

Pharmaceuticals

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Pharmaceuticals are industrially manufactured substances to diagnose, treat, or prevent disease or to regulate fertility. They are produced in various forms such as tablets, capsules, powders, fluids, sprays, vaccines, and ointments. The term “medicines” is commonly used as a synonym for “pharmaceuticals” but there is a significant difference: the former covers remedial substances in any medical tradition whereas the latter is restricted to the industrially produced medicines in the biomedical tradition. The term is therefore convenient for excluding non-biomedical medicines such as herbs, amulets, and sacred objects from discussions in medical anthropology, without sounding overly ethnocentric. This terminological exclusion is, however, becoming problematic since non-biomedical medicines such as Ayurveda, Chinese medicine, and Jamu are now increasingly being industrially produced.

Anthropology looks at pharmaceuticals as social and cultural phenomena. It is interested in the relationship between human beings and the medicines they produce, sell, prescribe, and consume. Obviously, people put their stamp on medicines and give them a place in their lives. But the relationship is mutual: medicines also affect and change the lives of people. Interestingly, the use of medicines was—and may still be—regarded as the most characteristic activity in biomedicine, to such an extent that it has become a metonymic *pars pro toto* that gave its name to the entire system: medicine.

History

Anthropological interest in pharmaceuticals developed along with the de-exoticization and homecoming of the discipline. Early ethnographers such as Rivers, Seligman, and Evans-Pritchard, medical anthropologists before the term was invented, took a keen interest in the local objects that people used to protect themselves against physical and spiritual misfortune. But they never thought about the relevance of including in their research the use of pharmaceuticals (which they brought along with them and distributed among their informants). This “oversight” by anthropologists of their own medicines in the beginning of the twentieth century was perhaps not so remarkable but the same happened in the 1960s and 1970s, when Western pharmaceuticals had become the first choice of treatment in households in nearly every part of the world. Most anthropologists were still focused on exotic medical practices and did not regard their own culture as something to be studied. An overview of literature in 1982 recorded the first studies about the (problematic) use of Western pharmaceuticals in developing countries (Van der

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Geest 1982). Early publications that describe local perceptions and reinterpretations of Western pharmaceuticals include Bledsoe and Goubaud (1985), Ferguson (1981), and Logan (1973). Growing criticism of the pharmaceutical industry's dumping of their products in non-Western countries and the health hazards resulting from improper use of such products (Melrose 1982; Silverman 1976) stimulated the type of local, in-depth, and small-scale research that anthropologists are known for.

Around the same period, anthropologists began to carry out fieldwork "at home," although most continued to look for the unfamiliar at the margins of their own culture. Ordinary medical practices remained a topic for (medical) sociologists, who provided mainly questionnaire-based reports on technical and administrative aspects of pharmaceuticals at home. The interest in a patient or lay perspective on medical practices led, however, to a growing use of more qualitative research, which called for an anthropological approach. Later on, researchers realized that not only patients but also professionals, such as physicians and nurses, have ideas and perceptions and carry out practices that can be deemed social and cultural. Thus before the turn of the century, biomedical science, including pharmaceuticals, had become an anthropological field of study. However, the pioneers, unsurprisingly, had been sociologists. It should be noted, though, that the differences between anthropology and (qualitative) sociology in studies of pharmaceuticals had become blurred.

Anthropological studies of biomedicine—and of pharmaceuticals in particular—are now common but it would be a mistake to conclude that anthropology has given up its fascination with the exotic. There is still a strong tendency to look for the unfamiliar and unexpected in what seems to be familiar in the distribution, perception, and use of pharmaceuticals.

Biography of pharmaceuticals

The metaphor of *biography* has proven a convenient one with which to organize the field of pharmaceutical anthropology. There is a biographical order—in terms of different stages—in the "social life" of pharmaceuticals: for example, manufacturing, marketing, prescribing, buying, and consumption (Van der Geest, Whyte, and Hardon 1996). Each stage is populated by different actors with different perceptions and interests, each attributing different meanings to pharmaceuticals. In the production and marketing stage, the primary social actors are scientists and businesspeople working for pharmaceutical companies. The prescription phase mainly involves health professionals and their patients in the context of a medical practice. Distribution is carried out mostly by sellers such as pharmacists, storekeepers, drug peddlers, and their customers in a market-type setting. Consumption occurs mostly in a household setting, away from medical professionals. Each stage also has a specific "regime of values" (Appadurai 1986, 4): ideas and rules concerning the management and transaction of pharmaceuticals in a particular context. In the production and marketing phase, the rules of science and strategies of profit making dominate. Physicians need pharmaceuticals to treat and

satisfy their clients. Pharmacists and other sellers follow the movements of the market while patients and their relatives expect pharmaceuticals to improve or maintain their health and alleviate their pain.

