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# Balancing the System: Humoral Medicine and Food in the Commonwealth of Dominica

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### **ABSTRACT**

The “bush medicine” (home healthcare) practiced in Dominica (Lesser Antilles) is based on a version of New World hot/cold humoral theory. Data on bush medicine were collected in a rural village (population≈650) using interviews with 160 village residents. Findings indicate that humorally “cold” substances in Dominican ethnophysiology make human flesh and bodily fluids stiffen, and humorally “hot” substances cause bodily fluids and tissues to become thin and pliable. All body tissues and fluids, especially blood and mucus, are assumed to react to heat and cold. Cold illnesses are associated with respiratory problems or are stress induced. They require hot remedies, ingested as seasonings and herbal “teas”, to thin secretions and relax a sufferer. Hot illnesses have to do with increased body heat, redness, and swelling and are usually thought to stem from dirt or feces in the body. Hot illnesses are treated with cold foods and “teas,” which often have laxative properties. A food or herb's humoral quality is determined by how it affects illnesses and the body.

### **1. INTRODUCTION**

People in many societies—Western cultures included—believe that a well-balanced lifestyle yields a healthy mind and body. People strive for a “balanced” diet, and some harmony between work and play, sitting and exercise, and so forth. Humoral medicine, is a similar concept, in which wellness is maintained or restored by balancing opposite forces (or humors) such as heat and cold, or dryness and wetness. In the Commonwealth of Dominica, villagers assert that much illness is the result of hot or cold humors that enter a person's body and disrupt the balance of his or her “system.” There are a number of ways that disruptive humoral forces may enter a person's body. For example, a wound might allow a hot or cold element to contaminate a person, the body might become deeply chilled in cool weather, or a person might become overheated by hard work in the tropical sun. Most commonly, however, disruptive hot or cold forces are thought to enter the body by eating. People are expected to become unhealthy by eating an unbalanced diet or by neglecting to adjust their diet to their lifestyle. Logically, when people feel that

they are suffering from a diet-related disorder, they adjust their diet. The reader should find this scenario familiar. The idea that ill health results from an unbalanced diet is not unique to Dominica, in fact it may be a human universal.

The hot/cold humoral system has been documented throughout the New World, particularly in Latin America (for an overview, see Foster, 1994). Foster claims, in fact, that "humoral medicine in the Americas is the most completely described of all ethnomedical systems" (1994:2). In the hot/cold humoral system, people group mental and physical states, plants, and animals into "hot" and "cold" categories. Here, "cold" or "hot" may refer to the temperature of air or bathing water, however "hot" and "cold" often refer to culturally ascribed symbolic values having nothing to do with thermal state. North Americans similarly refer to chili peppers as "hot" regardless of the temperature at which they are served. Some mental states also carry hot or cold labels. The North American view of anger as hot-headedness and indifference as coldness reveals a glimpse of similar symbolic use of heat and cold.

In addition to associating temperatures and emotions with heat and cold, the humoral approach associates heat and cold with all living things. Every plant or animal (therefore everything one eats) has an assumed inherent humoral temperature.

People who live by the hot/cold humoral system, believe that the human body functions best at a warm state that is in between the hot and cold extremes that exist in other species of the plant and animal kingdoms.

Heat and cold are reckoned as transferable: Not only can temperatures of water and air in the physical environment be absorbed or transferred to the internal and external body, but one can also transfer the humoral quality of something one ingests to one's own body. Just as people must avoid overexposure to hot or cold temperatures, they must also avoid overexposure to hot or cold humoral states. They must therefore balance the hot or cold humoral qualities of the foods they eat.

The Dominican version of the balanced diet presents an example of the internal logic of one hot/cold humoral belief system. In Dominica, much illness is blamed on eating too much humorally hot or humorally cold food thereby changing the body's optimal warm state to a hot or cold one. The remedy to a hot or cold condition is to ingest a food which has cooling or heating properties to counteract the perceived causes of illness. Health maintenance through balancing humorally hot and cold properties in the diet is a fundamental component of "bush medicine," the folk medical system of Dominica and much of the Caribbean.

