

Researching the life stages of medicines

Introduction

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This introduction presents the concept of 'biography' or 'life stages' of medicines as an ordering principle and analytical tool for the study of medicines as social, commercial and symbolic objects. The first stages, production and marketing, which have been largely neglected by social scientists, receive special attention. Finally, the five contributions to this special half-issue are summarized and placed in the life stages conceptual framework.

[medicines, pharmaceuticals, life-course, biography, social life, anthropology]

This special half-issue contains brief versions of six papers that were presented at the 4th International Conference on the Pharmaceutical Life Cycle in Paris, September 2011. Five of them have been translated from French. Longer versions may be made available on the site of *Revue Internationale sur le Médicament (RIM)* in due course. The conferences of the 'Pharmaceutical Life Cycle' ('life course' would be a better term because there is nothing cyclical about the 'life' of medicines) have been inspired by the metaphorical concept of 'biography' that was developed by medical anthropologists from Amsterdam and Copenhagen. What is meant by this concept and – related to it – the concept of 'social life'?

Biography and social life of medicines

It is about 25 years ago that one of us drew attention to the importance of studying medicines from an anthropological point of view, considering them as cultural objects with distinct social, emotional, commercial and political values in addition to their medical qualities. A collection of articles on 'pharmaceutical anthropology' (Van der Geest & Whyte, 1988) was the result of that new interest. Medicines proved popular vehicles of power, identity and symbolic meaning. The book was followed by a conference on 'Social and Cultural Aspects of Pharmaceuticals' held in The Netherlands, in 1991. A selection of the papers presented there appeared in Etkin and Tan (1994).

In an overview of the field of 'pharmaceutical anthropology' (Van der Geest et al. 1996) the mobility of use and meaning of medicines was expressed in the metaphoric concept of 'biography'. By following the transactions of pharmaceuticals one can discern a biographical order in their 'social life,' from their preparation in a technologically advanced setting they move to wholesale suppliers and from there to retailers such as prescribers, pharmacies and drug shops. The next phase is their distribution into the hands of consumers, either through a health practitioner's prescription or through direct selling. When the pharmaceutical arrives in the hands of a consumer, it reaches the final stages of its life: someone will use the medicine with the purpose of restoring, improving or maintaining his or her health. The way in which a medicine is used constitutes a crucial moment in its life. 'Wrong use' may render its entire life meaningless. Finally, pharmaceuticals have, as it were, a life after death; the fulfilment of their life purpose lies in the effect they have on the wellbeing of the person who took them (but also on the one who provided them). Efficacy represents their ultimate and decisive 'life stage'. These stages, and their links to actors and values, were outlined in detail:

Each life stage is characterized by a specific context and particular actors. In the production and marketing phase, the primary social actors are scientists and business people working for pharmaceutical companies. The prescription phase is mainly populated by health professionals and their patients in the context of a medical practice, while the distribution is carried out mostly by sellers such as pharmacists, storekeepers, drug peddlers and their customers in a market type setting. Focusing on the use of medicine, the anthropologist will most likely find the consumer in a household setting, away from medical professionals. The same applies to the final stage: efficacy.

Each stage is also characterized by a 'regime of values' (Appadurai 1986), expressed in distinctive sets of ideas concerning medicines. In the production and marketing phase, concepts of scientific research, market commodity, and commercial competition dominate the minds of the principal actors. Medical practitioners see pharmaceuticals as indispensable means in their encounter with sick people who come for help and advice. Pharmacists and other sellers regard pharmaceuticals as items for sale, commodities, while patients and their relatives expect medicines to solve their problems (Van der Geest et al. 1996: 156).

A related approach, focusing on the life cycle of medications, was presented by Cohen et al. (2001: 441), who proposed that:

Medications have complex life cycles, with diverse actors, social systems, and institutions determining who uses what medications, how, when and why. Such understanding permits analyzing medications simultaneously as entities and representations. ... medication life cycles evolve and mutate with social and technological change.

