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“Contributions of Social Anthropology to Malaria Control”

Un document produit en version numérique par Jean-Marie Tremblay, bénévole,
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34.0. Introduction

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In order to triumph over malaria or at least reduce its morbid effects, malaria control strategies generally focus on three objectives involving broad fields of activity, each one unfortunately raising as many specific difficulties.

To begin with, a prompt and appropriate management of the disease strongly depends on its early diagnosis. Beyond the therapeutic benefits of such an approach, another key aspect of effective case management is the essential observance of the treatment. However, the development of drug-resistant malaria strains suggests improper or inappropriate use of treatments.

Next, it is also necessary to ensure the planning and implementation of selective and sustainable preventive measures, especially among highly vulnerable groups such as pregnant women. Insecticide-impregnated bed nets and curtains, in use since a few years, seem to be an effective means of preventing malaria. However, bed net usage is low in Africa.

Finally, implementation of national-specific programs should permit the reinforcement of local capacities in malaria control and research. Up to 80% of malaria endemic countries developed plans of action for malaria control but they are faced with the difficulties evoked above.

Thanks no doubt to health education campaigns and to an overall development of schooling, a real improvement of knowledge about the role of mosquitoes in malaria and the benefits of bed nets can be observed. However, these new understandings do not “automatically” result in new practices. Knowing is not doing...

All the difficulties we have just evoked broadly explain the fact that even in countries where actions recommended by international organizations were applied, no real positive results can be observed either according to criteria of efficiency or measures of effectiveness. And, one must regret that “the burden of malaria has remained unchanged in malaria prone areas, particularly in Africa” [4].

34.1. A Poverty-Related Disease ?

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These gloomy facts cannot be considered in isolation and to understand this situation, it is first of all necessary to emphasize the importance of a global geographical, political, and economic environment.

Indeed, these hygienic situations are embedded in bigger social systems [56] and the use of a “distant gaze” reveals strong correlations between the characteristics of cultural and economic contexts and the prevalence of parasitic diseases. It would not be amiss here to recall that malaria develops in contexts of great poverty. Thus, the African continent, particularly affected by this disease, counts 29 among the 35 countries considered to be of “low human development” with 22 being the last on the list [68].

Certainly, these figures cannot by themselves resume a human and cultural vitality that is itself difficult to quantify. In these countries, the harshness of living conditions demands an inventiveness that expresses itself particularly in the division of work and the management of informal activities.

But this continent, where the geographical context combines a natural environment that favors the development of numerous microorganisms with complex human data that are difficult to control—such as rapid urbanization, urban homes

that are not adapted to the climate, family structures, complicated management of wastes [57]—adds to the difficulties (Fig. 34.1).

Fig. 34.1. A house in the town of Niamey (Niger) (IRD/ Indigo/Photo Sabriè Marie-Lise). Health program must not be a dream or a sheet of paper but must be linked with real society.

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In sub-Saharan Africa—limiting ourselves to a few big indicators— the average rate of illiteracy varies between 20 and 50% and the flat rate of school going girls is the lowest in the world [44]. Yet, several studies emphasize that the level of women’s education brings about a fall of prenatal and infantile mortality [13,22,46] and a better understanding of health proposals [7].

Besides, drainage structures and availability of drinking water are widely insufficient and access to health services remains uncertain for the large number. This set of political, economic, social, and cultural relations—that some group

under the term “political ecology of disease”—constitutes a complex whole that forms the ground on which malaria develops. Simply speaking, to be a medically defined disease, malaria, like many of the parasitic and infectious pathologies (trachoma, tuberculosis, diarrhea, dermatomes, or acute respiratory infections) is a disease related to poverty and revelatory of inequalities [1].

These pathologies result largely from human forms of coexistence and the dialogue they maintain with an environment that they progressively transform. The change of ecosystems, the modifications of social relations, and the state crises construct the variable contexts for the emergence and diffusion of these diseases.

For example, the transmission of schistosomiasis—and also of malaria—is partly linked to the realization of hydraulic works [28,62]. Migration toward urban areas—by imposing periods of celibacy and reducing social control—favor the growth of MST and AIDS [45,64], and these shifts can negatively influence the rate of immunization [42]. In extreme situations, there have been 27,000 victims of exanthemata typhoid in refugee camps in Burundi between October 1996 and May 1997, and “the revival of African human trypanosomiasis is an indicator of chronic political crises that have had a destabilizing effect in all fields. There can no public health without peace” [1, p. 33].

Such commentaries—as well as researches of historical epidemiology showing that the important fall of mortality registered since two centuries thanks to the retreat of major infectious diseases, particularly tuberculosis, took place before the perfection of effective therapies [6,51]—invite attention to the importance of global responses in terms of development aid.

Health promotion thus reduces the risk by improving a coherent delivery of “public goods” (agriculture, housing, education, administration), which are its principal determinants.

Similarly, it is important to fight against the increasing signs of inequality, especially in the access to treatments [15,18]. It will suffice here to evoke the importance of relaxing the patent rules on medicines.