## **2. SETTING**

The Commonwealth of Dominica is a small, island nation located between the French Departments of Guadeloupe to the North and Martinique to the South (15°N, 61°W). The island is mountainous, relatively undeveloped, and supports little agriculture or tourist industry compared to other Caribbean islands. Dominica's population (approximately 68,000) is of mixed African, European (French and English) and Native

American (Island-Carib) descent. Most Dominicans are bilingual in Creole English and French-Patois.

This research took place in an east (windward) coast village nestled at the crux of two mountain ridges (see Quinlan, 2003). The mountains trap rain blown in from the ocean so the village's annual rainfall is between 100 and 150 inches per year, making for lush vegetation. The site is primarily a subsistence agricultural community. Almost everyone gardens. In addition to subsistence gardens at the village periphery, most land within the village is cultivated with fruit trees and other plantings. Many families also maintain small house-gardens for condiments and herbs for cooking and medicine.

Remote, even by Dominican standards, the site is located about a forty-minute drive from the main road, at the dead-end of a narrow, mountainous, sometimes washed out lane. There are of about 650 full and part-time residents. Relative isolation reduces residents' economic opportunities. Average annual income is approximately 5,000 East Caribbean dollars (\$1,850 U.S.). Villagers earn their living through subsistence gardening, fishing, bay oil production, banana production, and a few residents engage in wage labor.

The village's location also limits residents' access to outside (Western) health care. There is a local health center that offers inoculations and a short supply of common medications (e.g., ibuprofen) and first aid materials. The nearest pharmacy is a two-hour drive away. A doctor is available at the government health center 45 minutes drive from the village. No villager owns a private automobile, however, and rides are expensive and sometimes difficult to arrange. Hence, all villagers rely heavily on home remedies, locally called "bush medicine." Villagers assert over and over that everyone in the village is his own "bush doctor." Diet is a fundamental component of bush medicine.

### **3. METHODS**

Fieldwork for this project was conducted during five trips to the study site between 1993 and 1998. Ethnographic data on bush medicine were collected using informal key informant interviews, a village health survey, semi-structured key informant interviews with bush medicine experts, and free-list tasks with 160 village residents (90% of adults).

#### **3.1 Informal interviews**

The informal interviews were conversational and involved asking a representative sample of village adults about their own experiences with and responses to illness events. Informal interviewing was also conducted during the course of participant-observation, such as working with people in their gardens, cooking meals with them, and so forth.

#### **3.2 Health surveys**

The health survey involved asking every village mother a series of recall questions regarding the health of family members. Women were asked about the general health history and condition of all household residents. They were asked to recall any

illness or injuries their family members had suffered in the past week, past month, and past year. Each time a woman mentioned an illness event she was asked how the family member became sick to probe for the perceived etiology of the illness. Women were next asked what, if anything, anyone did to treat the sick person. If someone at home treated the sick person (which was usually the case), the woman was asked to describe the treatment. Mothers were also asked who they sought out for bush medical advice and which villagers knew the most about bush medicine.

### **3.3 Key informant interviews**

From the survey of mothers, five village residents stood out as particularly sought after for their bush medical advice. These five experts became key informants, or project consultants. They included three women, ages 39, 55, and 68, and two men, ages 25 and 49.

Each consultant was interviewed three times. The first interview was a long, general interview on the medical system including the kinds of health practitioners villagers use under certain circumstances, local notions of ethnophysiology, and which illnesses the expert treated with bush medicines. During the second interview, the experts were asked which bush remedies they used for each sickness they listed during the previous interview. Next, the informant was asked about the use(s) of each bush medicine that he or she had listed. Finally, the consultants helped to gather samples of every remedy he or she had mentioned during the previous two interviews (the majority of the remedies were plants, for which voucher specimens were collected, however, there were also many non-herbal treatments including foraged animal and mineral ingredients and purchased products).

### **3.4 Freelist interviews**

Interviews eliciting the health problems that villagers treat with bush medicine were conducted with 30 residents<sup>1</sup> to identify salient illnesses in the community. Next, free-listing interviews for remedies (Smith 1993) were conducted with every willing adult villager (N=160, about 90%) in residence during the summer of 1998. Villagers were asked to list all bush medicines (many foods are considered bush medicine as well as nourishment) used to treat each of the salient illnesses.

