

## Pharmaceutical Maneuvers

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In 2003, the pharmaceutical company Biovail received a spate of negative publicity around a program for its heart medication Cardizem LA. For a three-month period Biovail paid US doctors US\$1000 (and their office managers US\$150) for patient data when at least 11 of their patients renewed a prescription to Cardizem. Doctors who signed up for the trial but who did not keep 11 patients on the drug received US\$250 for participation.

According to Biovail, this was a research trial, meeting US federal regulations for research trials – the consulting firm that had designed the trial had guaranteed that it would meet US criteria. The trial was expected to provide data that would help ‘in designing future clinical trial programs’, according to Biovail’s vice-president of finance. In addition, the results would eventually be published. However, the program was originally presented as a marketing campaign, and was being handled by Biovail’s sales department and sales force.

According to ethicists who commented on the case, a US\$1000 payment to doctors was unusually high for a post-marketing research trial, and a US\$150 payment to office managers was thought to raise novel ethical conflicts. Cardizem is a drug intended for long-term use, so paying doctors to get patients started on a course of treatment could lead to substantial profits from these prescriptions. In line with this, immediate comments from professional ethicists and representatives of medical associations focused on questions about whether the Biovail campaign amounted to paying doctors to prescribe specific drugs. And that is a concern for the obvious reason that it has the potential to compromise doctors’ decisions about best care. Payments for prescriptions place doctors in ethically difficult situations: Peter Singer, a medical ethicist, says ‘There is clearly the potential for [physicians’] conflict of interest’ (*Toronto Globe and Mail*, 2003). Physicians’ decision-making is the most common locus of discussion in medical ethics. The papers in this special issue suggest that that is to take a narrow view of the ethical issues, a view that appears to come about because it privileges the position of physicians, both epistemically and ethically.

The US federal regulations in question are designed to distinguish between research trials and marketing. Research provides a legitimate reason for drug companies to pay doctors, who should be reimbursed for their trouble when they provide valuable data. To sharply distinguish between genuine research and marketing is important pragmatically, as it sets out a terrain on which regulators, doctors, companies, and others can recognize some practices as clearly unethical and others as clearly ethical, even if it appears to artificially divide many other practices. From a more theoretical perspective, the regulatory distinction can be seen to idealize the realms of research and marketing. It legitimates an arena of primary knowledge, which is made, held, and evaluated by researchers, including company researchers. Genuine research is conducted to contribute to that arena. And out of that arena of primary knowledge come new drugs and new medical practices.

From the perspective of the contributors to the present special issue, pharmaceutical companies undertake or support work that bears all of the markers of genuine research, with broader goals than merely contributing to knowledge. Such research may be undertaken to increase the visibility and scientific legitimacy of new products, to identify opinion leaders with those products, or to buy the goodwill of researchers. While the Biovail campaign does not have much of the appearance of genuine research, we can see it as entirely continuous with other pharmaceutical marketing/research campaigns. Biovail's outlays need not pay for themselves in immediate prescriptions, then, for the campaign to be successful marketing.

Although only Nicolas Rasmussen's paper (Rasmussen, 2004) explicitly addresses questions about the ethics of the interaction of pharmaceutical companies and academic research – in his case historical actors' understandings of the ethical issues – questions about ethics, about the integrity of academic research, and about the quality of scientific knowledge in this area, are in the background for all of the papers in this issue. Pharmaceutical companies' priorities affect the shape and content of research. Marketing efforts affect doctors' prescription habits. Advertising affects the contours of illness. Academic researchers' attempts to accrue symbolic capital put pressure on their integrity. Normative questions follow hard on the heels of these issues. These questions challenge the self-definition of the 'ethical' pharmaceutical industry (Mahoney, 1959).

Rasmussen's study of interactions and collaborations between pharmaceutical companies and medical scientists in the first half of the 20th century in North America helps to put some of these issues in perspective. At the beginning of the century, academic scientists clearly perceived that association with pharmaceutical companies was a problem, at least for their reputations, if not for substantial ethical reasons. By the 1940s the situation had changed considerably, and academic-industrial collaborations had become somewhat normalized (see Parascandola [1992] and Swann [1988] for general treatments of this area). With the goal of understanding the moral economy of academic scientists, and to some

extent of pharmaceutical companies, Rasmussen offers us a taxonomy of collaborations, and a taxonomy of justifications of those collaborations in the light of a possible ethical hazard.