Cohen et al. illustrated their life cycle proposal with psychotropic drug use, arguing that the life cycle commenced at conception and design, followed by studies and trials,

then regulatory approval, marketing, prescription and consumption. This in turn, and key to the life cycle concept, was followed by gradual decline in use as other medication displaced the drug, leading companies to seek new uses and hopefully to repeat the cycle in relation to other forms of illness and treatment. However, Cohen et al. also conceded that life cycles for medications were variable and uncertain, involving “bifurcations, jumps, improvisations and impasses” (p. 447).

‘Social life’, a term borrowed from Appadurai (1986), was the organizing concept in another anthropological study of medicines on the move (Whyte et al. 2002). ‘Social life’ proved a useful analytic tool to trace the ‘careers’ of material things as they move through different settings and are attributed value, as singularities, gifts or commodities. These authors used the idea to review the literature on the ‘biography’ of medicines.

[Medicines] 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 ... [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 (Whyte et al. 2002: 14).

In Whyte et al.’s book, three categories of social actors are discussed in whose ‘shadow’ medicines assume particular meanings or ‘lives’: *consumers* (including mothers of sick children in the Philippines, villagers in Burkina Faso, sleepless Dutch women, and sceptical consumers in London); *providers* (including drug vendors on a Cameroonian market, pharmacists in Costa Rica, injectionists in Uganda, and prescribing physicians); and *‘strategists’* (including manufacturers as well as policy makers).

As we mentioned before, the biographical perspective on medicines, as a way to organize the field and to demonstrate how the different phases in the ‘career’ of medicines are interconnected, was taken up by GEIRSO (Groupe d’étude sur l’interdisciplinarité et les représentations sociales), a multidisciplinary team of researchers in Montreal, Canada. They set up an ambitious research programme which included international conferences under the theoretical umbrella of the ‘life cycle’ of medications. The first two were held in Montreal, the third in Milan and the fourth in Paris. Some of the papers (all French so far) were placed on the open access site of GEIRSO. Selections of papers from the first and second conferences were published in Lévy and Garnier (2007) and Garnier and Saives (2010) respectively. GEIRSO describes its mission as follows:

The aim is, among other things, to identify the dysfunctions in the cycle so that we can deal with interactions between medications, individuals and society in a totally new way. The ultimate objective is to develop methods and principles of policy for stakeholders so that they can rationalize the use and cost of drugs.

Several studies approach medicines from a social life perspective (though they may use different terms) by comparing or contrasting different actors at different stages of the medicines' lives.¹ As commodities, medicines pass national, social and professional 'borders', thus entering domains where professional knowledge and control do not reach. The drugs are reinterpreted into local concepts and may thus turn into different objects (cf. Bledsoe & Goubaud 1988). With the chameleon-like metamorphoses of medicines, rationality changes as well, moving from scientific to local or personal knowledge. New knowledge comes into existence at the intersection of cultural beliefs and market tactics (cf., Van der Geest 1991; Baxerres & Le Hesran 2011; Baxerres, this issue) or habits within households (Chamberlain et al., this issue) or individual concerns (Conrad 1985; Britten 1996). In Vietnam, women, as housekeepers that care for the family, play a central role in the production of that local knowledge.

Mothers swap product information and are expected to know about and control household medicine, especially where children are involved. These responsibilities in Vietnamese families are central ones, especially where resources are tight. The everyday world of market transactions in Vietnam involves a delicate balance between pre-serving goodwill and being hard-as-nails about price: feigning disinterest, always being ready to go to the next stall down the road, conspicuously displaying product knowledge in being ruthlessly critical of whatever is offered, while trying to pick up whatever information is put forth (Craig 2002: 132-33).

Since the beginning of the anthropological study of medicines, most research has focused on the distribution, consumption and perception of medicines. The first 'life stages' of medicines, production and marketing, have been much less examined, due – among other reasons – to the limited access that social scientists have to these fields.² That is the reason why we pay special attention here to the manufacturing and marketing stages. Two of the six contributions deal with these stages directly.