Appadurai's (1986) concept of "social life," which was applied to pharmaceuticals in a publication by Whyte, Van der Geest, and Hardon (2002), is very similar to biography. The implication of this metaphor is that pharmaceuticals have a kind of life in the company of human actors. Both concepts (biography and social life) express the fundamental anthropological vision that everything derives its meaning and relevance from its context. Contextualizing descriptions reveal the many different meanings of pharmaceuticals. From a *multilevel perspective*, these different—sometimes contradictory—meanings are compared and linked to one another. The multilevel perspective demonstrates how the "same thing" becomes a "different thing" when it moves to another level. A pharmaceutical product may also move to a nonmedical environment where it solves—or causes—problems that have little or nothing to do with health. The multilevel perspective helps to make sense of the whimsical appearances of medicines. A striking example of shifting meanings is Hardon's observation in a poor community in the Philippines of mothers buying pharmaceuticals for their coughing children in order to prove to neighbors and relatives that they are good mothers (in Whyte, Van der Geest, and Hardon 2002, 23–36). The use of contraceptives to delay menstruation during holidays is another example. By looking at the way in which medicines are used and interpreted at the international, national, health care institution, and household levels, we can trace and identify misunderstandings and conflicts that lead to incorrect or improper use of medicines, inequality in access to medicines, and erratic drug policies.

Concepts and perspectives

Some theoretical concepts have been particularly instrumental in describing and analyzing the mutual relationship between people and pharmaceuticals. One such concept—or perspective—is *critical medical anthropology*, which tries to combine theories of political and social inequality with close ethnography. Pharmaceuticals constitute a powerful tool of biopolitics and medical hegemony. As mentioned above, medicines are widely believed to be the core of health care. Providing or withholding them—with or without the aid of the industry—gives the state a nonviolent weapon with which to keep its citizens dependent and subservient. But citizens, in reaction, have their ways of evading such control thanks to widespread informal (and illegal) markets for pharmaceuticals (Nichter 1996; Whyte, Van der Geest, and Hardon 2002, 79–90, 104–16).

A complementary perspective is therefore that pharmaceuticals may also have a *liberating* effect. In a medical tradition—whether "traditional" or "modern"—where access to care depends on subservience to political, medical, or family authorities and implies subjection to social control, the individual ability to purchase pharmaceuticals—bypassing the authorities—is indeed an act of liberation. In numerous countries with a high degree of social hierarchy and a weak state, pharmaceuticals

that should be available only on prescription are freely available in the informal sector. Pharmaceuticals thus become vehicles of individualization. The fact that medicines can be used privately is particularly important when a certain condition is regarded as shameful for the patient and/or family, as is the case with, for example, impotence, unwanted pregnancy, and sexually transmitted diseases, including HIV/AIDS. Although this way of self-medicating has the potential to free people from the hegemony of authorities, it may make them more directly dependent on the industry and can in addition cause health hazards.

Obviously, the saleability of pharmaceuticals may not only be an advantage to the consumer but to all actors involved in the production, marketing, and dispensing of them. The “business” of pharmaceuticals has been studied from an *agency* and *transactionalist* perspective, which focuses on the various profits that can be made by selling and buying pharmaceuticals. The role of the industry will be discussed later in the entry. Physicians too may benefit from prescribing medicines. They may not want to lose clients by failing to give them what they want or they may derive direct profit from selling pharmaceuticals. The risk of overuse of medication increases when the providers are traders with little pharmaceutical knowledge, which is common in societies with a weak medical infrastructure.