These questions, though “vast” are no less crucial because this global economy affects the most intimate levels of life and the daily management of health. Indeed, in worlds where the state—or a collectivity built and directed by a stable set of rules is applicable to all—cannot ensure a minimum of social security, the

individual is helped only in proportion to his direct participation in "natural" communities—family, neighborhood, colleagues—exercising a function of "close security" [37].

The practical consequences of this situation are important : The possibilities of treatment depend most often, on interfamily help that must be solicited for every pathological episode. This dramatically haphazard aspect of health care and the observance of treatment are responsible for the late arrivals in health services, therapeutic failures, and resistance to taking medicine [19, 32].

Otherwise and broadly speaking, in many a case, parasitic diseases reveal a crisis of under development and at the very core of suffering, this confrontation of technical possibilities offered by industrial civilizations with those of the so-called "South" are an unbearable misery.

I am always affected. The problem is the care. The treatment begins and there is no regularity, it hurts. One can't tell the patient he will be cured. One can do only what is possible. All through the day, diagnoses are made but the prescriptions can't be bought. I feel helpless I one does the necessary, but not the useful. (Malian nurse and intern, in Ref. [33])

Our world adjoins and now includes these practices. In addition, the persistence of unequal economic exchanges and demographic tendencies underlines how "futile it is to guard the illusion that the wall of prosperity and technical strength will protect the deprived people, that revolts of misery will be kept at a distance" [5].

The conclusion is obvious : The main response to this medical problem is social. In particular, it turns around the State's existence and efficiency and the persistence of nonadministered geographical zones [8].

Therefore, a minimum of aid to developing countries can be considered as a kind of necessary "insurance contract," ideally as an application of a "politics of hope" that does not characterize continents only by a lack of capital, equipment, personnel, jobs, initiative, and so on, but underlines the fact that for the Third World countries "the necessity of not being a poor imitation of currently equipped societies is as urgent as the necessity of being better" [5, p. 136]. Concretely, it is more important to codify and coproduce health actions than to initiate them—even impose them—from "outside," according to abstract models.

Considering “concrete realities” of the field and elaborating projects between real partners are two indispensable criteria for the application of research programs and for an adapted and durable health development.

These observations emphasize that the “constituent” causes of the disease are not limited to an exclusively medical definition. But, what are the operational consequences that can be drawn from this vast anthropological perspective ?

34.2 SIX PROPOSALS OF RESEARCH AND CONTROL

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Faced with these difficulties, anthropology can give no lessons and still less “denounce” the courageous work often undertaken by medical teams. On the contrary, this discipline can help to resolve the difficulties encountered by the programs, by a different analysis.

First, the use of qualitative tools should permit us to see how laypeople perceive and classify illnesses in their own languages and belief systems. Next, this could help analyze the reasons behind the conduct of social actors : If they have no medical reason for acting as they do, they nonetheless do not act without “reasons.” Finally, the social sciences are committed to understanding the behavioral logics of populations, which can differ from the medical perspective, by looking at health-related behavior in relation to larger social and political constraints.

If we agree upon these broad hypotheses and anthropology’s special position of thinking about questions from the others’ view point, reasons, and constraints, it seems possible to distinguish six kinds of goals corresponding to the questions as much as to the larger proposals of actions.

First proposal : Knowledge of population groups is essential for health care. Consequently, in order to improve access to care and observance of treatment, it is important to understand and analyze popular systems of interpreting illness.

A large number of researches in social anthropology have attempted to account for laypeople's beliefs regarding malarialike symptoms and understand how language and the underlying cultural context of this disease reflects and spills over into this pathological field according to specific characteristics. True, these works only refer to ethno linguistics. However, this approach is useful for public health practitioners because it permits the constitution of glossaries of perceived pathologies linked to vernacular terms with symptoms that can evoke malaria from a medical point of view. How can a dialogue or clinical encounter be conducted without any understanding between the patient and the health professional ?

This work of translation is crucial even for native health care professionals, given the important and inevitable gaps between popular and scientific systems of interpretation of the disease [2]. Indeed, medical nosology is largely etiology-based I therefore, some syndromes can group apparently different symptoms. On the contrary, "popular knowledge" applies itself preferably to what is visible and perceived. Identical disorders are designed generally by a similar illness term. Classification is then principally of a semiological kind and often misled by the complexity of the pathological processes. ¹

Malaria is a fever and also an illness. I can say that it first starts as a fever and then becomes an illness. At first, one has a headache and the body becomes hot. But if you don't treat it at that point, it will become an illness (...). There are three types of malaria. With the first type, the eyes become yellow. In the second type, the eyes turn white and in the third, they turn red (...). If you catch the white type, your ribs and back become stiff. You also have headaches, over-heated feet soles and constipation. . . .

A large number of works on West Africa illustrated the gaps between semantic fields of scientific discourse articulated in French or in English and lay concepts expressed largely in African languages, which, not compelled to name modernity, have not developed a scientific and technical vocabulary for it. For example, in Burkina Faso, Bonnet underlines that Mooré nosology classifies disorders that would be indicative of malaria symptoms from a medical point of view under

¹ For example, how can different symptoms of syphilis refer to only one term or how can one not confuse some joint pains with those caused by drepanocytosis.

several pathological entities (hypothermia and headaches, hepatic problems, and nausea) [10].

