

Social Lives of Medicines

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1 An anthropology of materia medica

‘Materia medica’ is the Latin term for medical material, the remedial substances usually called medicines or drugs. It is an old-fashioned term, slightly pedantic, but let it stand, to remind us that medicines are material things. In scholarly works ‘materia medica’ often refers to the assemblage of drugs available in a particular society or historical period, so it invites comparative assessment. It also designates a branch of academic study. At European and American universities there were departments and courses in materia medica until they were replaced in the nineteenth and early twentieth centuries by the new science of pharmacology. Whereas the study of materia medica ranged over the sources, preparation and use of all kinds of therapeutic substances, pharmacology focused on their effects upon bodily tissues. The emergence of the new discipline coincided with important developments in biochemistry and the beginning of drug synthesis in Europe.

This book is about materia medica in the sense that it takes medicines as the material *things* of therapy. But we propose to see them as things with social lives; we are more concerned with their social uses and consequences, than with their chemical structure and biological effects. The medicines with the most active social lives in the world today are the commercially manufactured synthetic drugs produced by the pharmaceutical industry. They have vigorous commodity careers; their dissemination to every part of the globe has far-reaching implications for local medical systems. They have become part of the materia medica of every local society – an eminent example of globalization. At the same time they are the most personal of material objects, swallowed, inserted into bodies, rubbed on by anxious mothers, used to express care and intimately empower the uncertain individual.

The global spread of biomedical drugs casts another light on the botanical and mineral substances that have constituted the materia medica of most peoples throughout human history. The different kinds of medicines provide context and meaning for one another. At the same time, all medicines have certain social and cultural characteristics in common.

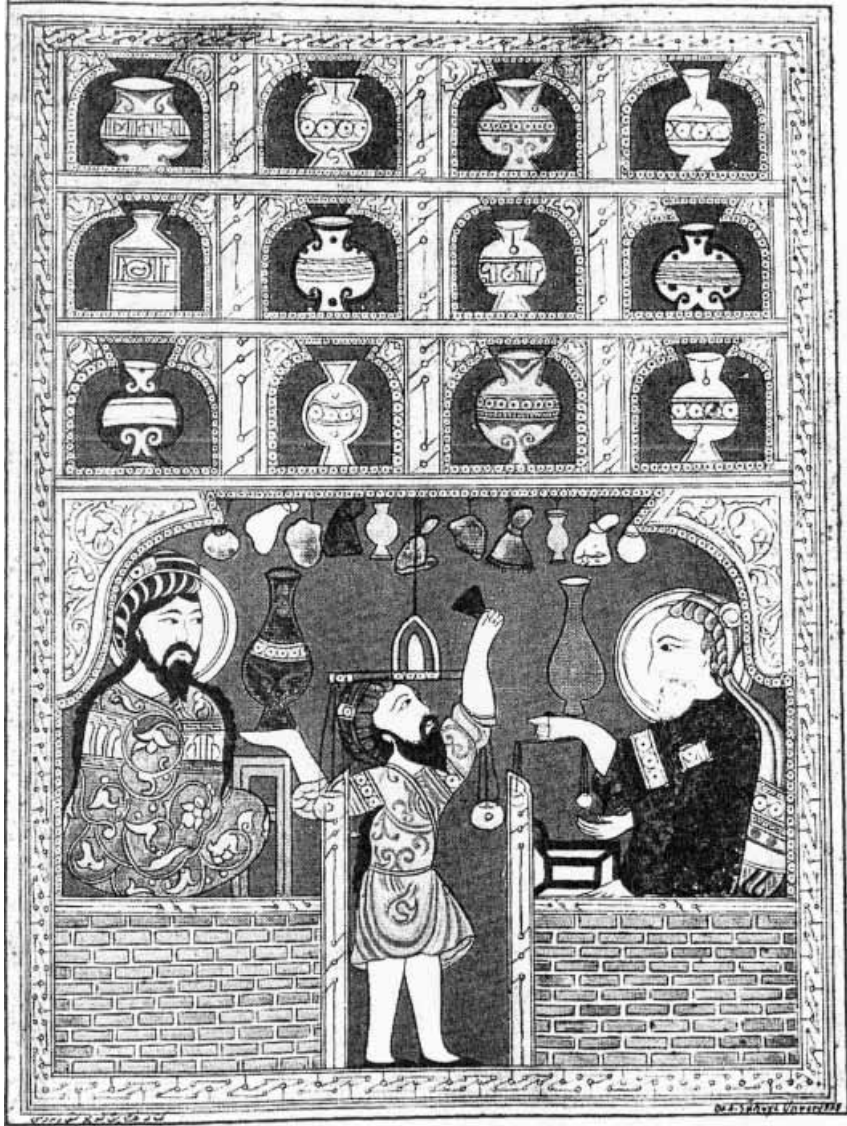


Fig. 1.1 A Baghdad pharmacist's shop in 1224, illustrated in an Arabic manuscript.