## **4. RESULTS and DISCUSSION**

Rural Dominicans emphasize the importance of maintaining a balanced body “system.” Balance is necessary regarding how much blood one has; how often one eats, drinks and eliminates waste; the size of one’s intestinal parasite load; and the hot/cold humoral state of one’s body. The balance of hot and cold, however, is the primary concern expressed in many rural Dominican conversations about illness.

### **4.1 Dominican Daily Diet**

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<sup>1</sup>The sample was stratified by age, sex and village location (see Quinlan, 2004).

There is a lot of variation in what, when, and how much Dominican villagers eat. There are, however, three general dietary rules. First, every villager starts his/her day with "tea." Second, everyone eats lunch, the main meal of the day, between noon and 2:00. Finally, everyone's food and drink intake attempts to follow the basic guidelines of local hot/cold humoral theory.

The hot/cold humoral qualities inherent in things people eat correspond to the local models of nutrition. Human bodies are reckoned to contain the same elements present in animals. Therefore, animal products (meat, milk and eggs), like the healthy human body, are seen as neither too hot nor too cold, or humorally neutral. Dominicans regard animal foods as essential, at least in small amounts. They state that the body can easily transform animal products into human fluids and tissue. Staples like legumes and boiled tubers or starchy fruits are also neutral and eaten together. Processed starch foods (i.e. kinds of flour) are "hot" (and cause constipation) while fruits and greens are "cool" (and alleviate constipation). These notions make sense in terms of two opposing Dominican food preoccupations: keeping the belly full, and keeping the belly and bowels (or intestines) blockage-free.

In addition to water, Dominicans drink three kinds of beverage: juice, "tea" and alcohol. Dominicans make most fruit juices by grating, squeezing or blending fruit and adding water and some raw sugar. Dominicans include unripe coconuts (*Cocos nucifera*), or "jellies" as a kind of juice, though a good portion of it is actually eaten. One "has a jelly" by opening a hole in a green coconut with a machete, drinking the liquid endosperm, then splitting the drained coconut open and scooping out the unripe coconut meat (which has a gelatin, or jelly-like consistency). All juice is reckoned humorally cold, though coconut, pineapple (*Ananas comosus*) and papaya (*Carica papaya*) are especially cold. Drinking plenty of juice (2-3 servings a day) is thought to provide refreshment, keep one's digestive tract moving as it should, keep one's skin blemish-free, and protect against heat exhaustion.

Dominicans use the word "tea" to refer to any hot, non-meat beverage. It is rarely store-bought "green tea" (i.e., cured leaves of Asian tea shrubs [*Camellia sinensis*]—green, orange pekoe, black oolong or otherwise). Rather, people drink some kind of plant-based infusion from materials that they harvest themselves. These "teas" include coffee, or "cocoa tea" (hot chocolate), or "bush tea" (any herbal tea, such as mint and orange leaf tea). People drink morning "tea" every day to "ease off" two bodily accumulations that occur during sleep in the cool air: (1) the gas that accumulates in the belly overnight, and (2) the cold that builds in the body overnight (i.e., "tea" loosens up mucus and joints). Most people drink at least one more cup of "tea" in the late afternoon, though some men skip their afternoon tea in favor of alcoholic beverages.

Alcohol, especially cask rum, has a large, visible presence in Dominican village life. With the exceptions of a few strict Seventh Day Adventists, all villagers, from teenagers through the elderly, drink on occasion. Middle-aged and older men drink the most, and some adult males are routinely publicly inebriated. Alcohol doubtless comprises a large proportion of the calories that these men consume. Beer, ginger wine, brandy, and bottled rum are usually available at village shops, but the typical (and most

economical) drink is a “shoot” (shot) of cask rum followed by a chaser of water. Villagers reckon alcohol and alcohol-related illnesses as humorally “hot.” Drinkers try to balance their humoral intake by eating “cold” fruits.