Academic researchers of the 1890s, for example, could not have benefited from patents on their pharmaceutical discoveries without provoking the severe disapproval of their colleagues. Economic motivation was incompatible both with the free flow of scientific information and with the rapid development of cures. By the 1930s, academic researchers could argue not only that the profits from patents should be used to support further research, but also that patents themselves were suitable markers of priority, better than mere publications.

The change in climate around these interactions was driven by a number of different factors, including some general changes in attitudes toward industry in the USA. And we see pharmaceutical companies drawing more heavily on science and increasingly using their scientific connections for rhetorical purposes (Liebenau, 1987). Rasmussen argues, though, that a key factor was the internal competition among academics in fast-moving and intellectually exciting fields, fields that happened to also be economically important. In this we might see connections to the papers by Jennifer Fishman (2004) and David Healy (2004), which nicely demonstrate how moral economies of medical researchers and pharmaceutical companies can be brought into contact for mutual advantage.

## Ghostwriting Clinical Research

The central sections of Healy's (2004) contribution to the present special issue are exposés. Healy is a practicing psychiatrist and clinical researcher as well as one of the most prominent historians and critics of recent psychiatry. As such, he has one type of insider access and perspective.

According to Healy, ghost-writing is common in medical research, though sufficiently hidden that it is impossible to gain a sense of how common. He describes how he has received unsolicited papers for his authorship. In one case, a paper he declined to author appeared without change under another author's name. In another case, he recounts losing editorial control over a ghost-written paper when he decided to experiment with the genre, the paper going suddenly to press in the middle of back-and-forths over its content.

Healy describes a document coming from a medical information company working on behalf of the pharmaceutical giant Pfizer. This document lists a number of papers in various stages of preparation, all on clinical trials or reviewing clinical trials relevant to a Pfizer drug, Sertraline. Striking in this list are papers whose authorship is 'TBD' (to be determined). In conjunction with Healy's own encounters with ghost-writing in this field, we might suppose that authorship of these papers is entirely unconnected to either the research or writing that produced them. Since academic clinical researchers would be unlikely to relinquish authorship of

research that they actually completed, we can presume that such research is included within the very large amount performed by companies that specialize in clinical research.

At least in psychopharmacology, then, a significant amount of research is conceived, directed, written, and shepherded through publication by agents of pharmaceutical companies. Putative authors, primarily academics, stand only as guarantors of quality, even though they may have had little or no control over the claims that are made under their names.

Healy's exposé is particularly jarring to classical ideals of authorship, ideals that still dominate in the arts, the humanities, and a number of sciences. Despite poststructuralist announcements of the death of authors, authors continue to be presumed responsible for the originality of their writings. Ghost-writing thus stands at some distance from practices and norms of scientific authorship, and pharmaceutical companies would not meet their objectives were their ghostly roles known. But while individual authors in the natural and medical sciences are expected to have made some contribution to their papers, they are not presumed to have made any *particular* contribution. Ghost-writing has some contact with the practices and norms of scientific authorship, and therefore pharmaceutical companies can find occasions to employ ghost-writers.

Drug companies and academic researchers can exploit not only practices of scientific authorship, but the huge difference between the moral economy of business authorship and that of academic authorship (Biagioli, 1999). For the companies, papers researched and written on a work-for-hire basis have as their fundamental value an expected pay-off in terms of sales, whether that value comes from legitimating drugs or from their promotion. Those papers can be freely given to academics for authorship, in exchange for increased value from the prestige of authorship. Academic authors serve as celebrity sponsors, though unlike many other celebrity sponsors their payment is the sponsorship itself. And the only cost to them from publication of a ghost-written paper, at least one that they believe is competent, is the small risk they take that their violation of norms of authorship will be discovered.

What is the place of research in this process? From the point of view of the pharmaceutical companies, research is at least sometimes part of marketing. The companies need to do research not merely to demonstrate, increase, or fine-tune the effectiveness of their products, but to increase brand recognition. From the point of view of the authors of ghost-written papers, research is also part of marketing in that it contributes to their efforts to market themselves. Among other things, this argument puts a very different light on pharmaceutical companies' standard argument that they need extra patent protection to cover the extensive costs of drug research.