So the chapters to follow touch upon the whole range of medicines, although they emphasize commercial pharmaceutical drugs. Thus we explore a field of study distinct from ethnopharmacology, which focuses primarily on the biochemical properties and effects of 'indigenous' medicines (while recognizing the importance of people's own conceptions about these medicines).

In this introduction, we set out our assumptions about medicines as social and cultural phenomena. We briefly review the ancient tendency of medicines to move, as a background for appreciating the amazing spread of biomedical pharmaceuticals. We trace the development of anthropological interest in medicines, and explain our framework for the book.

What are medicines?

Medicines are substances with powers to transform bodies. Prayer, and rest, and exorcism may also have therapeutic powers, but they are not objectified or crafted or commodified as medicines are. The centrality of medicines for medicine is apparent in the identity of the words used in English. The same word, related to the Latin *mederi*, to heal, is used for the science or practice of treating and preventing disease, and for the substances used in that practice. Medicines are the primary means by which most medical traditions work upon disease and their use is the fundamental technology of biomedicine as an applied science. At a time when intellectuals and media in countries of the North are debating the new medical technologies, it is worth stepping back to consider the old medical technology, the use of medicines, as a general phenomenon.

1. Medicines are substances. Their materiality, their thinginess, is a property of great analytical importance for anthropology. As things they can be exchanged between social actors, they objectify meanings, they move from one meaningful setting to another. They are commodities with economic significance, and resources with political value. Above all they are potent symbols and tokens of hope for people in distress.

2. Medicinal substances have powers to transform. At least, such powers are attributed to them by social actors. Assumed efficacy is a defining property; a substance that no one believed efficacious would generally not be considered a medicine. They are supposed to do something, to change the body in a discernible way.

3. Transformative powers can be put to different purposes. Prototypically, medicines are meant to heal. They should do something about disease. Some medicines, such as vaccines, are meant to prevent particular diseases, or, like vitamins and tonics, to strengthen the body. Where intense awareness has been created about the factors that increase

chances of getting certain diseases, people even take medicines against risks. Medicinal powers can be used to injure as well as to heal. The term for medicine in many African languages refers to harmful as well as wholesome substances (Whyte 1988:218).

4. Medicines can be simultaneously noxious and beneficial. The ambiguity of medicinal potency is recognized in many cultures. The old Greek word *pharmakon*, from which ‘pharmaceutical’ derives, also meant poison. The eighteenth-century European pharmacopeia contained toxic drugs like belladonna and compounds of arsenic and mercury. The development of the science of toxicology was intimately linked with those of materia medica and pharmacology (Weatherall 1993:919). Today, package inserts in pharmaceuticals must warn of possible adverse effects and contra-indications. Beneficial as they are, medicines can harm accidentally (‘Keep all medicines out of the reach of children’) or be used for suicide. The potentially noxious effects of medicine are a key concern in the biomedical tradition: ‘There is . . . no known drug that is not harmful or even poisonous at high doses, and much of the scientific work on drugs has attempted to widen the gap between effective and toxic doses’ (Burger 1986:1).

5. Medicines are used intentionally to achieve an effect in some *body*. One of the themes of this book is that they have other effects as well. They change minds and situations and modes of understanding.

Medicines on the move

Medicines are mentioned in some of the oldest documents of ancient civilizations. Clay tablets incised with cuneiform script record medicines used in Sumeria 2,000 years before our era. The 60-foot-long Ebers Medical Papyrus has a section on ancient Egyptian medicinal remedies. The Rg Veda, dating from the latter part of the second millennium BC in South Asia, refers to specialists who knew the mysteries of healing herbs. Foundational texts of the Ayurvedic tradition, such as the Caraka Samhita, from the first millennium of our era, contain hundreds of medicinal recipes that can be related to nosologies of disease. In China, Shen-nung’s Scripture on Materia Medica, from the first century AD, contained as many descriptions of therapeutic substances as there were days in a solar year – 365 (Unschuld 1988:181).