Lunch, the main meal, is “food,” complimented with “peas” (any kind of bean) and usually meat or bouillon-based gravy. Rural Dominicans only use the word “food” to refer to the starchy provisions that form the base of their diet. Dominicans especially refer to their principal subsistence crop, dasheen (taro, *Colocasia esculenta*) as “food”; however, plantains (*Musa X paradisiaca*), breadfruit (*Artocarpus altilis*), sweet and Irish potatoes (*Ipomoea batatas* and *Solanum tuberosum*), and yams (*Dioscorea* spp.) are also “food.” Processed starches: manioc flour (*Manihot esculenta*), arrowroot starch (*Maranta arundinacea*), rice (*Oryza sativa*), cornmeal (*Zea mays*), and anything made with wheat (*Triticum aestivum*) flour (e.g., bread, pasta, dumplings) is “like food” but is not “real food.” “Food” “fills your belly,” and “stays with you” without causing constipation. Edibles “like food” fill the belly, but only for a short time. Further, these processed starches are humorally hot. Eaten alone they cause “inflammation,” which swells up the inner body, causing constipation by blocking the bowels. Dominicans occasionally eat “hot things” (e.g., dumplings) as a “food” replacement. They must then accompany “hot” starches with fruit juice, greens, cucumber, or another humorally “cold” item to “keep the system free of blockage.”

“Food” and things “like food” are not said to “build” the body. Rather, they provide simple sustenance—give energy and fill hungry bellies. Fruits and vegetables build the body, especially digesting into components of body fluids (blood, breastmilk, and semen). Meat, milk, eggs, and (to a lesser extent) legumes digest directly into body components, such as muscles and blood. People discuss these edibles as the essence for strength, growth and wound healing.

#### **4.2 Humoral Quality of Food**

How do cultures ascribe certain foods with hot or cold humoral values? The ethnography points to factors that some groups use to assign “hot” versus “cold” values. For example, Nahuatl Indians in the Valley of Mexico make humoral distinctions between certain foods in their raw versus cooked state (Madsen, 1955). This is not the case in Dominica where, for example, a humorally “hot” “bush tea” remains “hot, even if it cools completely. Likewise “cold” food remains “cold” (like papaya in goat stew) even if it is hot or cooked. In some populations (e.g., Guatemala [Logan, 1973]), color is an ascription factor, but not in Dominica. The Central American Quichés’ humoral definition of meat is tied to the animal’s wild or domestic status (Neuenswander and Souder, 1977). Meat is neutral in Dominica, so a distinction contrasting natural to human-altered food is not an issue. However, Dominicans do make one similar type of distinction: processed versus unprocessed staples. Dominicans view processed starches (e.g., wheat flour, manioc flour [*farín*], and cornmeal) as hot foods. Whole carbohydrate foods that—other than peeling or cooking—do not require processing (plantain, dasheen [taro], potatoes, yams, and breadfruit) are neutral staples.

Food's perceived sensory effect is another factor for assigning hot or cold humoral quality. How does the food or seasoning feel to the skin or mouth? Does exposure to it burn one's skin as with the bay leaf that Dominicans distill as a fragrance and eat as a seasoning? Or, does it feel cool and soothing like the flesh of banana fruit (*Musa X paradisiaca*)? After one ingests the plant, does it feel refreshing (i.e., "cool"), or piquant (i.e., "hot") on one's mouth/throat? Organoleptic qualities, such as taste, appearance and odor may be passed down as explanations of plants that work. Yet it is doubtful that Dominicans assign hot, cold, or neutral values to foods based *solely* on sensory, or organoleptic properties.

Messer (1981) and Brown (1976) found that people in their research areas (Oaxaca, Mexico and Highland Ecuador, respectively) classified some foods according to their sensory qualities (e.g., spicy foods are "warming"). However, both studies found that perceived physiological effect on people was more important in assigning a hot or cold value than the immediate organoleptic sensation a food/herb produced. People in both populations reasoned that, ultimately, their experience and observations of what the substance did was the main issue in determining humoral quality.

Organoleptic indicators are present in a small minority of foods and medicine. However, when present, they function as mnemonic aids in Dominica as elsewhere (Leonti et al., 2002). After seeing a fire-roasted banana, one will not likely forget its use as a laxative (and, as laxatives are always viewed as cold in Dominica, one is unlikely to forget the banana's humoral property). Papaya fruit remains protected from the sun's heat because the tree's large leaves shade the fruit and the fruit's skin protects the flesh from the heat. Hence, fresh, moist papaya fruit might seem cool to Dominicans. Papaya is indeed regarded as a cold food in Dominica. Rum produces a burning sensation when swallowed and is regarded as a hot drink. Yet other substances that produce burning oral effects, such as curry, seasoning peppers, and ginger are regarded as neutral. Further, burning sensation from acid in lime (*Citrus aurantifolia*), pineapple and tomato (*Lycopersicon esculentum*), though potentially hot to the senses, does not effect the Dominican classification of these fruits as humorally cold.