Michel Foucault, at the end of his suggestive essay 'What is an Author?', imagines a culture in which the author function is irrelevant, a culture in which discourse circulates without need of authors (Foucault,

1984 [1969]). For such a culture, questions about authorship would be replaced by questions about the political economies of discourse: 'What are the modes of existence of this discourse? Where does it come from; how is it circulated; who controls it?' These, it seems, would be productive questions for various discourses that reference pharmaceuticals, both those of clinical research, and those that produce narratives of illness and recovery.

### Ghost-writing Narrations of Illness

In the wake of Viagra, it would be difficult to be unaware of the value to pharmaceutical companies of defining medical problems that their drugs can treat. This definition may include medicalization, the turning of non-medical problems into medical ones. Medicalization has been an important feminist issue, and numerous researchers have drawn attention to the medicalization of women's bodies, from infertility to childbirth to menopause. Not always unrelated, the medicalization of psychiatric and behavioral problems has also received careful scrutiny. Healy describes how in his own practice he has seen patients, whom he describes as having nervous problems, talk about tension and stress before the mid-1980s, about panic attacks in the 1980s and about moods in the 1990s. The transitions correspond with transitions in the marketing of drugs, from the benzodiazepines to treat stress and anxiety, to Upjohn's Alprazolam to treat panic disorder and to the selective serotonin reuptake inhibitors to treat depression.

For the most part, medicalization is discussed in terms of the politics of professions, with medical professions gaining importance as they take control over the problems, and sometimes the lives and movements, of a typically disempowered group. Somewhat less frequently, medicalization is discussed in terms of the economics of healthcare industries, including associations of doctors, insurance companies, and drug companies; a few cases include analyses of depression (Healy, 1998; Glenmullen, 2000), hyperactivity (Conrad & Potter, 2000), osteoporosis (Berman, 1999), and sexology (Tiefer, 2000). The means by which economic interests shape medical knowledge and medical discourse have not been well explored.

Jennifer Fishman's (2004) study of the commodification of Female Sexual Dysfunction (FSD) looks at clinical trial researchers as mediators between pharmaceutical companies and patients. FSD is a medical condition under construction, and as such it is an excellent site at which to see active relationships between researchers, companies, clinicians, and patients. For pharmaceutical companies and researchers, FSD represents a large open terrain, or rather several parallel terrains. They are better placed to stake out claims on those terrains with each other's help. Pharmaceutical companies can only create a market, at least an abstract market, if medical researchers can define a medical condition that needs treatment, and validate treatments for that condition. The researchers who define a

medical condition in such a case put themselves at the vanguard of a bandwagon; their work is important in rough proportion to the size of the market. Thus researchers can place themselves in a mediatory role, drawing on the considerable resources of pharmaceutical companies to advance both their and the companies' interests.

For example, Fishman charts the progress of testosterone replacement as a treatment for FSD. Shortly after results from a phase II trial of a testosterone patch were published in the *New England Journal of Medicine*, some of the authors of that study organized a conference on 'Androgen Deficiency in Women'. Out of that conference was produced a consensus statement defining 'Female Androgen Insufficiency Syndrome', which was itself published. Pharmaceutical companies funded both the original study and the conference. This process, moving very quickly in the case of FSD, results in an understanding of a medical disorder defined in part around a strategy for treatment. If we take their funding seriously, researchers are mediators between pharmaceutical companies and abstract markets, increasing their own stature in proportion to the amount of mediation that they do.

A happy result for funders is that understandings of disorders eventually produce new drugs approved by national and international regulators like the US Food and Drug Administration. Because of their status as experts, sexual dysfunction researchers also mediate between pharmaceutical companies and regulatory agencies. Regulators have their own internal expertise and their own procedures, but they are typically in a position of relying on independent researchers for the evaluation of evidence.