The first life stages: Production and marketing

Only a limited number of studies focus on the linkage between the multinational drug industry and the prescription and distribution of medicines.³ Lakoff's (2005) ethnography of psychiatric practice in Argentina shows how medical work and scientific reasoning are surreptitiously steered by political and commercial interests. This author describes the growing popularity of anti-depressants in a country where depression is hardly an issue. The partial explanation of this enigma lies in the metamorphosis of an anti-depressant that turns into a tranquilizer, helping people to overcome stress and panic in a turbulent period of Argentinean history – the collapse of the national bank and the subsequent economic disasters for private citizens.

The case of these 'anti-panic' drugs illustrates the hold that business can have over science and health care. Lakoff reveals how the pharmaceutical industry cleverly plugs into the political and economic crisis by offering people the gift of a drug that

helps them to restore control over their lives. He also shows that the pharmaceutical company actively creates the condition – the pathology, one could say – that requires its drugs. He calls this ‘diagnostic truing’: making the diagnosis ‘correct’ in the sense that it fits the drug for sale. The lock is changed to fit the key. The categories of psychiatric practice are “... broken down in terms of medication response, so that diagnostic questions would appear no longer as: ‘is it bipolar disorder or schizophrenia? but as: ‘is it a lithium or an olanzapine response profile?’” (p. 174). Company representatives, or ‘reps’, lure doctors with attractive rewards and pharmaceutical audits closely monitor doctor’s prescription practices to ensure the effectiveness of their pressure on doctors to make diagnoses suit the drugs to be sold.⁴

With some exaggeration one could say that a pharmaceutical company needs to sell a disease before it can sell its drugs.⁵ In other words, the marketing of medicines requires the marketing of science. One of the ways to achieve this is by exerting influence on the production of scientific literature. Healy (2006a) describes the case of a company seeking a market for a new drug, Alprazolam (Xanax). The company put its new agent into clinical trials for one of the conditions newly recognized by DSM III, panic disorder. The company sponsored scientific symposia on panic disorder and “supported a burgeoning literature on panic attacks” (p. 62).

Pharmaceutical companies have recruited senior medical personnel to act as opinion makers and influence the sales of drugs (Moynihan 2008). They have solicited scholars to write their articles for them (Sismondo 2007, 2009; Light 2010) and have even gone to the extent of publishing fake journals presenting positive reports on their drugs (Grant 2009). The industry’s invisible hand in producing scientific literature preparing the market for its products is a development that – for obvious reasons – has been hardly recorded by social scientists. We can only guess how many articles on randomized controlled trials of new pharmaceuticals in major journals may now be ghostwritten. Healy (2006b: 143), in another publication estimates that “... roughly three-quarters of all randomized trials appearing in the *Journal of the American Medical Association*, *New England Journal of Medicine*, or the *Lancet* are industry funded. Moreover, focusing on publications about Pfizer’s antidepressant Zoloft (sertraline) Healy (2006b: 143) discovered that the journals with Pfizer’s articles had an impact factor three times greater than the journals in which other articles on Zoloft were published. One may well assume that their political and commercial impact was also three times greater. An obvious consequence, Healy (2006a: 73) concludes, is that “the new method of authorship appears to lead to an omission of negative data on the hazards of therapeutic agents.” Another, disquieting, implication of this development is that it leads to an unwanted marriage between market and science (see Sismondo 2009).