Pharmaceuticalization is a form of medicalization. If medicalization designates the process by which people define nonmedical phenomena or experiences as medical and treat them accordingly, pharmaceuticalization refers to the reduction of health and wellbeing to the effect of pharmaceuticals. Abraham (2010, 604) defines pharmaceuticalization as “the process by which social, behavioral or bodily conditions are treated, or deemed to be in need of treatment, with medical drugs by doctors or patients.” Being healthy and fit thus becomes a matter of consuming pharmaceuticals. Illness, weakness, and discomfort, on the other hand, are seen as the result of having no access to pharmaceuticals. Pharmaceuticals, Nichter (1996, 275) writes, promise “to control fever and pain, reduce anxiety and increase confidence.” For the poor in particular, having money seems the best guarantee of a good life because one can buy medicines. From his research in India, Nichter describes the reaction of a young man looking at his first aid kit: “He sighed and told me that with such medicines one could go anywhere without fear” (1996, 275). Pharmaceuticalization, as this quote suggests, tends to imply a commodification of health. Advertisements and other promotional activities by the pharmaceutical industry contribute to this strong belief in pharmaceuticals. In more affluent contexts, pharmaceuticals are increasingly being used on the basis of lifestyle choices or to promote sexual enhancement (Fox and Ward 2008; Hardon and Idrus 2014).

Pharmaceuticals play a key role in the globalization of health and health care. As they are considered core elements of health, they are in constant demand. As objects, moreover, they are easily transportable. In the global exchange of ideas and materials, pharmaceuticals constitute both: they are attractive commodities that carry a load of expectations and promises. Pharmaceuticals are the forerunners or “missionaries” of biomedical globalization. Through internet services, moreover, they can be ordered from anywhere, to be delivered to anywhere, without the interference of medical professionals or other controlling authorities. In the globalization process, pharmaceuticals

serve the interests of both the industry and the consumers (though the latter may expose themselves to health damage through improper use).

Closely related to the above is the interest in *self-medication*. Self-medicating is as natural as other daily domestic routines such as eating breakfast, brushing teeth, and sweeping the floor. It is also convenient as it does not require a visit to a professional. For anthropologists and other social scientists, self-medication is an attractive field of research because it reveals more than any other medical intervention the social and cultural embeddedness of pharmaceuticals. Three aspects of self-medication in particular have drawn the interest of researchers. First, as has already been referred to, is its *everydayness*, its taken-for-granted character (Hodgetts et al. 2011). Pharmaceuticals have entered the domestic domain to become part of daily living; they have become lifestyle accessories (Fox and Ward 2008). The boundaries between pharmaceuticals and food are blurring. The interest in the domestic use of medicines is a reaction to the dominance of clinic-based studies and the focus on medicine use in dramatic conditions such as serious illness. Although the overwhelming majority of illness episodes are managed at home, that setting is least studied and most poorly understood. Researchers of medicine use, employing a recall approach to illness and medication, realized that people do not remember common domestic practices involving medication after a few days. Extra efforts are thus needed to capture everyday medication practices.

A second aspect of self-medication is the risk of improper use and consequent health damage. Research has shown that pharmaceuticals are often not taken as intended or they are prematurely stopped when symptoms disappear. They may be stockpiled for future use or given to others with similar complaints. In reaction to the concerns about misuse of pharmaceuticals among medical professionals, anthropologists have observed that patients may have good reasons for diverging from doctors' instructions and have emphasized *patient rationality* versus professional knowledge. Patient rationality includes not only medical considerations but also social, political, and economic ones. Conrad (1985), for example, reasoned that people suffering from epilepsy may follow their own ideas of medication—for example, testing how long they can go without it—in order to gain more control over their situation, escape the stigmatization associated with the medicines, or simply for practical reasons.

This awareness leads us to a third aspect of self-medication: a reconsideration of *nonadherence*. Nonadherence is not so much the result of a patient's misunderstanding of the doctor's information as of the patient having different ideas and different interests. Adherence, according to Trostle (1988), is an ideology that justifies the physician's authority. Other conceptions of health, illness, and medicine may also affect the way people take medicines, particularly in non-Western societies where pharmaceuticals may be recast in another knowledge system and used differently from the way they were intended when they were produced.