Beyond this understandable focus on the expressions of the disease, popular empiricism also leads to the classification of complaints by their frequency in time and season. In Niger, the local term for malaria would be *heemar ize*, literally signifying "the son of harvest time" in the Zarma language. *Sibidu* is the Wolof term in Senegal and conveys the idea of "a return of the illness." Among the Bambara in Mali, some fevers are thus named "sumaya," literally "coolness" [30,60].

Faced with these symptoms, there are various popular etiologies that offer causal explanations. However, these beliefs are mostly "prosaic" and empirical, based on what is visible or felt. For instance, when the main "reasons" of the illness are explained as being the result of excessive consumption of greasy, oily, heavy, or sweet foods like mangoes, they are preferably derived from the physiological dimension. The sensations of nausea related to the life cycle of the parasite are not considered here as the effect but as the cause. More marginally, ecological changes linked to the rainy season (smell of young millet) are also put forward and sometimes by "opening onto" socioreligious questions, so is the child's frail body and "soul" or "double."

When a mosquito bites a sick person and then bites you later, it transmits the disease to you. Malaria can also be caused by the diet. Some foods are responsible for provoking malaria in persons without them being bitten by mosquitoes. These foods include many fruits like the shea fruit, banana and many others. If you eat a lot of eggs, you can get malaria very easily. (...) It is the battle these fruits lead against your body temperature that you won't be able to tolerate and that's what will cause malaria.

Finally, the process of aggravation of these pathologies is considered on the lines of a "hardening" of the initial disease. As the disease progresses and changes, there can be a shift in its terminology : for example, the local illness term *sumaya* can become *sumaya kogolen* (hard *sumaya*) or even evolve toward *sayi* (icterus). ²

² See Jaffré and Olivier de Sardan [36] for issues concerning laypeople's conceptions on illness nosology, physiology, and classification in West Africa.

Fevers in a way, because they can cause diseases. When they "settle down in you" (*k'u basigi*), that's when they lead to other ailments. The one which moves in the body is by far the worst for it brings with it sickness everywhere it goes. Sometimes, it can even reach the veins of the heart (*sonjuru*), causing death by stopping the heart beat.

In brief, because malaria does not have a distinctive symptomatology, the differences between local disease labels and causal explanations given by scientific knowledge are particularly marked.

These illustrations are not wholly exotic or scientific. In concrete terms, these sociolinguistic differences have significant health consequences.

First of all, as malaria symptoms like fever, chills, headaches, and joint pains are common to other harmless childhood disorders, they are labeled in the same category and thus perceived similarly. To put it simply, these frequent childhood illnesses as well as those referring to "the hot body" usually end well [23]. Globally, only 1% of malaria-caused fevers progress to acute malaria illness [11]. Thus, it makes these infections seem socially quite commonplace.

One can catch a fever by tiredness. After a hard and tiring work, one can, because of exhaustion, catch these fevers. Strenuous physical exercises can produce fevers. If you run or walk too much, fevers can occur. (...) That's what we call general tiredness. It's a sickness that doesn't kill but makes you exhausted. The sick child or person is bedridden and can't do anything.

Secondly, the distinct symptomatology between febrile illnesses and acute malaria-associated convulsions explains why people do not perceive these symptoms as the expression of a same biomedically defined disease ranging from mild to severe malaria. In African languages, this separation is confirmed by the existence of different terms to qualify an "ordinary" fever and convulsions. For example, in Bambara, *kòndò*, which relates to convulsions, is distinct from *sumaya*. Besides, because of their phenomenology and the importance of interpretive systems using analogical reasoning, the latter are often attributed to natural entities (such as birds because of the flapping of wings akin to trembling) or to supernatural forces (spirits or devils, the capture of the double), because possession is often accompanied by visible paroxysms.

These different linguistic illness labels define health-seeking behaviors and explain why people do not worry at the outset of fever. The population's access to

biomedical health facilities depends on these representations of the disease and the popular physiological conceptions that make up notions of risk, severity, and illness progression.

Because of an absence of scientific analysis of these lay interpretations of the disease and treatments, confusions are more the rule than the exception among health teams and populations. In the case of malaria, the polysemous aspect of the fever widens the interpretation gap between popular and medical conceptions. But one could also evoke trachoma, only perceived in the final phase of trichiasis, AIDS, the "new disease" expressing itself in the form of other diseases, or tuberculosis, often confused in its beginnings with a simple cough. Or, the people can only be concerned about preventing that which they name and understand.

Hence, a prerequisite of health education is to make medically identified diseases exist socially, before attempting to associate them with a preventive behavior or with the offer of treatment.

Indeed, if one can "undergo" or benefit quite mechanically from a prevention campaign, adhering to a preventive act—making the effort of pursuing it over time—implies knowing which pathology is "targeted," believing in one's own vulnerability, understanding the seriousness of the disease, and being persuaded of the effectiveness of this preventive act [27].

Initiating this educational dialogue is a difficult task for a country like Africa, which for example, counts 800 languages. But, "there is no chance of dialogue without understanding," and a health team cannot hope to open a real exchange with populations without including this work of "applied ethno linguistics" within its activities [36, 49, 66].