It seems reasonable to assume that at least some medicines were exchanged from place to place from early times. In south Asia, for example, it is suggested that herbs from mountain or jungle areas were traded into other ecological zones (Basham 1976:30). In any case, knowledge about medicines was transmitted across geographic and temporal distances, as

research on historical texts has shown. The Greeks, full of admiration for Egyptian medicine, transcribed their prescriptions (Wilson 1962). Hittite scribes in Anatolia copied tablets of Babylonian medical texts from Mesopotamia with their herbal mixtures, suppositories and lotions (Oppenheim 1962). Whole books of materia medica were translated; indeed whole traditions of medical and medicinal knowledge diffused. One of the most striking examples is the spread of the classic Greek tradition to the Arab world, on to South Asia as Unani medicine (from the Arabic 'Yunani' meaning Ionian) and in time back to Europe again (Bürgel 1976).

In Greece the use of a range of botanical and inorganic substances was documented in the writings of Hippocrates of Cos and his followers about 400 years BC. However, the use of medicines was limited, emphasis being given to dietetics (Ackerknecht 1962:391). The great manuscript known as 'De Materia Medica' by Dioscorides, from the first century AD, contained an exhaustive description of plants, animal products and chemical substances (like mercury and arsenic), including those he had learned about during his travels as a surgeon with the Roman armies. His successor in the second century, the physician and prolific writer Galen, reorganized these listings but also sought out new medicines. 'He travelled widely in Egypt, learning about the drugs imported from India, Africa and elsewhere from the shippers who brought them' (Conrad *et al.* 1995:61).

This text-based tradition underwent a great revival as the Greek manuscripts were translated into Arabic around the third century. The flowering of formal medicine in the expanding Arab-Islamic world included systematic work on materia medica as Arab armies overran new territories with different assemblages of medicinal plants, animals and minerals. The expansion in medicinal knowledge is evident in the seventh-century manuscript on materia medica by Ibn al-Baytar which listed over 3,000 items, whereas that of Dioscorides had included only about 850. Arab-Islamic medicinal knowledge was written down and transmitted in a book trade that stretched from Spain to India. It was made available to literate lay people in popular introductory texts (Conrad 1993:703-7). Much of this corpus was translated into Latin in the eleventh century, introducing to Europe the wealth of Arabic knowledge of drugs.

In early modern Europe (1500-1700) the lively movement of medicines (as well as texts about them) is well documented. Enormous efforts were made to retrieve the drugs described in Dioscorides' *Materia Medica*. 'Venice... ordered its diplomats, physicians, and traders in the Middle East and in the Mediterranean to be on the look-out for the plants that grew in Dioscorides' stamping ground' (Conrad *et al.* 1995:305). Seeds

and specimens were transported, some to be planted in the first botanical gardens at Pisa and Padua.

New remedies were brought to Europe from Asia and the New World, of which one of the most famous was the 'Peruvian bark', brought back to Rome in the early 1630s by Jesuit missionaries. Tried out successfully in Rome and Genoa against the 'intermittent fevers' of those malarial areas, it quickly spread throughout Europe. Physicians debated its fit into the Galenic system of humours (Jarcho 1993:19), just as Latin Americans would discuss the hot and cold properties of penicillin three centuries later. The bark was so esteemed that royalty made gifts of it. Supplies shipped back by merchants were stolen from warehouses or captured at sea by pirates (Jarcho 1993:201–2). The exotic drug challenged medical thinking and enjoyed a long cultural career in which it developed from being a specific against 'the intermittents' to being used as a panacea (Maehle 1999:223–90). It was not until 1820 that the active principle quinine was isolated from the bark of the tree named *Cinchona* by Linnaeus. Its travels were to continue as plantations were established by the Dutch in Java in the nineteenth century (with seeds smuggled out of Peru and Bolivia); they provided almost the entire world supply of commercial quinine up until the Second World War.

More mobile medicines

Throughout most of history medicines have been made from plants, animal parts and minerals through drying, grinding, decoction. This was certainly true in Europe as attested by the pharmacopoeias, books of standard drug recipes, published by medical academies in Florence, Lyons and London from the late Renaissance. After the time of Paracelsus (1482–1546) the methods of medical (iatro-) chemistry spread a new kind of drug production through much of Europe. The new technology came to be associated with those who challenged the dominant Galenic methods of established medicine and also with social reform (Temkin 1964:5; Conrad *et al.* 1995:318–23). Yet although iatrochemistry gained wider currency, herbal medications were still the most commonly used in Europe right up through the eighteenth century.

The revolution in drug production came in the nineteenth and twentieth centuries and laid the ground for a truly exponential increase in the movement of medicines. It built on advances in physiology, chemistry and pharmacy in France, and most dramatically in Germany. From the early 1800s, methods for extracting pure drugs, or active principles, from crude natural products were developed. At the same time, the new science of pharmacology was being professed (Weatherall 1993).