Pharmaceuticals attract *symbolic* images and meanings. First of all, they are described and perceived metaphorically (e.g., in advertisements, health education, popular parlance) to be more clearly understood and accepted (or rejected). References to warfare

are particularly common: pharmaceuticals defend us against an enemy. More important, however, is that pharmaceuticals themselves become symbols; they convey messages that are not directly related to their chemical substance. They are tokens of care and concern, power, security, identity, and lifestyle, as in the example of the Filipino mothers proving their good motherhood by giving medicines to their children. In the same vein, doctors dispense pharmaceuticals to show that they are good doctors. Everywhere physicians and other health workers fulfill their family obligations by giving their relatives free medicines from the health center in which they work. Furthermore, doctors who write a prescription demonstrate their superiority over pharmacists who must carry out their instructions. Pharmaceuticals are “the visible sign of the physician’s power to heal, and ... a symbol of the power of modern technology” (Pellegrino 2006, 1660). They are symbols of all kinds of communication and have social, political, psychological, and emotional effects, in addition to chemical and physiological efficacy.

Finally, next to the widespread popularity of pharmaceuticals, skepticism and resistance to them are growing. People may reject pharmaceuticals because they are toxic, unnatural, aggressive, and debilitating for the natural immunity of the body. Others object to the way medicines are used by medical professionals as a substitute for attention and time (Britten 1996).

Debates and controversies

The production, marketing, prescription, sale, and consumption of pharmaceuticals are continuously debated, criticized, and defended in both academic and popular media. Three controversial themes seem most relevant in this context.

The role of the *pharmaceutical industry* is probably the most contentious issue. Since the 1970s, pharmaceutical companies have been accused of numerous dubious practices in the production, testing, and marketing of their products. The moral critique boils down to the claim that it is profit and not health that is their first priority (see, among others, Light 2010). Accusations include manipulation of scientific reports on the efficacy and risks of new pharmaceuticals, presenting “me too” medicines as innovative new products, using uninformed people to test new preparations, the medicalization of social phenomena to create new markets for the sale of medicines (as seen in the discussion of pharmaceuticalization), dumping outdated or outlawed products in low-income countries, and bribing medical professionals to prescribe certain pharmaceuticals.

Pharmaceutical companies are said to have recruited senior medical personnel to act as opinion makers and promote the sale of pharmaceuticals and to have solicited scholars to write their articles for them. The influence of the industry on the production of scientific publications is an open secret in the circles of medical journals and publishing houses. Protests against this growing phenomenon are bound to remain largely on the level of lip service, however, as the academic world cannot do without the support of the industry.

The industry’s invisible hand in producing scientific literature—preparing the market for its products—is a development that has been hardly recorded by anthropologists, for

several reasons. One has been the reluctance of manufacturers to give anthropologists access to their laboratories and offices in the belief that they would derive no advantages from their reports. Conversely, anthropologists have made little effort to enter the field of the pharmaceutical industry, partly because they anticipate the latter's refusal and partly because they feel more at home in rural communities than in the complex and highly technical world of industrial manufacturing.

One exception is Emily Martin, who interviewed retired personnel from the pharmaceutical industry and asked them how they "reconciled their evident personal integrity with the negative public opinion of the industry as a whole" (2006, 166–67). All of her interviewees seemed convinced that they had done a laudable job to improve health and wellbeing. Martin concludes that "... the domains of pharmaceutical virtue and venal self-interest are not as strictly divided as we imagine" (172). Furthermore, negotiations with pharmaceutical companies about HIV/AIDS medicines that led to a drastic reduction in costs in low-income settings around the turn of the century have improved the public image of the pharmaceutical industry.

The mystery of pharmaceutical efficacy keeps discussions going about the so-called *placebo effect*. This can be defined as a therapeutic effect of a pharmaceutical substance or other medical intervention that cannot be explained by physiological or chemical concepts. The effect is usually attributed to the social and emotional context in which the treatment is conducted. The concept is regarded with a high degree of ambivalence. Medical scientists tend to view it as a disturbing factor as it blurs and casts doubt on the efficacy of pharmaceuticals and other interventions. But it is also useful; in randomized controlled trials, the placebo effect is used to measure the "real" efficacy of pharmaceuticals. In popular medical language, the placebo effect is regarded as an offense to scientific medicine and commonly used to discredit the apparent successes of traditional and alternative medicine.