Second proposal : Health-seeking behaviors correspond to choices among "available health care options." It is therefore necessary to know them in order to improve patient's access to health services. Health care behaviors are therefore largely governed by popular systems of interpretation of local illnesses. But, this initial set of characteristics combined with others, principally the multiplicity of health care options, explains the specific conduct of populations.

It is commonly observed everywhere that mothers not only give health care to children in terms of hygiene and nutrition but also often administer home-based remedies. Therapeutic products being sold over-the-counter, families use avail-

able medications such as “herbs” or leftovers from previous illness episodes to minimize care expenses as much as possible. Home-based treatments are all the more common for being an affective dimension of financial trade-offs and guide family economies. For example, the social meaning of a request for money can largely outweigh its simple exchange value and express rivalries between cowives trying to bring up and look after their children without “bothering their husband” with constant health care needs. For these reasons and others from the same social sphere, one has therefore to “manage with the least expenditure”...

Therefore, open-air pharmacies are largely used. For the population, everything argues in their favor. In fact, people favor this informal sale of medicines because of the mutual understanding between sellers and buyers with regard to illness labeling, easy access, immediate delivery at apparently lower costs, and greater autonomy in the patients’ conducts [31].

My last malaria episode was of the yellowish type. I said nothing to anybody. I went to look for roots of *nkankoro* [*Strychnos spinosa*] that I boiled for a long moment I then I drank the root decoction several times for two days. The third day, I started feeling better and that’s how I could cure my malaria. I didn’t say anything to anybody. I’m careful and I do both injections and drink decoctions...

These practices appear harmless because they occur during the course of daily and ordinary affairs. However, in 1999, three markets in Bamako, on their own grouped 197 salesmen, proposing on an average 50 kinds of “pharmaceutical” products, whose prices ranged from 50 to 200 Fcfa. The methodical observation of the sale realized by these “informal chemists” allowed us to make an average estimate of the business turnover at 3500 Fcfa per hour and per salesman. If these estimates are agreed upon, these sums represent a daily exchange of around 10 million Fcfa and therefore that means an annual monetary flow of more than 2 billion Fcfa [31].

Besides, the informal health sector includes more than traditional healers. It also has a substantial “modern sector” composed of medical students, unemployed doctors, nurses, or even any person having had a contact with the health sector and knowing how to give an injection. These well-known and accepted illegal health actors make frequent use of injections and perfusions without any previous diagnosis. They take financial advantage of an important social demand, which rates the “direct treatment inside the body” highly.

These popular conceptions of the body and the effectiveness of treatments generate a strong social demand that finds an answer in a “neo-traditional” offer of health care. For example, at Lomé, Togo’s capital, out of 1044 “health” centers only 11% corresponded to the “modern” medical sector. The other places of health care consisted of an informal medical sector (42%), “herbal therapy” (15%), divine healing (16%), protestant pastors of various denominations, various kinds of healers (9%)... [61] (Fig. 34.2).

Fig. 34.2. An example of informal medical sector : herbal therapy for malaria (IRD/Indigo/photo Bourdy Geneviève).

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This uncontrolled therapeutic pluralism is constant in all developing countries and it is important to emphasize how much these illegal practices have significant health consequences and how this “popular way of pulling through” enhances problems of chemoresistance.

The patients' health itineraries combine all these constraints with coherence and pragmatism. These behavioral logics are simply the result of negotiations between illness causation beliefs, economic and affective constraints, uncertainties of health care options, and mobilization of cognitive categories that acknowledge the illness and its progress. In terms of public health, such observations indicate that these everyday behaviors will not be modified only by loquacious "sensitizing," but because other more economic and socially adapted solutions are proposed.

In the countries of the North, the state ensures an insurance structure principally in the form of a public service providing a majority with essential goods that cannot be the responsibility of private interests [17].

To ensure equal health care, the question arises of knowing which form of social security can be applied in developing countries and many experiences—from associations to systems of community health—are experimented, often at a local scale [12, 16].

This economic dimension is fundamental because it can bring some permanence in health and preventive activities. But also if "the individual is to really make projects, establish reliable contracts, he must be able to count upon a foundation of objective resources. In order to plan in the future, a minimum of security is essential in the present" [14, p. 76].

Even in situations of poverty, the improvement of the offer of health could incite populations to transfer resources often used in social ceremonies (funerals, baptisms, dowry) to health. Therefore, the question is as much of pecuniary and material help as of perceived quality of health care and therefore of restoring recognition and dignity in health care centers. Foreseeing health risk is also a question of moral economy [41, 63].

Third proposal : Health-related conducts are not from these actors' viewpoint, conducts that are health promoting. Therefore, the adoption of preventive measures depends upon a set of factors that are not only medical but also social.

Many popular practices exist to avoid the nuisance of mosquito bites (and obviously not only the *Anopheles* mosquitoes) such as fumigation, burning green leaves on the hut's threshold, mosquito coils, insecticide sprays, and repellents. These methods aim at the visible and the perceived nuisance.