From the mid-nineteenth century, the 'fine chemical' industries in Germany began to synthesize drugs and produce them on a large scale. With World War I, American, English and French companies began their own industrial production to ensure supplies. Then, in the late 1930s the first sulfa drugs were developed and this set off a flurry of activity as the potential of anti-infective drugs became apparent. But it was not until after the Second World War, when antibiotics, including the new drug penicillin, were made widely available, that 'the great drug therapy era' opened. The pharmaceutical scene was transformed. Teams of scientists in industrial laboratories developed new drugs as well as 'me-too' products that duplicated existing ones but were marketed as different. Thousands of synthetic products replaced the limited number of natural origin available before 1935. Both prescription medicines and the increasing number of over-the-counter (OTC) drugs were heavily promoted (Silverman and Lee 1974:5–22). The movement of medicines that had long existed on a modest scale became a mighty current as drugs were pumped out onto national and international markets.

Mass produced biomedical pharmaceuticals spread to Asia, Africa and Latin America with remarkable speed. By the 1960s, antibiotics were being incorporated in the materia medica of Ayurvedic practitioners in India (Taylor 1976). By the 1970s one critical observer was writing about 'the drugging of the Americas' (Silverman 1976). While the vast majority of pharmaceuticals were and are manufactured in Western industrialized countries, some developing countries established their own production. By 1980, about 11 per cent of pharmaceutical production (by value) was located in Third World countries, mainly India, Egypt, Brazil, Argentina, Mexico and South Korea (Melrose 1982:28–9). The globalization of synthetic pharmaceuticals made a vast array of products available in poor countries, and prompted a growing concern about the dangers of misuse and waste of scarce resources. It was in the 1980s that the concept of essential drugs, inexpensive and safe medications for the most common diseases, gained notice, mainly through promotion by the World Health Organization (Mamdani and Walker 1985; Kanji *et al.* 1992: 28–41).

It is against this historical background of mobile medicines that we can set the development of an anthropological interest in materia medica. However, it is important to note that while historians and activists focus on the movement of medicines, anthropologists combine that interest with questions about why medicines are so attractive to people. What do they mean that could explain their movement from hand to hand and place to place? How is their movement shaped by social relations and how does it in turn shape those relations?

Anthropology takes up the study of medicines

The cultural (symbolic) logic of transformative substances was discerned by early anthropologists in 'primitive' societies. Since the publication of *The Golden Bough* by Sir James Frazer in 1890 (see chapter 3), anthropologists have attended to the way people conceive of forces as incarnate in, susceptible to the influence of, or powerfully represented by, material objects. They emphasized the possibilities this opens for communicating and controlling in an uncertain world. Studies of magic and fetishism showed how people manipulated things, including substances made for the purpose, to transform people and situations. In his classic treatment of magic, Malinowski wrote about 'material objects . . . substances best fitted to receive, retain, and transmit magical virtue, coverings designed to imprison and preserve it until it is applied to its object' (Malinowski 1948:72). 'Magic is the quality of the thing, or rather, of the relation between man and the thing . . . It implies the performing magician quite as much as the thing to be charmed and the means of charming' (1948:75). The questions to be asked concerned how substances carried meaning within a cultural world and how people used them for their particular purposes.

Several generations of anthropologists theorizing cosmology, ritual and symbolism explored these relationships. Lévi-Strauss was one giant in the landscape, explicating the 'science of the concrete' (Lévi-Strauss 1966) and the effectiveness of symbols (Lévi-Strauss 1963). A key landmark was the work of Victor Turner, pointing to the way symbols condense and unify different meanings. Before medical anthropology was established as a field, he was already writing of the overlap between 'medicine' as 'drug' and as 'ritual symbol' (Turner 1967:335). He showed how the meaning of Ndembu materia medica was mobilized as herbalists took ritual steps to awaken 'the powers hidden and slumbering in herbs' (1967:350).

With the growth of medical anthropology as a specialized field in the 1970s, the approaches already developed for studying rituals and symbols were widely applied to illness, healing and medicines. Building on the tradition of fieldwork in local communities, much medical anthropology concentrated on showing how seemingly exotic healing practices made sense. Within the 'ethnomedicine' approach, indigenous medicines were placed in relation to the cosmology, ritual and knowledge of a local (usually ethnic) group, as Turner had done. It was an approach whose great value was contextualization; healing practices made sense in relation to the shared meanings and social arrangements of the setting. Its weakness was that context was often presented as integrated tradition, a homogeneous, static view of local culture and society.

An alternative approach was rapidly gaining prominence. The notion of medical pluralism focused attention on the co-existence of different healing traditions within the same society. This was clearly useful in complex societies such as India, where different kinds of sacred and secular, professional and popular traditions flourished side by side (Leslie 1975). But with the spread of biomedicine in the wake of colonialism and international trade, the concept served to underline that all societies had several modes of conceiving illness and practising treatment. The development of a research interest in medical pluralism was a precondition for the medical anthropological work on pharmaceuticals.

