomach, whether its presence was negative or could also be positive and whether you could kill it or not. But there was agreement about the involvement of *kokoro* in the pathogenesis of diarrhoea. Because *kokoro*, microbes and diarrhoea were connected with each other in the stories of two of the three adults, diarrhoea was perceived by them as being contagious. This was unlike the ideas of children that diarrhoea could not be transmitted.

It is my hypothesis that the *kokoro* concept used to be the indigenous theory about the causation of diarrhoea (together and connected to the “food theory”). According to this view,
diarrhoea is not contagious. The (biomedical) concept of microbes is later added and intertwined with the original *kokoro* concept. Since microbes are transmittable, diarrhoea became contagious according to this “new indigenous theory”, that is still in the process of being shaped and of which there is not yet one accepted overall version.

While adults are still working on the construction of one collective equivalent concept, children seem to do the same. The ideas of bad, non-fitting food as the cause of diarrhoea and smell, dirt and defecation as the cause of “other” (gastro-intestinal) diseases are strong because of their logic and observable cause-effect relationship and will maintain to be an excepted explanation. Agreement about the exact nature of the “thing” that causes and spreads diseases is yet to be found. Children are actively using information of different sources and use their own logic in creating and constructing explanations involving microbes, *kokoro*, tiny ants, etc. Most of the time this creating and constructing happens “at the spot”; at the same moment that they are asked to answer questions, when they are forced to think of an explanation. As described in the last section, they are very able to come up with such an explanation.

Again, this hypothesis is based on little information and should be seen as a working hypothesis for possible future research. Here, I think it is important to be aware of the fact that explanations of adults given to diarrhoea, like the explanations of children, are naturalistic as well.

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*I want to point out the similarities between the internal snake, described by Green and which is according to him a wide-spread belief in Southern and East-Africa, and the *kokoro* as described by some of my informants.*

Green describes the internal snake as an invisible snake that dwells in the stomach and reacts on dirt or impurities, introduced into the body by causing diarrhoea, which flushes the dirt out of the body. It is designated by the local term for snake, or less often, a local word for worm is used, perhaps signalling a different concept. The internal snake may be conceived of as a life force with a personality, having its own food preferences and most of the time performing vital digestion functions. If dirt, impurities or certain kinds of food (bad, spoiled, mixed, etc.) enter the stomach, it will react with displeasure, causing pain and discomfort and provoking various bodily discharges such as diarrhoea and vomiting (see also section 2.4).

I find the resemblance with *kokoro*, as described earlier in this section, striking. Maybe, as Green says himself, the invisible worm(s) signal a different concept, but nevertheless I think it would be very interesting to find out the exact meaning and actions of *kokoro* and in how far this West-African concept resembles or differs from the Southern and East-African concept of the internal snake.
CONCLUSION

Diarrhoea is perceived by children as caused by “bad” food and is therefore not understood as being transmittable. Other (gastro-intestinal) diseases in contrast, like vomiting, stomach-ache and constipation, are seen as caused by invisible worms (kokoro), microbes and smell, originating from dirt and defecation and reaching people directly or through ways of hands, flies and food. These other diseases are therefore thought to be contagious.

The explanation children have for disease transmission and diarrhoea are naturalistic and have a lot in common with western biomedical notions of disease causation and transmission. Like western notions, the ideas children have about disease transmission lead to ideas about prevention which lead to hygienic behaviour.

Several hygienic practices were mentioned and executed by the children. These included hand washing, cleaning up dirt and avoiding faeces. Reasons for this hygienic behaviour were to avoid sickness and smell (which was thought to cause diseases), the aversion of dirt and defecation and the emotion of disgust that was triggered by it and because of the social consequences of not cleaning (the negative reactions of others and the feeling of embarrassment). Although diarrhoea was not conceived of as being contagious, the hygienic behaviour practised to prevent the other diseases formed a barrier to the spread and transmission of diarrhoea as well.

Considering the (household) task the children were involved in, the children formed an important factor influencing the transmission of diseases. Because they were fairly aware of risky behaviour and ways of transmission, the children performed hygienic behaviour and therefore helped preventing disease transmission. If the children would not have been aware or would have been indifferent about it, they would have formed a large risk group in the transmission of diseases and diarrhoea to themselves, each other and others.

In the constitution of their ideas, children used information from different sources, for instance information received at home and at school. They did not simply reproduce the information they had got from these sources, but showed, by thinking aloud, how they actively processed the pieces of information and added and dropped ideas in constructing a logical coherent story that made sense to them. They provided reliable, meaningful and useful information and had enough cognitive, social and communicative skills to be useful
informants. The quality and reliability of the data they provided was mostly dependent on the interview context, the interview skills of the researcher and the rapport between child and researcher.

The most important differences between the ideas of children and the ideas of the few adults that were interviewed, were the more important role of *kokoro* in the pathogenesis of diarrhoea in the ideas of adults and unlike children, diarrhoea was perceived by most adults as being contagious. The most important similarity of the ideas of adults and children, was that both were based on naturalistic explanations.

Because children can form a large risk group in the transmission of diseases but can also be important for the prevention of it, they form an important group to focus prevention programmes on. For such programmes to be effective, they should have knowledge about the ideas and practices of children, concerning disease transmission, diarrhoea, dirt and hygiene. The naturalistic explanations and the ideas about contagion and prevention can be used and incorporated in these programmes.

In the case of Tchetti, the high prevalence and mortality of childhood diarrhoea seems to be more likely a result of the lack of sanitation, the lack of safe drinking water, the moderate health condition of the children (undermined immune systems), the antibiotic resistance and the therapy seeking behaviour of the parents than to be a result of a lack of knowledge and performance of hygienic behaviour. The ideas children had about disease causation and transmission, the aversion of dirt, defecation and the smell of it, and the social motivation for hygienic behaviour together with the inconvenience of having to defecate in the bush, made latrines popular with these children. There seems to be sufficient ground to believe that latrine programmes in Tchetti would be successful and would form an important factor in improving health and preventing diseases like diarrhoea.