From a philosophical, social, and psychological perspective, the placebo effect is a normal outcome of the human production of meaning if one accepts the wholeness of body and mind. The body is a subject that reacts meaningfully to any stimulus or experience, including words, bodily contact, eating, work, music, and also the intake of medicine. Moerman (2002) therefore prefers the term "meaning response." Scientific views of the body as an object that reacts mechanically to chemical stimuli are universally rejected but still occur in actual practice. In short, the placebo effect is the logical implication of viewing human beings as "mindful bodies." Nevertheless, debates about the placebo effect are likely to continue.

A third, never-ending debate, closely connected to the previous one, is about medicinal efficacy between proponents of biomedicine and those of traditional/alternative medicine. Supporters of the latter reject randomized controlled trials (RCTs) as an unsuitable instrument to test the efficacy of their products and deny the epistemological neutrality of biomedical research methods. Instead, they plead for research designs that are in line with the medical logics of their system. They claim that their approach is based on the active participation of patients as subjects, while in RCTs patients are treated as inanimate interchangeable objects. Critics argue, however, that traditional and alternative medicine must prove itself in RCTs. They believe that those involved in traditional or alternative medicine are unwilling to subject themselves and

their treatments to RCTs out of fear that their theories and treatment modalities will not withstand scientific scrutiny. They argue that RCTs, though far from perfect, are relatively neutral in the epistemological sense.

These proponents and opponents have indeed been involved in a rather fruitless debate for several generations now. Most researchers who study traditional or alternative medicine usually conclude with a plea for more recognition of these systems, thus simply joining the existing debate between believers and nonbelievers and not taking it further. Basically there are two—incorrect—attitudes toward traditional or alternative medicine: romanticization and dogmatic opposition. The former implies gullibility, a priori belief in its efficacy; the latter is a priori rejection because its practice is not based on natural science premises. Both attitudes are premature and unscientific. In the meantime, the crucial question remains: Is traditional/alternative medicine effective? Most ironically, the answer is, we do not know. It is remarkable that in the enormous amount of literature written on the subject, one hardly finds an efficacy study that meets the requirements of proper testing.

Practical relevance

The practical relevance of pharmaceutical anthropology lies first of all in the ability to provide detailed insight into the conditions under which pharmaceuticals are taken. The final phase in the biography of pharmaceuticals, their consumption, determines the success or failure of their entire life. A pharmaceutical that is used in an improper way or for an improper purpose is wasted in the most favorable case and causes damage in the worst case. Collecting reliable information on medicine consumption is, however, difficult and painstaking. In most cases, such consumption takes place in the privacy of people's homes, where it can hardly ever be observed. Interview-based information about medicine intake is often unreliable because people forget or are unwilling to reveal nonadherence or unorthodox self-medication.

As mentioned above, criticism of the marketing conduct of pharmaceutical companies in developing countries could only be substantiated by direct anthropological observation. In contrast, the effects of the World Health Organization's global Action Program on Essential Drugs, launched in 1978, was never properly evaluated due to the lack of "on-the-ground" research.

The distribution and use of antiretroviral medicines (ARVs) for people with HIV/AIDS in resource-poor settings have renewed the interest of anthropological researchers in pharmaceuticals. They have drawn attention to the (additional and often hidden) costs of "free" ARVs and have pointed to the social and psychological side effects of widespread access to the medicines. For people with HIV/AIDS, ARVs mean having a "second chance" but they also imply a life that poses unprecedented new challenges and complications (Whyte 2014). For those around them and society in general, the new medicines present new dangers and concerns; for instance, the medicines allow people with HIV/AIDS to hide the disease from others, thus causing a potential increase in the risk of further infection. The anthropological study of these unintended and undesired consequences of pharmaceutical consumption contribute to

more nuanced ARV policies. Communication between research and policy has much improved in this era of HIV/AIDS and Ebola and previous complaints that academic recognition seemed more important to anthropologists than the practical application of their research findings no longer hold true. Thanks to their close observations and inside information, anthropologists can function as advocates of and watchdogs for fair treatment and access to pharmaceuticals at various societal and administrative levels.

SEE ALSO: Addiction; Capitalist Corporation, the; Commodity; Complementary and Alternative Medicine; Diabetes; Global Health Interventions and Research; Global Mental Health; Globalization; Idioms of Distress; Informed Consent in Clinical and Clinical Research Settings; Medicalization; Placebo; Relevance

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