Many of the same researchers who are creating an abstract market for treatments of FSD also help to create a concrete market. In the USA the 'Continuing Medical Education' conference can be seen to play an important role in the consolidation of disorders and their treatments. Clinicians must attend these conferences on a regular basis in order to renew their licenses. The commercial content of these conferences is restricted. Fishman argues, however, that in a context in which speakers already have invested heavily in a commercialized area, and already have enjoyed multiple relationships with pharmaceutical companies, such restrictions do little to inhibit commercialization. The conference on 'Androgen Deficiency in Women' mentioned earlier included a component for continuing education; clearly such a conference would be commercially important.

In a field that generates public interest, such as FSD, researchers can even become media celebrities. They are interviewed on talk shows, they publish books, create web sites, and dispense advice. Medical researchers can have various interests in engaging in any of these activities, and such interests can be substantial. Fishman's model case, Jennifer and Laura Berman, appear to be active in aligning their interests with the status of FSD, whatever its eventual preferred treatments.

## Detail Work

Andrew Lakoff's (2004) contribution to the present special issue explores the marketing of antidepressants in a national context. It is structured around the question: why, given that diagnoses of depression in Argentina have not increased in recent years, have prescriptions of antidepressants increased? Lakoff's answer is set in the context of a picture of the structure of pharmaceutical marketing in Argentina, some features of which are widespread, and some of which are particular to that case.

As elsewhere, pharmaceutical companies in Argentina have ways of addressing consumers. Direct-to-consumer advertising is not allowed, but the companies can sponsor illness-awareness campaigns to try to spur increased consumption of specific types of pharmaceuticals. However, because of Argentina's patent laws, domestic pharmaceutical producers have a greater share of the market than do foreign producers. Drugs exist in multiple competing brands, and therefore successful strategies require more than illness awareness.

Argentine marketers target clinicians directly. They attempt to establish ties with individual clinicians through gifts. For example, Lakoff reports that at the 2001 meeting of the American Psychiatric Association in New Orleans, Argentine doctors were the largest foreign group, mostly thanks to the largesse of pharmaceutical companies. As he points out, this type of sponsorship engages the doctors professionally and intellectually, giving them access to centers of knowledge production. Not appearing to be merely offering bribes might be particularly important when it comes to establishing relationships with professionals, especially with opinion leaders.

Perhaps most importantly, pharmaceutical companies rely on their sales force, the representatives ('reps') (or in the context of Jeremy Greene's study, the 'detail men'). Lakoff reports that there are 8000 pharmaceutical reps in Argentina, for 90,000 physicians. That figure is in line with those for other developed markets: in the USA, for example, there are probably about 80,000 reps for some 700,000 physicians (figures from CoreyNahman.com, American Medical Association). The reps in turn rely on information from pharmaceutical data companies.

A company such as IMS Health provides data for all aspects of the pharmaceutical business. One of the databases that IMS Health provides for the Argentine market and elsewhere is sales figures on different drugs, broken down at the level of zip codes. Pharmaceutical companies buy these (expensive) databases, and use the information in them to understand the market and to direct their reps' actions efficiently. The Argentine firm Close Up provides a more fine-grained picture of prescriptions, albeit samples of all prescriptions. Close Up buys copies of prescriptions from pharmacies, and creates profiles of individual doctors' prescribing habits. For the reps, and for their sales managers, such knowledge is extremely valuable. They can design strategies to influence individual doctors, and even test the effectiveness of those strategies – reps can monitor the doctors

and managers can monitor the success of the reps. And Close Up data allow the sales departments to reward efficiently, by providing perks in proportion to the doctors' allegiance to them and their products.

Finally, Argentine marketers can develop their products and their campaigns through their understandings of relevant aspects of the national culture. Lakoff says that in Argentina psychoanalytic and social explanations of mental disorder dominate over neurobiological explanations. (Jonathan Metzl [2003] argues that in the context of marketing in the USA the transition from psychoanalytic to biological models of mental disorders was slower and less complete than is commonly thought.) At the same time, Argentina does not have regulatory bodies that demand specificity of effect. Thus, drugs can respond not to chemical imbalances but to interpersonal relations and to large-scale social change. Local marketers can exploit widespread anxiety and 'nervios' over family relations, job loss, and globalization. In the ongoing economic crisis, everybody is anxious. And so one doesn't need more diagnoses of depression to see more prescriptions of antidepressants. The ailments drugs can effectively treat can change in response to local contexts (see also Emilie Gomart's [2002] fascinating study of methadone).