Light (2010) also discusses the hold of the pharmaceutical industry over science. He uses the ‘case’ around the painkiller Vioxx that caused 88,000 to 130,000 heart attacks or strokes in the United States, with a mortality rate of 30 to 40 percent. He shows that the company succeeded in influencing the content of scientific articles on the efficacy and safety of Vioxx in prestigious international medical journals. Renowned scientists and medical journals thus became ‘secret agents’ of pharmaceutical companies to promote the marketing of their drugs. Light remarked that:

... a Congressional review documented how Merck aggressively marketed Vioxx for an ever-widening array of uses as the drug of first choice. The sales reps hid or misrepresented the life-threatening side effects; this has been shown to be a general pattern. Many of the 'scientific' articles in medical journals attesting to the benefits of Vioxx were written by company-paid ghost writers, and academic researchers agreed to front as the authors (Light 2010: 13, notes omitted).

Merck withdrew Vioxx in 2004.

The influence of the industry on the production of scientific publications is a public secret in circles of medical journals and publishing houses. Protests against this growing phenomenon are bound to largely remain lip service, as the academic world cannot do without the support of the industry.

Jones (2008) examined the relationship between pharma and consumer groups, finding that their aims frequently coincided, and that only 26 percent of the UK groups known to be in receipt of industry support openly acknowledged it. She argues that this linkage will ultimately reduce policy makers' reliance on consumer groups for providing the voice of patients, users and carers in formulating health policy. Lloyd (2008) also points at the moral uplift that the pharmaceutical industry derives from its engagement with patient groups.

The marketing of drugs relies strongly on their value for treating conditions, established by the 'gold standard' of the randomised controlled trial or RCT, and held in place by the relatively recent emphasis on 'evidence-based' medicine. Pharmaceutical companies therefore have a vested interest in the outcomes of clinical trials. Although these are treated as rigorous tests of drug efficacy, RCTs have also been found to be contaminated by pharma marketing influences. For example, Sismondo (2008) discusses how pharmaceutical industry funding of clinical trials has been shown to be associated with pro-industry results in three different systematic reviews, and argues that most proposals to correct this bias are too piecemeal to be effective.

How do those involved in these dubious practices view themselves? Emily Martin (2006) interviewed retired personnel from the pharmaceutical industry to ask them that question: how they "reconciled their evident personal integrity with the negative public opinion of the industry as a whole." (pp. 166-167). All her interviewees seem convinced that they did a laudable job to improve health and well-being. Are they deluded, Martin then asks, or subject to false consciousness? The answer is more complex: "...the domains of pharmaceutical virtue and venal self-interest are not as strictly divided as we imagine" (p. 172). Anthropologists treading the domain of production and marketing must keep that in mind.

The biographical life-course perspective on medications facilitates understanding of the various meanings and effects that medicines can have in different social and organizational contexts. These are inter-linked in the continuous process of the pharmaceuticals' lives. The papers in this issue focus on different stages but also point out the connections and interruptions between them.

Contributions

This special section presents six papers which utilise the theme, the life course of medicines, to explore a range of different issues. The first two papers focus on the early phase of production and distribution of medicines and the little researched area of pharmaceutical marketing. First, Quentin Ravelli considers how pharmaceutical companies approach medicines as commodities that need to be marketed, showing how their exchange value takes precedence over their medical or use value in this life stage, or as he puts it, how medicines can be “torn between profit and health.” His analyses of interviews with pharmaceutical marketing managers and sales representatives reveals how this tension produces dilemmas for these agents charged with the effective marketing of medicines, and how the social lives of medicines are shaped right from the stage of production and marketing.

Jérôme Greffion takes marketing issues into the specific location of the meetings between pharmaceutical sales representatives and doctors. Medicines may be commodities but in this setting understandings of their use value can be regarded quite differently, as Greffion reveals in his analysis of these interactions, showing how power and control is interleaved and nuanced in the course of such engagements.

The third paper, by Marie-Louise Flacke, takes commodification into the realm of the consumer, to consider how information about the appropriate consumption of medicines should be presented to consumers. Flacke argues for a range of simplified and consistent presentations designed to produce more ‘user-friendly’ information sheets about medicines that should lead to safer usage in the consumption stage.