From a medical standpoint, the main protective measure proposed is bed nets, possibly impregnated with insecticide. However, in order to understand its usage, it is necessary to describe how this technical innovation is embedded in bigger affective and behavioral wholes like a kind of transplant that "takes" or is rejected, most often by transforming its original structure. People reorient popularized recommendations, mainly because health-related conducts having an impact on health are not, from their perspective, health-promoting behaviors. Medical advice on prevention therefore comes to be integrated in a set of behaviors guided by other types of rationality.

At home, children must sleep with old people like grandmothers and grandfathers. Those are the ones who wish to have a child beside them. Therefore, let the children sleep next to them. (...) If you have the money, then you can buy a large-size bed for three persons where they can sleep even if there are four or five children. If you don't have the means, then buy mats.

Thus, and rightly so from the health point of view, malaria control programs recommend bed nets. However, from a social point of view, this is a matter of "bed manners" : schema of incorporated action, cultural norms that rule sleeping arrangements and justify the way of sleeping or sharing one's bed in a certain way. For example, in sub-Saharan Africa, sleeping, language, and kitchen manners are linked [58] 1 and among polygamous couples, the woman who cooks will also be "of bed." Likewise, a child who is sleeping is watched over and protected. The child often dozes on a mat outdoors next to his parents during the evening and then sleeps with his mother when night has fallen.

Children who do not yet distinguish between the mother and the father can sleep with their parents. But as soon as the child is four or five years old, he should no longer sleep with his parents. If you insist on sleeping with a child of that age, it can happen that if he wakes up to have a wee, at that very moment you could find yourself engaged in sexual intercourse with your wife... That is why when the child reaches a certain age, you must make sure that he sleeps elsewhere, either with his grandmother or with his older brothers and sisters under the veranda or in another room.

It is also a question of ways of using space. In rural Africa, the room and the bed are not always "autonomised" spaces corresponding to a specific activity. And, if in Europe, every activity has a corresponding space and in Africa (in the

rural milieu) the same space can often fulfill overlapping functions. Thanks to regular sweeping, one eats, cooks, and one can sleep in the same place.

Fig. 34.3. Bed manners in Sénégal (IRD/indigo/photo Paris Yves).

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And more simply, the family size, the number of persons per room— (sometimes families of more than 50 persons live in a single housing unit with more than 10 persons per room) and the recent use of sheet metal roofs ensure that one cannot sleep inside and especially not under a bed net.

Usually, a bed is made for two or three persons, but if the house is too small and the family too large, one cannot fix a precise place for everyone to sleep (...) I do not use bed nets because that would be too expensive for me. And then, I would be obliged to have bed nets for all the children although the rooms are narrow. To avoid that, I use mosquito coils. (...) And then apart from the expenses, if we all had to use bed nets, it would fill the entire room and there would no longer be any space left to cross it. It bothers you especially when you want to go to the bathroom.

In short, progressively, affective reasons related to kinship, to the child's status or to local architectures deconstruct and wear out the theoretical coherence of health-related messages. Proposals of prevention are reshaped by everyday life experiences : Children tearing up nets while playing, hot weather that makes it uncomfortable to sleep inside, sexual privacy which requires children to be kept away, use of slat beds through which mosquitoes sneak in, birthright that grants bed nets to elders... (Fig. 34.3).

For a better insight into these questions, it is necessary to study these microarrangements that for instance link economic wealth, the power to act and schemas of action in their contexts. Behaviors are more the result of juxtapositions of these contradictory constraints and diverse "collusions" between norms of behavior belonging to different social fields than an innocent consecution of acts through their representations.³

These everyday norms and gestures identified as "habitus" create a way of life. And that is why insecticide-treated bed nets are used in the framework of limited programs—when the project plays the role of a reminder of the new norms proposed—but their effectiveness diminishes when the new gestures that this innovation imposes are eroded, swallowed up by the automatisms of daily behavior.

Today, you can get transparent bed nets which allow people to see through. I prefer those made of opaque fabrics, which are a bit dark inside. That is the most protective. No one can see what you're doing inside and they can also protect you from mosquitoes.

More generally, it is therefore not only a question of information, understanding and individual will. Knowing the preventive measures does not automatically mean accepting these or being able to implement them. The adoption of new behaviors always implies an invisible negotiation between various constraints (economic, cultural, familial, etc.) and representations of disease (Fig. 34.4).

³ In the European sphere historians like Vigarello [65] emphasize that "the hierarchy of categories of reference must be overturned : it is not the hygienists for example who lay down the criteria of cleanliness in the seventeenth century but the authors of books concerning rules of propriety, practitioners of good manners and not scholars."

Fig. 34.4. Shrimp fishing with bed net (IRD/Indigo/photo Moizo Bernard).

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These questions are at the heart of preventive practices. For example, in another context of dermatology and especially scabies, dialoguing with populations implies articulating a normative conception of hygiene (promoting hygiene, battling against promiscuity ...) with a comprehensive attitude toward behaviors and local life styles : body anthropology and “bed manners,” cultural modalities of shame, modesty, and so on [25]. Further, many interruptions of treatment (TBC, HIV) are understandable because of social stigmatization that leads to hiding one’s state and therefore distancing oneself from health services when pain does not prevent community living [24]. Finally, more practically, the necessity of cultivating rice overrides that of preventing bilharziosis (Fig. 34.5).