In his contribution to this special issue, Jeremy Greene (2004) describes the development of an ethos for US pharmaceutical salesmen in the 1940s to 1960s. In this period, a period of enormous expansion of the prescription drug industry, detail men transformed themselves from specialized salesmen into quasi-professionals. They, and the pharmaceutical companies they represented, wanted detail men to be seen as assistants to doctors, conveying useful information rather than merely selling products. As Greene argues, though, this change of image required a careful negotiation around doctors' spaces, both figuratively and literally.

Greene's analysis of the difficult roles that detail men had to create for themselves sheds light on the roles played by pharmaceutical marketers in general. Detail men could not be seen to be telling doctors what to prescribe, but ultimately they wanted to influence prescription behaviors. Detail men therefore had to seat themselves to the side of doctors' desks, positioning themselves as allied professionals. They consciously modeled themselves after doctors; for example, manuals for detail men reproduced parts of the American Medical Association's code of ethics. And detail men were hired for their perceived abilities to interact with doctors, and trained to develop those abilities. Above all, detailing had to appear to educate, rather than merely to sell. These are imperatives that continue to be important, and thereby dictate the continued importance of research for marketing. Marketing to doctors often takes the form of helping them to know about the latest research, whether that is marketing by pharmaceutical representatives, in advertisements in professional journals, or through continuing medical education conferences. Greene suggests that we might look to the detail man of the middle of the 20th century to see origins and foundations of current practices.

## The Importance of Drugs

Drugs are among the economically and culturally most important products of science, and they appear to be only growing in importance. The contributions to the present issue indicate something of the scale of pharmaceutical companies' networks, and the sophisticated efforts to which they go to sell their products – a glance at a textbook on pharmaceutical marketing (Smith et al., 2002) reveals some of that sophistication. Perhaps their greatest success has been to achieve a kind of omnipresence in the medical world, at least in developed nations. Free pens, mugs, coffees, and briefcases may not sell many drugs, but they establish pharmaceutical companies, their logos, and their products as ubiquitous features of the medical landscape. Consequently, the representatives in doctors' offices, the sponsorship of research, of speakers, of conferences, and perhaps even of papers, becomes less jarring.

Even outside the medical world, advertising by pharmaceutical companies has become entirely normalized. As a result, the tools applied to medicalization have almost certainly improved dramatically in recent years. A quick reading of the enormous number of advertisements and quasi-advertisements for drugs shows that pharmaceutical companies attempt to shape people's understanding of themselves so that they see themselves as ill in just the way that fits their drugs. Direct-to-consumer advertising is one of the key tools in this process. Changes in the framework for direct-to-consumer pharmaceutical advertising in the USA created a flood of appeals to consumers to think differently about their conditions. Advertisers have created a template for pharmaceutical companies, one that meets the conditions of the Food and Drug Administration, and yet serves as effective advertising. The campaigns urge the potential patient, and sometimes even friends and family of the potential patient, to 'consult their doctor' about one or another ailment or product. The result is an increased awareness of conditions ranging from depression to irritable bowel syndrome. Interestingly, as Patricia Peppin and Elaine Carty (2001) note in a paper on stereotyping in pharmaceutical advertisements, doctors are largely absent from the advertisements; the drug itself is the healer. In the most explicit versions, questionnaires on the Internet and elsewhere allow for a kind of self-diagnosis. The self-diagnosis allows individuals to present their doctors with vocabularies and narratives that bring their experiences in line with a recognized set of symptoms (for a related discussion, see Segal, 2001).

Joseph Dumit (2003) argues that recent and current marketing campaigns for pharmaceuticals are putting in place a new understanding of the nature of illness and health. Whereas bodies once were understood as normatively healthy and only sometimes ill, they are now understood as inherently ill, and only able to be brought towards health. The treatment of risk factors for illness, and not just illness, is a development linked to prospects of dramatically increased sales of drugs; and Healy argues that it is easier to successfully treat risk than to treat disease. The treatment of risk

factors multiplies markets, and addresses them more flexibly; we might suspect that Biovail's campaign for Cardizem, for example, enhances the likelihood of success by emphasizing the fact that Cardizem reduces high blood pressure by relaxing blood vessels. The trend has the straightforward consequence that it transforms the healthy body into a body ready to veer into illness at a moment's notice. The marketing of drugs, then, has far-reaching consequences.