A few early pioneers drew attention to the spread of pharmaceuticals that accompanied the worldwide dissemination of biomedicine. Alland's study of Abron healing (1970) in the Ivory Coast contained a clear statement of the attraction of Western medicines (in contrast to Western medicine). Michael Logan (1973) showed how pharmaceuticals fit into Guatemalan humoral concepts. Cunningham's work on 'injection doctors' in Thailand (1970) drew attention to the popularity of hypodermic injections. However, these studies were exceptions to the dominant interest of anthropology in exotic cosmologies and ritual practices.

In the 1980s, fieldworkers were beginning to de-exoticize the study of medicines in non-Western settings (Van der Geest 1984). Research on the meaning and use of aspirin and penicillin was becoming just as legitimate as studies of fetishes and purifying herbal enemas. This was probably due in part to the simple fact that biomedicine, and particularly 'biomedicines', were genuinely popular and heavily used in many societies of Africa, Asia and Latin America (Foster 1984). Moreover, Illich's (1976) attack on biomedicine's expropriation of health and radical critiques of the pharmaceutical invasion of the Third World (Silverman 1976; Gish and Feller 1979; Medawar 1979; Medawar and Freese 1982; Melrose 1982; Muller 1982; Silverman *et al.* 1982) had caught the attention of some academics.

Researchers documented the local realities in which medicines were actually made available and used (Nichter 1980; Haak 1988; Nichter and Nordstrom 1989; Etkin *et al.* 1990). They showed the significance of the transaction of medicines through commercial and informal channels (Ferguson 1981; Van der Geest 1982a, 1982b; Fassin 1987), and emphasized that most pharmaceuticals, even regulated 'prescription only' drugs, were taken as self-medication, that is, without the supervision of a formally trained health worker (Haak and Hardon 1988; Hardon 1991). The first edited volume on the topic wove together themes concerning transactions of pharmaceuticals and considerations of the meanings attached to them (Van der Geest and Whyte 1988). These topics were

followed up in a second anthology (Etkin and Tan 1994) that included more articles on the practical problems of ensuring biomedically effective use of medicines in the conditions obtaining in countries of the global South.

Analytical moves

As older paradigms of modernization and development were supplemented by analyses of transnational cultural flows (Appadurai 1990; Hannerz 1992), anthropologists focused on the way that political ideals, entertainment, institutional forms, fashions and commodities both transformed and were transformed by the contexts through which they moved. Biomedicine is one of the best examples of globalization; it is truly cosmopolitan, not Western, medicine (Leslie 1976). In diverse social settings it provides a particularly appropriate empirical base for addressing newer theoretical issues concerning cultural globalization (Parkin 1995).

The older interest in 'medical pluralism' (Leslie 1975; Janzen 1978) took on new facets with the appreciation that oppositional identities are one possible outcome of globalization. Attending to pharmaceuticals facilitates understanding of how 'traditions' come to appear distinctive while simultaneously influencing one another deeply. Pharmaceuticals and 'indigenous' medicines take on meaning in contrast to one another (Sussman 1988; Nichter 1989:195–6). At the same time, pharmaceuticals may provide a prototype in terms of packaging and marketing for 'indigenous' medicines (Afdahl and Welsch 1988; Leslie 1989; Tuchinsky 1991). One outcome of this process was an emphasis on the medicinal aspect of other systems of healing as 'traditional' medicines gained ideological weight in opposition to synthesized pharmaceuticals, and became increasingly commercialized.

Pharmaceuticals may also be directly incorporated in a medical tradition notionally distinguished from biomedicine, as has been reported from South Asia (Bhatia *et al.* 1975; Burghart 1988; Wolffers 1988). The model of medical pluralism is further problematized by the appearance of pharmaceutical specialists who belong neither to the tradition of biomedicine as practised in formal health institutions, nor to the tradition of indigenous medicine. These 'quacks' or 'charlatans' or 'bush doctors' or 'injectionists', as they are called by the professional ideology, suggest that notions like 'creolization' (Hannerz 1987; Whyte and Van der Geest 1994:138–9) or 'counterwork' (Fardon 1995) which emphasize the creative revision of forms and ideas may be more useful than the idea of pluralism for grasping the dynamics of pharmaceuticals in complex health care systems.

In recent decades, an increasing interest in Western culture and its products meant that biomedicine came to be seen as a cultural phenomenon worthy of study. As the 'exotic bias' diminished, more anthropologists from both the North and the South did fieldwork in their own societies on aspects of popular culture and everyday life. Capsules, tablets and hypodermic syringes were no longer taken for granted and ignored; they could be defamiliarized (denaturalized) and analysed in terms of the meanings people attributed to them in settings as different as Uganda (Birungi 1998), the Philippines (Tan 1999), the United States (Vuckovic 1999) and France (Fainzang 2001).