One might argue that, for most people, tradition provides the basic guidelines for knowing whether a food is hot or cold. Children know the humoral qualities of many foods through traditional learning. Through casual observation and conversation, children memorize the names, medicinal uses and humoral qualities of many foods that their family and neighbors eat, as well as the "bush teas" that they drink. There are some societies in which hot/cold assignment of plant humoral quality appears to be entirely memorized, in that it has nothing to do with a human's physiological reaction to the plant. For example, New York Puerto Ricans classify lima beans and white beans as "cold" and kidney beans as "hot" though they all offer very similar benefits and effects on the body (Harwood 1971).

However in Dominica, as in Ecuador and Mexico (Brown 1976; Messer 1981), a plant's humoral value comes from the effects the plant produces when people ingest or apply it. The most important factor that Dominicans use to determine a substance's humoral value is the effect that the substance has on the human body. Though people

may memorize the hot or cold status of foods as children, adults usually discuss a food or medicine's use (and ascribe a hot/cold/neutral quality) in terms of the internal logic of the ethnomedical system. For example, in Dominica, a rash is a hot condition. Dominicans would thus refer to a plant that soothes rashes as a cold plant (whether eaten, drunk, or applied topically), because it counteracts a hot condition. The Dominican ethnomedical system is one in which the assumed humoral state of human maladies takes precedence in determining the humoral value of a food or herb. In fact people do not seem to have the humoral qualities of plants committed to memory as well as they have the humors of illnesses. Thus, when asked if a plant had a hot or cold value, informants generally had to reason out a response. For example, one might say that a food makes one feel "refreshed," or helps "clean your bowels," and that is why it is "a cooling."

In many respects, the Dominican humoral system conforms to the general pattern of humoral theory found across cultures; it differs, however, from most New World hot/cold humoral systems in one important aspect. In most New World cultures, humans are viewed as the only living thing (or one of a few) that is humorally neutral (or warm—in between hot and cold). All other animals and plants (therefore all edibles) are regarded as either colder or hotter than humans (Foster 1994). Dominicans regard only *certain* foods and disease as hot or cold, while others-- approximately one third of illnesses--are neither hot nor cold, but rather humorally neutral (Quinlan 2004). While people treat a cold illness by ingesting something humorally hot and likewise ingest cold things for a hot illness, treatments for neutral illnesses are not typically regarded as hot or cold. Rather, they target areas of pollution or imbalance that residents associate with the particular humorally neutral health problem.

### **4.3 Humoral Illness in Dominica**

The foundation of rural Dominican humoral theory is that humans are made of meat. Locals compare the behavior of human flesh and fluids to that of the meat and gravy in their daily stewpot, which becomes thin or supple when warm and thick or hard when cool. Thus, if temperature, food/drink or emotions create too much cold inside a person's body, his bodily fluids and tissues presumably thicken or harden. Hard tissues or thick body fluids are the perceived etiology of a cold illness. Conversely, when temperature, food/drink or emotions result in too much bodily heat, a person's insides soften and thin, or (in extreme cases) cook. Cold and heat are thought to affect all body tissues and the viscosity of bodily fluids, but especially blood and mucus.

The body can regulate its own temperature to some degree. If a person needs to cool down, his pores will allow some heat to escape from his body and the person will perspire to cool his skin. The body is particularly good at heating itself up. When one has a cold illness, the body often heats up on its own to "melt out" the cold. Sometimes, "melting out" a tenacious "cold" overheats the body. In the Dominican view, a fever (a hot condition) comes from overheating in response to a cold illness. Self-cooling is during the daytime is difficult, Dominicans say, because the air temperature is hot. Sweating and open pores do not cool the body well when it is hot out. Usually, cooling requires external forces such as shade, breeze, bathing, and ingestion of humorally cool foods and fluids.