## Note

I am grateful to Judy Segal for her good advice, and to her and all of the other reviewers of papers here for their thoughts on these issues.

## References

- Berman, Elaine S. (1999) 'Too Little Bone: The Medicalization of Osteoporosis', *Journal of Woman's Health and Law* 1: 257–77.
- Biagioli, Mario (1999) 'Aporias of Scientific Authorship: Credit and Responsibility in Contemporary Biomedicine', in Mario Biagioli (ed.), *The Science Studies Reader* (New York: Routledge): 12–30.
- Conrad, P. & D. Potter (2000) 'From Hyperactive Children to ADHD Adults: Observations on the Expansion of Medical Categories', *Social Problems* 47: 559–82.
- Dumit, Joseph (2003) 'A Pharmaceutical Grammar: Drugs for Life and Direct-to-Consumer Advertising in an Era of Surplus Health', unpublished manuscript, Department of Science, Technology and Society, MIT, Cambridge, MA.
- Fishman, Jennifer (2004) 'Manufacturing Desire: The Commodification of Female Sexual Dysfunction', *Social Studies of Science* 34(2): 187–218.
- Foucault, Michel (1984 [1969]) 'What is an Author?' in Paul Rabinow (ed.), *The Foucault Reader* (New York: Pantheon): 101–20.
- Glenmullen, Joseph (2000) *Prozac Backlash* (New York: Simon & Schuster).
- Gomart, Emilie (2002) 'Methadone: Six Effects in Search of a Substance', *Social Studies of Science* 32(1): 93–135.
- Greene, Jeremy (2004) 'Attention to "Details": Etiquette and the Pharmaceutical Salesmen in Postwar USA', *Social Studies of Science* 34(2): 271–292.
- Healy, David (1998) *The Antidepressant Era* (Cambridge, MA: Harvard University Press).
- Healy, David (2004) 'Shaping the Intimate: Influences on the Experience of Everyday Nerves', *Social Studies of Science* 34(2): 219–245.
- Lakoff, Andrew (2004) 'The Anxieties of Globalization: Antidepressant Sales and Economic Crisis in Argentina', *Social Studies of Science* 34(2): 247–269.
- Liebenau, Jonathan (1987) *Medical Science and Medical Industry: The Formation of the American Pharmaceutical Industry* (London: Macmillan Press).
- Mahoney, Tom (1959) *The Merchants of Life: An Account of the American Pharmaceutical Industry* (New York: Harper & Brothers).
- Metzl, Jonathan (2003) *Prozac on the Couch: Prescribing Gender in the Era of Wonder Drugs* (Durham, NC: Duke University Press).
- Parascandola, John (1992) *The Development of American Pharmacology* (Baltimore, MD: Johns Hopkins University Press).
- Peppin, Patricia & Elaine Carty (2001) 'Innovation, Myths and Equality: Constructing Drug Knowledge in Research and Advertising', *Sydney Law Review* 23: 543–76.
- Rasmussen, Nicolas (2004) 'The Moral Economy of the Drug Company—Medical Scientist Collaboration in Interwar America', *Social Studies of Science* 34(2): 161–185.
- Segal, Judy (2001) 'Problems of Genrelization: The Case of the Doctor—Patient Interview', in Richard M. Coe, Lorelai Lingard and Tatiana Teslenko (eds), *The Rhetoric and Ideology of Genre: Problems of Stability and Change* (Cresskill, NJ: Hampton Press): 171–84.

- Smith, Mickey E., E.M. Mick Kolassa, Greg Perkins & Bruce Siecker (eds) (2002) *Pharmaceutical Marketing: Principles, Environment and Practice* (Jackson, MO: Pharmaceutical Products Press).
- Swann, John P. (1988) *Academic Scientists and the Pharmaceutical Industry* (Baltimore, MD: Johns Hopkins University Press).
- Tiefer, Leonore (2000) 'Sexology and the Pharmaceutical Industry: The Threat of Co-optation', *Journal of Sex Research* 37: 273–83.
- Toronto Globe and Mail* (2003) 'Biovail Drug Campaign Causes Dilemma in U.S.' (22 July): B1, B21.

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