In the following paper, Bertrand Lebouché and colleagues focus on the stage of distribution and prescription of medicines, exploring the controversial topic of where medicines may have their use extended into other realms. In their paper, the authors interview specialists in the treatment of HIV-AIDS to determine their views about extending pharmaceutical HIV treatments from purely therapeutic palliative purposes to prophylactic preventative use as well. Their results reveal disagreement about the value of extending treatment into prevention, reflecting the tensions that often surround off-label use of medications.

The fifth paper, by Carine Baxerres, examines how local understandings, and consequently use, of medicines are influenced by a wide range of factors. Her research considers the intertwinement of local and global market practices and knowledge about medications in the city of Cotonou, Benin. The author examines how this gives rise to popular understandings of medicines which lead to forms of consumption and use, particularly in high levels of self-medication that may not be intended by manufacturers or prescribers.

Finally, Kerry Chamberlain and colleagues focus on the last stage of the life course of medicines, to discuss one important aspect of their research into what happens when medications are taken into people’s homes. Their paper focuses on reluctance to use medications and shows the wide variety of ways in which medications are resisted, reflecting the wide variety of meanings, both social and symbolic, that medications can have for people and how this may influence usage. Taken together, these

papers provide important new information that furthers understandings of the life course of medicines and how the life stage notion can be a useful analytic focus for considering the intricacies surrounding the complex material and social objects that are medications.

Notes

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This text draws partly on another – French – publication (Van der Geest et al. 2010).

- 1 Another – related – concept is the ‘multilevel perspective’ perspective which starts from the assumption that developments at the various levels (e.g. international, national, regional and local tiers of social organization) are linked to one another and that the nature of these linkages has to be studied in order to understand properly what takes place at a specific level. The differences between the levels is first of all the result of the different – sometimes conflicting – interests that the actors at the various levels have with regard to – for example – medicines (Van der Geest et al. 1990).
- 2 Studies that come closest to the anthropological ideal of participant observation are from authors who have themselves worked with the pharmaceutical industry before (Oldani 2002, 2004; Whitehouse 2008).
- 3 Studies that did focus on policy, production and marketing of medicines from a social science perspective include Kamat and Nichter (1997) on sales representatives in India; Kim (1993) on the political economy of pharmaceuticals in South Korea; Oldani (2002, 2004) on pharmaceutical salespersons in the US; Ros-Oosterbroek (2006) on the access to anti-retroviral medicines in South Africa; and Bode (2008) on the marketing of Ayurvedic and Unani medicines, also in India. Some years ago Lexchin (1992) provided an overview of pharmaceutical promotion in developing countries in general.
- 4 Lloyd (2008: 288) writing about the creation of ‘social phobia’ in France remarks: “In general, the pharmaceutical industry provides the money to enable others to spread information about social phobia. They fund the research of psychiatrists on social phobia as well as symposia where these psychiatrists inform other physicians about how to recognize and treat social phobia in and among their patient populations. Pharmaceutical companies also create vehicles for the dissemination of information about social phobia ...” Physicians and members of support groups, she adds, provide moral authority and credibility to the activities of the industry.
- 5 Whitehouse (2008: 6) formulated this as follows: “... while we formerly developed drugs for diseases, the pharmaceutical industry had in fact switched to creating diseases for drugs. Companies looked to use-approved drugs for other conditions (this act is called ‘off-label’ prescribing and seems acceptable to me if there is a rationale for their use in different diseases than those for which it is originally approved and there are appropriate follow-up studies). In addition, new ‘disease’ concepts emerged in order to support the expansion of markets for medicines.” Whitehouse discusses attempts by the industry to match symptoms of Alzheimer’s disease with pharmaceuticals. An example of such disease construction is

IEED (involuntary emotional expressive disorder). Whitehouse: “The term IEED was invented by a pharmaceutical company, Avanir (with the help of KOLs – key opinion leaders), to promote the development of an agent to treat this syndrome and to extend the market for their planned product.”(p. 7). See also Vos 1991, Greene 2007, Applbaum 2009.

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