In Dominican ethnomedicine, humoral states can have important influence on illnesses relating to blood and the circulatory system. Dominicans describe the heart as a muscular pump that receives blood from two blood entrance tubes. Informants explain that the bottom tube receives clean, new blood from the kidneys and liver, while the top one takes in old blood from the body for recirculation. The heart pumps, squeezing the blood from the entrance veins into one big exit vein (presumably the aorta) that divides three ways. The left vein division fuels the left side of the body with blood, the middle division goes up to the head, and the right division delivers blood to the right side of the body. The quality of the blood pumping through one's veins, Dominicans allege, is a primary cause and indicator of health or illness. Dominicans judge the quality of one's blood by three basic criteria: viscosity, quantity, and purity.

Blood viscosity, in particular, is thought to vary with temperature or humoral status. Blood congeals when it is cool and thins when it is hot. Warm blood is too thin. It does not scab quickly, and flows through cuts or menstruating women too fast. The ambient temperature, humoral "heat" in food or "teas", or overexertion can cause warm blood. Warm blood usually goes away on its own as the body cools and rests. Prolonged warm, thin blood leads to weakness or may make some "anemic." Villagers say that "anemic" people are thin, always tired, have poor color, and tired eyes. According to locals, anemics have thin, weak, pale blood. Folk diagnosis involves checking the color and texture of the veins on the underside of a person's arms. Rest and eating "plenty peas" (beans), especially wild "pigeon peas," or *pwa angol* (*Cajanus cajan*) are prescribed for people who seem anemic. Anemics also need to eat "plenty meat," especially wild *manikou* (opossum) and agouti, but goat or beef is also good.

Cold blood is thick. It clots too easily, potentially causing a "mass" that blocks circulation. If a mass blocks circulation to the "brains" or heart, a person could drop dead suddenly. Otherwise, cold blood might just slow a person down. It also might cause one's mucus to thicken and one's joints to stiffen. Respiratory illnesses (such as asthma and the common cold) and arthritis are thus cold. A person's blood can become "cold" through exposure to cold temperatures (locals describe air below about 68°F as "cold"), which is relatively rare experience for Dominicans. Dominicans have occasion to feel cold during tropical depressions, at higher elevations, and when wet in the rain, out at sea, or swimming in cold water for extended times. Shock or fear, humorally cold emotions, can also lead to cold illnesses including respiratory illnesses and a folk illness, called "fright" (similar to posttraumatic stress syndrome), in which one's blood is thought to chill. While the Dominican humoral system recognizes food and herbs that are cold enough to cause vomiting or diarrhea, there is no food or herb whose humoral quality is so cold that it can cause cold, thick blood or mucus. There are, however, foods to treat to treat cold blood. They are all seasoning or condiment foods including wild basil (*Ocimum basilicum*), bay leaf, garlic (*Allium sativum*), Cuban oregano (*Plectranthus amboinicus*), cinnamon (*Cinnamomum zeylanicum*), "male garlic," or *ajo sacha* (*Mansoa alliacea*, syn *M. hymenaeamanilkara*), lemon grass (*Cymbopogon citratus*), and goatweed (*Capraria biflora*).

There is a folk blood condition that Dominicans refer to as "pressure." "Pressure" is *not* the same as "high blood pressure" or hypertension. "Pressure" is a hot condition in

the blood and the veins that can be caused by diet, digestion, or stress. The body of someone suffering from pressure is internally hot and inflamed. Inflammation causes the veins to swell, making the tubes for blood circulation narrower. A large gas build-up can also push against veins, restricting the amount of blood that can pass through the veins. A person with pressure also has hot blood. Hot blood generally becomes thin and weak. However, hot blood under “pressure,” goes one step further and actually begins to cook, as if boiling off the water in the blood. This makes the blood too concentrated, or too “rich.” Because this blood is extra rich and thick, the body has a hard time pushing it through the already compromised veins. Hence, pressure builds up in the veins.

“Pressure” can result from the stress of worrying, studying too hard, and having strained relationships. These stressors cause the mind to work overtime, which is said to generate heat in the blood. Dietary “pressure” can result from eating too many processed starches, the “hottest” foods. Drinking too much rum (also very hot) exacerbates the possibility of developing “pressure”. Digestion is involved with “pressure” because some people with otherwise healthy diets are said to digest too efficiently, leading to “pressure.” If people are particularly good digesters, or have a diet particularly rich in foods that “build the blood,” (meat) their blood will be too thick and rich. The local ethnophysiology of the digestive and circulation systems provides for “building” blood, but not for thinning blood or taking blood away. Females with “pressure,” rid some supposed extra blood or extra blood richness with menstruation, but this might be temporary so the blood becomes too rich again.