A renewed interest in material objects (Miller 1995) and their consumption cast older Marxist approaches to commodities and fetishism in a new light (Douglas and Isherwood 1979; Appadurai 1986; Ellen 1988; J. Ferguson 1988) and provided a bridge between culture and economy. The 'thinginess' of medicines and their tendency to become commodities suit them extremely well to this perspective. Seeing medicines as material culture opens up two sweeping vistas. One has to do with processes of commoditization, globalization and localization. The 'zations' (Anderson 1996:296, quoting L. Cohen) view is the broad one of social and political economic history, in which medicines not only move, as they always have done to some extent, but where their movement has implications about influence, dependence and transformation.

The other vista has to do with the positions of medical materials in technologies of health care. If we think of technologies as 'practical arts' with purposes, and consider the relations between people and objects in accomplishing these purposes, then we will be led to examine the ways in which artefacts are extensions of people in some situations, and fiercely contested in others (Pickstone 1994). It is possible to ask questions about powerful substances as part of a complex of institutions, technologies and practices characterized by styles of reasoning (Cambrosio *et al.* 2000:5). We can look 'at how [people] perform things, rather than at the frozen products of those performances' (2000:8).

The social lives of medicines

In Appadurai's introduction to the anthology *The Social Life of Things* (1986) and in Kopytoff's contribution to the same book, the notion is proposed that things have biographies. That is, it is useful analytically to trace the careers of material things as they move through different settings and are attributed value as singularities or as commodities for exchange. We used this idea to organize a review of the literature on pharmaceuticals: their production and marketing, their prescription, their

distribution through intertwined formal and informal channels, their deaths through one or another form of consumption, and finally their lives after death in the form of efficacy in modifying bodies (Van der Geest *et al.* 1996).

In reality of course, things alone do not have a social life. At most they can be seen as agents in the sense argued by actor-network theorists: they form parts of complexes that co-produce effects in particular situations; things and people both can be seen as actors in that they mutually constitute one another (Prout 1996). But even if one does not accept the radical position that things and people are equally agents, it is essential for anthropologists to describe the lives that medicines have with people and between people. These lives are imbued with the practical artfulness and purpose that characterize technology. They are lived in relation to problems and contexts.

It is these qualities that we want to capture in the chapters that follow. Each builds on an ethnographic description of medicines in a specific place in Europe, Asia, the Americas or Africa. Each shows medicine in the hands of particular types of actors, moving between persons in certain kinds of social relations. The first four chapters take the perspective of consumers of medicine and the following four give more weight to the providers. Finally, we focus on the strategists who manufacture and market medicines, and those who attempt to regulate them. Thus we move from the intimate relations of mothers and children, to the global ones of the World Health Organization and the member states for which it formulates policy. Each chapter concentrates on a different analytical problem in the study of medicines, one that seems well illustrated by the empirical case. Theoretical discussions and comparative material from other places are brought in to develop the main point. As each issue unfolds, it comes to overlap with some of the others. We hope in this way to give a sense of coherence, without forcing material and concepts into one tight paradigm.

The consumers: meaningful medicines at work

We begin with mothers and children in Metro Manila and the problem of efficacy – a logical starting point since drugs are used for their effects. In poor neighbourhoods of Manila, women say that cough and cold remedies dry up or ‘ripen’ colds, drive out phlegm and stop coughing. But there is a strong element of habit in their use of these remedies. They do not posit causes of colds, or experiment empirically to choose the most effective medicine. This ‘habitual’ form of therapeutic practice, noted many years ago by one of the ancestors of medical anthropology

(Ackerknecht 1946), suggests that we need to consider efficacy very broadly. Drugs have effects on the mindful bodies of individuals; in speaking of the 'meaning response' (Moerman 2000) or the 'placebo effect', we recognize that social and psychological factors contribute to these individual effects. But drugs also have social and performative effects in the way they confirm sickness, and demonstrate the character and intentions of those who administer them. Using a commonly recognized treatment in a habitual (unarticulated, unconscious) way has this kind of social efficacy.

