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Social Epistemology
Review & Reply Collective

<http://social-epistemology.com>
ISSN: 2471-9560

Science the Corporate Way: A Review of Sergio Sismondo's *Ghost-Managed Medicine*

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Martin, Brian. 2019. "Science the Corporate Way: A Review of Sergio Sismondo's *Ghost-Managed Medicine*." *Social Epistemology Review and Reply Collective* 8 (12): 55-59.
<https://wp.me/p1Bfg0-4Jz>.

Ghost-Managed Medicine: Big Pharma's Invisible Hands

Sergio Sismondo

Mattering Press, 2018

234 pp.

Imagine receiving an invitation to be an author of a paper, intended for publication in a leading journal. The paper has several authors; you are listed as second author. Along with the invitation comes a copy of the completed paper, in a highly polished form. All you need to do is have a look at the text and send along comments and corrections—if you have any. The next you know, the paper has been published.

This is an uncommon scenario except in one field: research on pharmaceutical drugs. If you accept this offer, you can add a publication to your curriculum vitae, and you may be in line for more opportunities. You might be invited to give talks to doctors about a drug. This isn't too hard, because all the slides and talking points are provided to you, and all the arrangements made. As well, you receive a generous stipend for your talks. If you're an enthusiastic and persuasive speaker, you're likely to receive more invitations and end up making quite a bit of money along the way.

Joining in this sort of activity, you become a cog in a well-managed process that Sergio Sismondo calls *Ghost-Managed Medicine*, the title of his book about it. You might be co-author of a paper; behind the scenes is a whole crew of researchers, writers and publication managers. Most of them are not co-authors: they are ghost authors, or ghosts. As an academic, you have credibility as a seemingly independent researcher, adding legitimacy to the paper that would not accrue to employees of a pharmaceutical company whose drug is being evaluated.

In this largely unseen process, pharma companies initiate and fund the planning, research, analysis, writing and placing of articles, and typically maintain control of data throughout. In the corporate production of knowledge, medical writers perform their functions, just as planners, company scientists and statisticians do. Authors are there to give a sheen of legitimacy and independence to articles. (104)

Many authors have written about the serious problems in mainstream medicine (e.g., Abramson 2005; Angell 2005; Davis, 2007; Walker 2011). Sismondo sets out to understand what goes on inside the management of drugs, more precisely their ghost-management, because most of what happens is not visible to outsiders. He identifies and illuminates a new mode of doing science.

To do this, Sismondo and his collaborators became learners. They attended conferences and workshops for budding publication planners. They interviewed players in the game. What they unearthed is not secret, but neither is it readily apparent to outsiders.

Promoting, Researching, and Marketing Drugs

The companies manage the production of drugs and knowledge about them in a remarkably comprehensive way. The process starts with automated testing of thousands of substances to determine whether they have any promise as drugs. When suitable candidates are found, they are put through one or more stages of testing, on animals and humans, depending on results.

This is the scientific-research side of drug development, and it contains many opportunities for fudging the results, for example by discarding unwelcome data or making comparisons with placebos that have side effects. Sismondo gives relatively brief attention to what might be called the shonky dimensions of drug research, a topic that has been addressed in detail elsewhere (Goldacre 2012; Gøtzsche 2013). There is ample evidence of massive corruption in the pharmaceutical industry, as evidenced by billion-dollar fines imposed by US courts, so it should be expected that the corruption permeates pharma research. However, this is not Sismondo's primary concern. His focus is on the mostly invisible processes of managing the promotion of products. Even when drug research is high quality and reproducible, the way the findings are used can be disturbing.

In ghost management, research and marketing are closely knit. One aspect is the manufacture of disease. Sismondo gives the example of female sexual dysfunction and the marketing of a drug to fix it, a female equivalent of Viagra. A company, to market a drug for a previously unrecognised condition, needs to do quite a bit of work.

A key part of the process is getting physicians to prescribe drugs. Pharmaceutical sales representatives meet with doctors, get to know them, offer favours and free samples, and hope the doctors will prescribe their company's drugs. Sismondo attended meetings where sales reps shared their insights. There is so much of this personal lobbying activity that there are industry associations for how to do it.

Then there is "education." Pharmaceutical companies sponsor meetings where doctors can learn about drugs and medical devices. The companies recruit speakers they call "key opinion leaders," or KOLs, to give talks. When sociologists initially developed the concept of opinion leaders, they were seen as individuals who were influential in their networks through their own achievements or connections. The industry has turned this around: they *create* KOLs by giving them speaking opportunities. These aren't independent shapers of opinion but rather puppets for industry planners, who give their chosen KOLs slides and text for their talks, as well as making all the arrangements. And, not least, the KOLs are generously paid for their services

Sismondo interviewed a number of these industry-created KOLs. A fascinating part of his examination is his exploration of how they understand their own roles. Rather than seeing themselves as skills for industry, most KOLs justify their activities by saying they believe in the drug, prescribe it to their own patients, and enjoy providing the latest information to their colleagues. Those interviewed did not highlight that companies chose them to give

these talks because doctors and researchers are seen as independent, giving the company's message greater credibility than would company employees.

Promoting a drug involves planning research and publications so the findings are available to bolster the case for the drug, using KOLs and company representatives to convince doctors to prescribe the drug. But there is more to it. Journal editors need to be brought onboard. Amazingly, some editors attended conferences for publication planners, providing advice and insight. Although a few editors are concerned about industry involvement in research, especially ghost writing, nearly all welcome industry's contribution. And why not? The companies pay for advertisements in medical journals and sometimes buy hundreds of thousands of reprints of published articles, for distribution to doctors. Some medical journals would not be financially viable without industry support.