In most cases, risk therefore corresponds to an attempt at reconciling contradictory orders—hygienic, economic, affective, and others. Hence, rather than defining “vulnerable populations,” it is important to understand which agencies can

construct “vulnerable contexts” and lead—even force some populations to become “vulnerable.” The danger does not correspond to a wish, or a false conception, which it would suffice to prove wrong, but results from complex arrangements and efforts to resolve contradictory orders.

Fig. 34.5. A new place for *ænophilus* in rural place in West Africa (IRD/Indogo/Photo Gazin Pierre).

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That is why medical action must include a descriptive work of contexts of intervention, combining studies that allow a quantification of behaviors with others that deal with meanings given to them by their authors. These anthropological studies describing both the “objective” risks and their social interpretations should allow us to propose behavioral changes which have not only an epidemiological effect but also meaning for populations.

Fourth proposal : Treatment observance being related to the quality of the relationship between caregivers and patients, it is essential to analyze not only the objective but also perceived quality of health services.

Since some years, anthropological studies on the basis of precise descriptions have highlighted that various violent practices deteriorate the quality of the relationship between the population and the health care personnel [38, 40]. Lengthy and useless waiting, carelessness, hasty consultations, and regular corrupt practices are unfortunately common practices in health services, which thereby appear to patients as "inhospitable" places [37, 40]. "The patient enters the consultation room and is asked the reason for his visit | he reports a headache and aspirin pills are given without the least medical anamnesis or physical examination | besides, measurements of consultation time frequently show that cases are often seen in less than a minute" [20]. In this dialogue of the deaf and blind treatment, how can it be imagined that the prescription is relevant and scrupulously followed ?

Far from being marginal, this question is at the heart of the therapeutic action. Thus, a survey carried out in 1994 in 40 health centers of Ghana, concerning 3950 patients, underlined that for 70% of the consultants treated for fever, the temperature had not been taken [52].

But, if the diagnostic approach is thus carried out "approximately" and by clinical error, the therapeutic response is on the contrary carried out "zealously." Indeed, all the patients were treated with chloroquine, the number of medicines prescribed varying from 1 to 12 for each of them. Eighty-five percent of all the patients, principally children, had received an injection. In short, in the majority of cases, treatments had been prescribed blindly, without preliminary diagnosis and with important iatrogenic risks linked to the injections [21]. Another study realized in the years 1991–1992 in Senegal, Dakar, underlined that of the 218 diagnoses of children evoking malaria, 70% were mistaken [21].

In a different context of Malawi, only half the children and adults appearing in health structures with symptoms of fever had received an antimalarial treatment, without there being any clinical justification for it [48]. Far from being exceptional, this lack of precision in diagnosis is therefore frequent and besides the questions of training and professional ethics is largely explained by the polysemous aspect of the fever. However, if in tropical zones, all fever can evoke ma-

laria, this cannot mean that every fever is malaria, or that every sensation of a "hot body" be interpreted as being a fever.

Other than these obvious therapeutic aspects, these numerous inaccuracies can in certain cases heighten the cost of care of the current pathological episode. They can also, by observation of the repetition of the same treatments and sometimes by the affirmation of their ineffectiveness, result in a pejorative opinion of the health services.

Confronted with these questions, it would not help to "address complaints" against health personnel. On the contrary, it is important to understand the reasons for these behaviors in order to improve them—low salaries, lack of equipment, impossibility of being responsible for "all the world's misery" [35], and others... But in terms of public health, the extent to which these practices are harmful to patients and alienate them from health services, must be emphasized. Equally, how, besides sensitizing populations, it is crucial to help in the construction of a deontological guideline. Improving the care of malaria patients implies a global improvement of the quality of the health system.

Fifth proposal : Every health project addresses specific aims. However, given that countries or community groups benefit from several malaria control programs, one cannot understand these actors' "responses" to health proposals without analyzing their synthesis of the numerous goals whose "target" they are.

Let us be realistic and underline first of all that just like in those parlor games where the message is transformed and slowly loses its meaning during its transmission from one person to another, so are broad objectives defined by international organizations or by national programs translated by a set of simple and regular actions on a national scale : education of trainers in control strategies, elaboration of studies for national policy design, organization of seminars, training of agents in techniques of impregnation of bed nets, popularization of bed nets and curtains... These activities often become "routine" and thus lose both their power of conviction and the sharpness of their initial objectives.

As everyone tries to survive, these activities are included in individual and economic strategies aimed at maximizing the resources of the NGO personnel or the administration. These phenomena of search for gains that projects procure sometimes disrupt health services by inciting health personnel to propose their

skills to different "counters." Development policies can lead to pernicious effects : projects often "verticalize" action at the cost of a more global perspective.

Furthermore, every program seeks to achieve objectives that are often defined, and rightly so, from a medical and epidemiological standpoint : the vulnerability to certain aspects of the illness and implementation of preventive measures... This perspective is legitimate and essential. However, if programs do suffer from amnesia and are designed on their own, populations do not forget earlier projects or the attitudes of their personnel, promises made and sometimes not kept. A great many "responses" of communities can be explained more by recent experiences than by the so-called "cultural constraints."