The problem of efficacy relates to perceptions of the powers of medicinal substances. This brings us to the symbolic nature of medicines and the question of not what, but how, medicines mean. In chapter 3 we move from the slums of Manila to the Sahel plains of Burkina Faso. Whereas Manila mothers use medicines from the local shop, Mossi people prepare remedies from plants and animals in their locality. The logic they use is one of connections between causes, symptoms and treatments of illness. A disease that makes a child's skin stiff and shiny like that of a snake may have been caused by its mother stepping over one, and should be treated with snake skin. Among the users of biomedicines, as among the Mossi users of plant and animal substances, symbolic associations may be metaphoric (analogies of likeness) or metonymic (connections of part and whole, for example). When medicinal substances with such meaningful associations are applied to ailing bodies, they concretize the problem and thus make it accessible to therapeutic action of a fitting symbolic nature. Suggesting connections and making disorder and its correction tangible is the symbolic and very practical work of medicines, even those synthesized in factories and prescribed by doctors.

This insight leads on to the next analytical problem, that of control. The materiality of medicines makes them graspable tools in the effort to control disease. But control is a tricky matter. In chapter 4, we see this illustrated in the case of distressed Dutch women controlling their anxiety with benzodiazepines. Whereas medical professionals speak of controlling or managing a disease with medication, the users of medicines are usually trying to control not just their physiological symptoms, but their situation. That is, they are trying to make adjustments so that they can manage their lives and projects. Medicines are empowering in that they offer users a means of control. In making this assertion, we place medicines within the lifeworlds of situated actors. But we must distinguish between control in the short term, and longer-term consequences of using medicines to deal with problems. Control may lead to being controlled. Drug dependence is the most obvious form of subjection. Social scientists point to others as well. Defining a problematic situation as tractable through medicines may

eventually increase the control of medical professionals and ideology – the process called medicalization. This may leave people feeling dependent on doctors and drugs to understand and deal with their problems.

Scepticism about biomedical drugs is the theme of chapter 5. We listen to patients in London who express their doubts about pharmaceuticals and their resistance to biomedical hegemony. Some see them as dangerous to health. Many contrast the artificiality of pharmaceuticals to the authenticity of nature and natural medicines. This kind of oppositional thinking about medicines, so pronounced in the alternative, or complementary, medicine movement of our day is found in other versions where biomedicine is seen as an imported medical tradition. Despite the global popularity of pharmaceuticals, resistance to certain kinds of biomedical drugs, or critically characterizing the whole category of Western or allopathic medicines, is reported from many developing countries. We suggest that scepticism be seen as a kind of cultural politics, in which medicines are used to express issues of identity, control and power. Oppositions may be implied more than explicated. For the users of drugs, the personal is political in that they critically evaluate the larger connotations of putting medicinal substances into their bodies.

The providers: medicinal commodities and social relations of therapy

Turning towards the providers of drugs in the next section, we begin with drug vendors and their customers in a West African market. Commodification is the theme of chapter 6. The example from Cameroon illustrates how antibiotics are sold like other commodities, having effectively escaped the regulation that was intended to restrict their free exchange. This situation is common in many developing countries. It works to the advantage of those who make their living by selling medicines and it is also welcomed by the customers. Commodification can be understood in two different senses: medicines are commodified; and in a larger sense, so is health. Following Appadurai and Kopytoff, we show how the things themselves are diverted from the enclave of professional control and made common. That is, they are freely accessible and available to anyone with money; they are familiar and popular. The commercial interests in these valuable items ensure that they reach the remotest villages. They have lively commodity careers. This must be seen in terms of the other meaning of commodification: the idea that health can be purchased in the form of medicines or even that recovery from any illness requires buying medicines.

In the following chapter, we continue with the topic of selling drugs, but use it as a way of examining the articulation of sectors in health care

systems. The ethnographic setting is Mexico and Central America. The actors are pharmacists and their customers. Ideally pharmacists are professionals who fill prescriptions written by doctors. They are part of the formal and professional sector of biomedical health care. In reality they bridge sectors. Pharmacists often function like physicians, providing advice along with medicines, even suggesting diagnoses. In Latin America, as in many parts of the world, the attendants in drug shops are often not trained pharmacists. Restrictions on sales of prescription drugs are not necessarily observed; that is, pharmacy shops function like part of the informal sector. As members of the local community, 'pharmacists' may share local ideas about medicines, rather than adhering strictly to standard biomedical guidelines. They may thus bridge the distinction between biomedical and indigenous or traditional medicine, perhaps selling both kinds. In a sense, commodification is the dynamic here, mixing, bridging and breaking through notional boundaries.