Another important part of the process of getting drugs to market is convincing government regulators to give approval. In the US, the key agency is the FDA, the Food and Drug Administration. Industry spends considerable effort building connections with agency personnel. It also helps that so many of these personnel were previously employed by the industry, and that helpful agency employees can subsequently land lucrative jobs in industry, in a striking example of what is commonly called the revolving door between industry and regulators.

However, regulators are not always rollovers, so sometimes companies apply extra pressure via patient advocacy organisations or PAOs. Some PAOs are independent, but most are or become de-facto agents for industry: they are funded by industry and endorse industry agendas, for example by campaigning for approval of a new drug.

Sismondo, examining all these operations, provides a convincing case for the title of his book, namely that this form of medicine, which seems legitimate on the surface, is managed by ghosts, the invisible hands of the pharmaceutical industry. Research papers seem to be authored by independent scientists but are actually industry products. Approval for drugs comes from regulators whose independence is compromised. PAOs are puppets of industry, as are KOLs. It is an impressive feat: one of the largest and most profitable industries in the world hides in the shadows, achieving its goals by taking on the camouflage of independence, while choreographing the activities of researchers, regulators, spokespeople and patient advocates. All in all, it is a virtuoso performance of deception.

Ghost-managed Medicine is a brilliant treatment of a crucially important scientific and social issue. It is based on a deep understanding of pharma and its activities, presented in a clear fashion with plenty of examples. As an informed and insightful analysis, it is all the more powerful because it is not heavily judgemental.

So What?

The picture of the pharmaceutical industry painted by Sismondo is damning, yet it might be asked, if a fair portion of the research done is high quality, what's the problem?

One response is to say that actually much of the research is bound to be biased. Knowledge of the funding effect (Krimsky 2019), by which researchers regularly report much more favourable results when they are funded by a company with a stake in the findings, might be enough to dismiss company research. Still, not all such research is wrong.

Part of the feeling of unease is due to ghost management itself. Given the enormous efforts to impart a false image of independence, surely there must be something untoward going on. After all, if the research is solid, why should it need to be presented as carried out by independent academics? The answer: it's all about having influence.

The idea of ghost-managed research conflicts with the traditional image of scientists working heroically in a quest for knowledge, without being beholden to anyone, and who when necessary challenge the powers that be. This picture of “little science” (de Solla Price 1963) was always an idealisation, and in any case has long since been superseded by “big science” driven by funding and carried out by teams. Ghost-managed research might be considered a branch of big science, a manifestation of bureaucratisation taken to its highest level.

There is an intriguing irony in ghost management. The industry hides its research activities behind the image of academic research, giving it greater credibility as being independent. However, to the extent that people become aware of critiques—like Sismondo's—the more scepticism there may be about the research enterprise generally. The doctors and commentators who deplore so-called fringe therapies might usefully turn their attention to an industry that is debasing the currency of research legitimacy.

Ghost-managed medicine points to a deeper problem: doing good-quality research is not enough. Justifying research, or scientific knowledge more generally, requires something more than validity: social benefit, or at least lack of social harm, needs to be factored in. One way to look at this is to imagine all possible research and then ask, how does current research fit in? Ghost-managed medicine in essence gives highly selective attention to a small portion of possible research, namely that portion most likely to lead to huge profits. If we imagine, in contrast, medicine managed not by corporate ghosts but by independent citizen-scientist teams, it is plausible that there would be a great deal of attention to non-patentable drugs, nutrients and behaviours, and vastly greater attention to preventive medicine, including addressing the causes of ill health.

Another way to say this is that ghost-managed medicine marginalises alternatives. Consider for example the vast enterprise involved in diagnosing and treating depression, and the strong emphasis on antidepressants. One alternative is exercise, which is not a solution for every depressed person but has been shown in much research to be just as effective as standard antidepressants. In an alternative world in which health research was driven by social welfare rather than profits, there might be a vast expansion of research on exercise and wellbeing, and not nearly so much on drug treatments.

This example highlights that the pharmaceutical industry's colonisation of medicine in part reflects the way society is organised. If cities were designed around walking, cycling and

public transport, exercise would be part of most people's everyday activities rather than something extra to be squeezed into a busy schedule (Roberts with Edwards 2010). Similarly, if workplaces and neighbourhoods were more like communities than weigh stations for making and spending money, then arguably people would feel a much greater sense of solidarity and mutual support, reducing the incidence of depression. However, to promote these alternatives would involve challenging deeply entrenched economic and political processes. It might be said that the pharmaceutical industry, and its ghost-based methods, is a natural accompaniment to the way contemporary societies are organised around markets, mobility and transactional relationships.

Sismondo canvasses a range of solutions to the problems associated with ghost-managed medicine, ranging from individual withdrawal to changing the political economy of health. His assessment is that none has much prospect of success. The industry has become so powerful and adept at infiltrating itself into all arenas relevant to its survival that taking it on has become a gargantuan prospect.

Still, the industry must have something to fear, otherwise it would not need to develop ghost-management to such a refined degree. Perhaps pharmaceutical companies fear the introduction of measures to improve health that are developed and assessed in a fair and independent way. In this context, *Ghost-managed Medicine* is a valuable contribution towards moving in that direction, all the more valuable by being an [open-access book](#).

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