The typical reaction to “pressure” is to exclude all hot (flour-based) foods from the diet, eliminate or limit animal products from the diet, and eat a cold (high-fiber) diet that is heavy in fruits and vegetables. Favored foods for pressure are papaya, christophine or *chayote* (*Sechium edule*), and passion fruit (*Passiflora laurifolia*). If a change in diet does not sufficiently relieve the “pressure,” a Dominican thought to have too much blood (or blood richness) in the veins may resort to cutting (bleeding) him or herself to relieve the vein pressure.

Dominicans theorize that blood may become polluted by dirt that gets inside the body. As dirty blood flows through the body, it is imagined to irritate and abrade body tissues. The result is what Dominicans call “inflammation” (internal humoral heat and occasional swelling). “Inflammation” can be in a specific body part, but more often it is generalized. General inflammation eventually moves outward to the limbs and the head, and finally to, or through, the skin. Dirt enters the body via either an open wound, air pollution, or on food. Dominicans claim that cuts—especially cuts on feet—and bites—especially dog and witch bites—are wounds that put people most at risk for dirty blood. Dirt can also enter the body system by breathing it in. Smoke is said to carry dirt in it. And smoke is all around the village. Villagers use fire to cook, clear gardens, distill bay oil, and burn rubbish. People also breathe in dirt in dusty air. The study site is on the wet, eastern side of the island, so dust is uncommon, although one can breathe in dust and ashes while cleaning out a hearth or planting in a newly cleared garden on a dry day. If one goes to Roseau, the capital, he will certainly breathe in some dust. Roseau is on the island’s drier side, and the relative bustle of its 15,000 inhabitants results in airborne dust. Villagers always complain about feeling dirty and run down after a trip to town.

Any dirt that enters the body with food (or on food), may be pushed through the walls of the “worm bag,<sup>2</sup>” stomach, and intestines, into the “belly,” and through the “belly” walls where it pollutes the outer body and blood as it circulates through the body. People wash their food thoroughly to avoid eating dirt. However, if they suspect that there is dirt inside the body already (evidences by pimples and rashes on the skin where the dirt is trying to “force” itself out) Dominicans follow a few steps. First they drink extra water to help “wash” the dirt through the body's pores. Second they eat “plenty” of cold (high-fiber) fruits and vegetables (the same as those mentioned for “pressure”). Finally, they take a “washout” (laxitive or emetic treatment) with castor oil or various herbal infusions (see Quinlan 2000).

## **5. CONCLUSION**

Illnesses in rural Dominica tend to have associated explanatory models and treatments consistent with internal logic of their ethnomedical system. The purely cold illnesses are associated with respiratory problems or are stress induced. Hot remedies for cold illnesses relax a sufferer and/or ease breathing. They are typically administered in the form of herbal “teas” (infusions), as seasonings in the daily stew, or as a tincture in an alcoholic drink. Hot illnesses in the Dominican system have to do with (thermal) heat, redness, and/or swelling usually thought to stem from dirt or feces in the body. Hot illnesses are treated with cold foods and “teas,” which often have laxative properties. Conditions that do not have respiratory, stress, constipation, or inflammation symptoms are typically “neither hot nor cold.”

In sum, for rural Dominicans, health is largely maintained through balance. One important issue is the balance between hot and cold humors. Balance is maintained on daily basis by ingesting humorally hot or cold food or drink in accordance with the body's present state. In case of illness, often health can be regained by ingesting foods with certain humoral qualities that compensate for the humoral imbalance associated with the particular illness.

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<sup>2</sup> Worms in the worm bag (see Quinlan et al., 2002) function in the digestive process to refine chewed food, turning it into rich blood, much the way that earthworms convert compost to rich soil. The rich blood that the worms expel passes through the walls of the worm bag and into the belly. From the worm bag, semi-digested solids, waste, blood, and nutrients travel into the intestines or “tripe.”

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