Similarly, a community often constitutes an arena for several projects going on at the same time (AIDS, diarrhea, nutrition, immunization malaria, etc.) without there being any authority to assemble the mosaic of their various actions and health proposals in a coherent manner. Populations therefore have to put everything together by themselves. They often do it in the form of syllogisms, for example, when they acknowledge that as vaccination protects the mother and the fetus from dangerous illnesses and that malaria (described as "palu," *sumaya*, etc.) is an illness harmful to mother and fetus, when one has been vaccinated (in reality against tetanus) it was therefore against *palu*... In short, if everyone "communicates" often in the form of preventive slogans, no one understands each other. For everyone, the same words can describe different referents.

Mosquito is the first cause of malaria. After that, there are other causes. It can be foods. If you eat too many fat foods, you can develop malaria. Those who eat too much sugar also fall sick easily. Sugar consumption produces diabetes, but it first starts with malaria. If you want to treat diabetes, you must first cure palu and then completely cure your body of it, otherwise your diabetes will never be cured.

Laypeople's health beliefs result largely from these various combinations of different health "messages" and information conveyed by radios, newspapers, advertisement, movies, and so on. Beyond the single theme of malaria, the question of the effects produced by this compartmentalization of health actions remains to be answered. More generally, this addresses the issue of health policies

in developing countries and the capacity of coordination and collaboration at a national or at least at the Health Ministries' level. ⁴

Sixth proposal : Collective preventive actions are only one of the elements of complex local policies. Health improvement therefore implies analyzing how medical proposals fit in with specific sociopolitical configurations.

Broadly, the analysis of actors' behaviors regarding the adverse constraints they must take into account is essential if one wishes to link health programs to collective actions from "below" such as drainage of dwellings, collective management of wastes, or any "community" action [54]. A village is never a homogeneous community but corresponds rather to a complex arena of powers and a mosaic of spaces run by different norms. The interior of the home is a feminine space and its cleanliness is linked to the act of sweeping. But outside, the waste eliminated can become fertilizer and be used by men for their agricultural activities. In the same way, if the streets are public spaces liable to be clean, the borders of mosques are above all religious and must be "pure." They are thus swept by young men or by women in menopause.

Another example is the management of water points, whether it means installing pumps or irrigation channels. This is hardly limited to technical questions. This problem is always an economic and political stake and in particular involves the balances between diverse local powers : Who guarantees the payment of water ? Who benefits from these new financial resources ? To whom do the installations belong and who must maintain them ?

Local political struggles around these questions often involve the use of new equipments. That is why health teams cannot limit themselves to a single technical approach and neglect the modalities of social appropriation of new technologies. One single figure is sufficient proof : In Mali, around 30% of the village hydraulic installations break down after 1 year of their installation [9, 55].

⁴ As outlined by a few authors [67] "The essence of a medical anthropological perspective is an appreciation of the complexity of culture and the realization that specific aspects such as health beliefs and behaviours cannot be understood in isolation but need to be looked at in relation to their larger historical, economic, social, political and geographical contexts. Applied medical anthropological research strives to understand the often competing dynamics that shape the various contexts important to diseases such as malaria."

The question of health is therefore included in that of “policies from below” [60] and more generally in the functioning of states capable of ensuring decent living conditions, rules, and a system of social security to its citizens [14].

34.3 ANTHROPOLOGY FOR IMPROVING THE OFFER OF HEALTH CARE

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At the end of this brief survey, some simple conclusions stand out. First of all, if one wishes to be understood by those who are addressed, it is essential to know their “expectation horizons” : The semantic systems, which receive new information and deal with them [39]. These categories of thinking are neither community nor traditionally based but are notions, which are shared, pluralist, and inscribed in history.

Nor are these “popular conceptions” or insurmountable “barriers.” Indeed, they evolve quickly when technical possibilities or an offer of quality health care renders them obsolete. Health education—which consists of giving a social existence to an illness objectified by medical knowledge— cannot be limited to conveying messages but must also apply itself to proposing solutions socially adapted to the contexts encountered : in terms of type of housing, perceptions of nuisances, behavioral norms, and so on. How many health professionals actually sleep under bed nets with their children when it is hot ? How many program managers only use bed nets in air-conditioned bedrooms ? And, what can be done when health “communicators” do not act in accordance with their messages ?

But above all, work is needed to improve the offer of health care and help the principal “variable factor” of these health-related interactions, the health workers, modify their practices. Let us just mention some wide-ranging issues here : improving the patients’ reception, understanding that a same illness term can refer to various referents and therefore the need to perfect the diagnostic approach, worrying about the patient’s understanding and economic resources, adaptability of

recommended preventive measures to the patient’s cultural and social background, and so on.

In short, beyond its technical aspects, the medical act is also a social practice and to give only one example, even if a vaccine permitted progress in the eradication of malaria, it would still be necessary to respect the refrigeration chain, ensure a good quality vaccine delivery with committed vaccinators and informed populations.