One kind of provider of medicines well known in many developing countries is the injectionist. Chapter 8 sets out the history of injection provision in Uganda as a basis for discussing the issue of technology. Injections are extremely popular ways of administering medicines; in fact most households own their own needles and syringes. With injectable chloroquine and penicillin for sale in local shops, 'high tech' medicine is readily available. In order to understand the use of injectable medicines today, we must analyse technology in the broad sense of material culture linked to knowledge, procedures, social roles and meanings. Like all technologies, injection practices in Uganda have purposes (injection is a practical art) and institutional histories. They became routinized as the highest standard of care in formal biomedical facilities. They gained social efficacy as the recognized token of 'best treatment' carrying a moral connotation about the quality of therapeutic relationships. In time they were commodified, made common, as providers offered them for sale outside of formal health facilities. Their meanings are shaped by local ideas of illness and the body, but in turn injections form those ideas by symbolically localizing illness in the flesh and blood. In the era of AIDS, new meanings concerning trust and personal relations have been attributed to injection equipment.

Physicians are the prototypical providers of medicines in professional medical traditions. In writing prescriptions, they communicate instructions about medicating disease. Chapter 9, about prescribing doctors, takes the theme of communication and unfolds it to show the many ways, in addition to inscription, that physicians communicate with patients about medicines. In fact, they communicate with and through medicines, as well as about them, as shown in the example from Sri Lanka where

verbal communication is minimal. In a busy clinic, where high-caste doctors were treating poor, low-caste patients, there was limited verbal exchange about symptoms and diagnosis. The two parties had different perceptions of illness, and there was no time for dialogue. Both had great confidence in the medicines, however, and the act of prescribing functioned as a positive gesture that allowed them to avoid discussing their differences. Writing a prescription is an effective way of ending a consultation, and conveying authority and concern. Yet in other situations, the doctor does try to communicate with the patient about symptoms, and here medicines with their concreteness provide effective ways of pointing up elusive sensations. Adjusting prescriptions is a procedure that helps doctors to communicate about pathological processes. A patient consulting a doctor of Chinese medicine may become more attentive to changes in her mindful body knowing that she must monitor them in order to report to her practitioner who adjusts the medication in follow-up visits. Thus prescribing, with its writing, its dialogue about materia medica and its unspoken (mis)understandings is a rich communicative practice with implications for the patient's experience of illness and the doctor's ability to reach out to patients.

The strategists: marketing images and regulating practice

In the third section of the book, we turn away from the immediate concerns of ill people and the practices of passing medicines from providers to users. We focus on the strategists, who plan and direct the movements and uses of medicines from more distant positions. Chapter 10 is about the manufacturers of commercial medicines who market their products to both users and providers. The example of companies making 'traditional' Ayurvedic and Unani medicines in India shows that manufacturers are producing images as well as material things. In many ways the companies are modelled on those that manufacture biomedical pharmaceuticals. They test their products and make scientific claims about their efficacy. At the same time, they distance themselves from biomedicine by underlining the superiority of the Indian tradition with its values of purity and harmony with the environment. Ethnographic studies of pharmaceutical companies are extremely rare. But by studying marketing practices (advertising, package inserts, the activities of sales representatives), it is possible to trace the cultural economy of the manufacturers. The market, culture and medicine form three sides of a triangle. Commercial aims are clothed in cultural values of scientific integrity and humanitarian concern. They play on local values and images, while claiming the legitimacy of a universal science.

In the headquarters of international organizations, in national ministries of health, at conferences in big hotels, in the offices of donor agencies, other strategists are concerned with medicines. Chapter 11 focuses on health planners concerned to improve the availability and effective use of medicines. It presents the case of the attempt by the World Health Organization to establish and implement an Essential Drugs Policy that would encourage rational and economical choices concerning drugs. Limited resources should be spent on drugs that are necessary, effective, safe and affordable for use against the most common treatable diseases. In many ways the policy was seen as inimical to the commercial aims of the drug industry. It encouraged health managers to evaluate the market critically and to choose on the basis of objective health needs, rather than demands nurtured by the pharmaceutical companies. Two analytical issues emerge clearly in connection with the analysis of medicines in the hands of health planners. One has to do with the process of policy formation, in which different interest groups contend. The drug industry, doctors and AIDS activists lobby against some or all of the limitations on drugs to be purchased in the public sector. Private sector commercial interests are reluctant to accept regulation on what drugs they may sell. The second issue concerning the planners has to do with the effects of policies. Health planners produce papers, and dispute about the contents of the papers. But translating paper policies into action is a complicated affair. For in reality drugs are in the hands of all the kinds of actors highlighted in this book. Assumptions about efficacy, symbolic associations, hopes for control, scepticism, commodification, lack of strict regulation in health systems, the seduction of technology, communication by prescription, and commercial interests all play in to the circulation and use of medicines.

The book concludes by considering a category of actors that has been implicit throughout: anthropologists who describe and analyse the social lives of medicines. Through participant observation we too are caught up in the sociality of medicines and take stances on the kinds of knowledge we produce and the ways it is used.