34.4 THREE OPERATIONAL APPROACHES

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Hard pressed by a real urgency and a legitimate desire to be immediately useful, development projects—and particularly health development projects—too often wish to transform worlds they have not taken the time to study or understand [53]. Hence the many mistakes, difficulties, and useless expenditure.

But, action must also be taken without waiting for ideal conditions to be gathered before worrying about prevention and care.

Naturally, one cannot simply regulate health behaviors or human societies. However, three big “basic” principles must be respected in order to elaborate preventive strategies adapted to complex social contexts.

(1) The introduction of an anthropological approach permits us to underline differences between the implementation of essential programs of control of specific pathologies and the elaboration of policies of development having among their objectives and continuous concerns, the prevention of parasitic and infectious pathologies.

The former are “vertical,” often linked to occasional financing and come across as answers to precise health problems. In many a case, this intentional limitation is necessary and the focus on a single object confers these projects a degree of effectiveness.

But though useful, these "targeted" actions and these monothematic programs cannot build a durable development.

The duration of secondary benefits (i.e., the fall in the cost of vaccine cover after "commando" operations), the pervert "collateral" effects on other actions or on the daily functioning of services (i.e., "emptying" services for the benefit of the highest bidder, the marginalization of national structures), the difficulties of local reimbursement of actions undertaken (i.e., the impossible national "decentralization" of costly and regional actions), lack of understanding of numerous preventive proposals for populations, must also be evoked and analyzed.

Therefore, it is desirable to complete this kind of project with more regular work of health development that fits into the history of the concerned countries and takes their social constraints into account (economic possibilities, state of the health system, migration, urbanization, education, agricultural operations, etc.).

The results of these operations "affecting" the link between different sectors of development are difficult to evaluate, and their actions often appear to be "unrealistic" in relation to strict health objectives. And yet, "development projects of dam construction, land reclamation, road construction, and resettlement in Third World countries have probably done more to spread infectious diseases such as trypanosomiasis, schistosomiasis, and malaria than any other single factor" [29].

Nothing is simple about this approach. As we pointed out earlier, the relations between social transformation and health improvement are neither always "positive" nor forcibly linear : Some infectious pathologies are "favored" by development actions especially hydroagricultural, on contrary, improving agricultural production and thus nutrition | others accompany social changes in a more complex way | and still others regress when the conditions of hygiene are improved (trachoma). Knowing the complexity of these processes has promoted vigilance and an attention to health effects of certain actions of development.

But, this knowledge once in hand, it is important to complete an arrangement of "health vigilance" by actions and multidisciplinary work of health analysis. This would permit a study of the global effects linked to social change, as well as a reflection on "future" "health problems" as much as on the direction of specific pathologies.

(2) Numerous health programs rightly attempt to positively modify the populations' behaviors. Using various approaches based on local conceptions (*health belief model*), the promotion of ideas or objects (*social marketing*) or local "medias" (*folk media approach*), these actions address and are based on different social groups : children [43], grandparents [3], schools [50].

It must be admitted that in this field of health education, success seems as much linked to the enthusiasm of the animators, to economic availabilities and the vulnerability of pathologies as to a precise method. In addition, the evolution of these actions is difficult and remains to be done [47]. But, because "health messages" associated with others like the press, school, advertising, build a specific public opinion, and a "communicational action" [26] modifying relations to the self, to the other, and to health : It remains necessary to improve the populations understanding about the maintenance of their health and behaviors to be adopted to prevent vulnerability.

This work can only be presented in the form of a constant dialogue, allowing an understanding and evaluation of how a set of empirical practices and popular "knowledge" can coexist and combine with the technical medical knowledge in the current different languages of a society.

Concretely, promoting "basic" education—particularly of women—through school, health training of teachers, policies of alphabetization (in official and vernacular languages) is necessary in the control of infectious pathologies.

(3) Prevent, inform, heal, and accompany the patient All these tasks rest on principal actors and health personnel who are the "enabling factors" of the health system.

In developing countries, some experiences of improving relations between health workers and patients have been attempted [34,59]. But this indispensable work should be carried out on a much larger scale and include in the initial training of medical and paramedical students an approach of the various constraints of populations, their way of interpreting the disease, their conceptions of risk and prevention, their modes of evaluating the quality of care.

Including of a social concern in their professional identity is necessary to improve the offer of health and positively transform the behavior of personnel toward their patients.

In fact, beyond their technical competences, health personnel also appear as "go between" of modernity. Their training should permit each contact with a health service to be the occasion of a real educational dialogue with the populations.

And it is precisely because of this that the training of these professionals could integrate the various social, linguistic, economic, and affective dimensions of health care, not as a "bonus," which one could eventually add in the form of a few welcoming words during the medical encounter, but, on the contrary, by placing anthropological dimensions at the heart of therapeutic care.

Thus, the question is not of sprinkling a bit of social sciences in the medical curriculum. On the contrary, it is a matter of introducing a truly multidisciplinary approach and showing how the scientific analysis of these social dimensions is essential to ensure not only the patient's respect but also his serious therapeutic care.⁵ One cannot improve a health situation without improving the practices of the actors of the health system.

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