THE NEW CHEERFUL ROBOTS
WORKERS OF THE MEDICAL KNOWLEDGE BUREAUCRACY

by

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ABSTRACT

The growing literature of pharmaceutical studies shows a unanimous disapproval towards the corporate mechanisms of the pharmaceutical industry. Prominent scholar, Sergio Sismondo, goes as far as to criticize it through nightmarish allegories on the grounds of being a hegemonic, "ghostly" regime responsible for, often deadly, health crises. In particular, the process of medical knowledge production was identified as a major source of power, underpinning the financial interests of the industry at the expense of public health. To market new drugs, pharmaceutical companies produce and disseminate their own scientific research through an elaborate network of contracted firms and in-house departments, in short, through a medical knowledge bureaucracy. While it is partly responsible for industry connected public health crises, scholars repeatedly failed to examine the circumstances of the individuals who work within, and function as the driving force of this powerful system. The present research tires to answer the question of how much responsibility do the workers of the medical knowledge bureaucracy have over the social consequences of the organization they are part of? Consequently, this is a study of those white-collar workers and managers who diligently keep the medical knowledge bureaucracy, and thus Big Pharma functioning on a day-to-day basis. Attending a major industry workshop and conducting seven in-depth interviews with long-time industry insiders the research aims to reflect on the conditions of modern work in the pharmaceutical industry. The study follows the thought of American sociologist, C. Wright Mills who wrote extensively of the professional middle-classes in the 1950's. Using an insightful metaphor, Mills asserts that white-collar workers became "Cheerful Robots," who no longer exert their individual reason but dissipate in the rational bureaucracy of the corporation in gleeful obliviousness. Although, almost 70 years passed since Mills' dystopian analysis, the conducted interviews reveal bone-chilling similarities.

The findings presented show, the medical knowledge bureaucracy is a rationalized system whose agents lack comprehensive social responsibility and self-rationalize themselves resembling Mills' Cheerful Robot. If anything, only the vital discussion is absent from contemporary academic discourse on this long-standing topic. It seems, after all, "ghostly" is an appropriate descriptor for the medical knowledge bureaucracy, and those within it.

Key Words: pharmaceutical industry, bureaucracy, medical knowledge, the individual, 21st century work

INTRODUCTION

After settling down in the corner of the room hosting Publication Planning 101, I left to take a closer look around the corridor where the social activity was occurring. This was the first time I met Annie. A woman in her late forties, standing on the balcony eating a vanilla pudding desert topped with a strawberry, one of the delicacies provided by the event. Annie was the first contact I made not only at the event, but in the entire pharmaceutical industry. Later on, she became a key informant for this project. Annie was at least a head shorter and she had a stout stature, a slightly crispy voice and a radiant smile. Nevertheless, her eyes seemed tired not only from jetlag, but as I later learned, she was tired of two decades of struggle in the pharmaceutical industry. Annie shared she has been in the pharmaceutical industry for 20 years and her identity was as a research scientist, however she was forced to get a job in medical communications. Both branches deal with creating and disseminating scientific findings on drug products and are part of the medical knowledge bureaucracy. She earned her PhD in the field of cellular biology, but even when as a child she wanted to be veterinarian. Interviewing Annie was an astonishing experience, she was willing to share deeply about of her personal life, which was partially fueled by the desire to vent. She mentioned getting laid off a couple of times which was not easy with two kids who are going to college. Today, she works at a small size pharmaceutical company, and was there to learn about publication planning to fulfill her new role at the company and also, to get more training for having a better job in the future. After all, she frankly admitted “they spoil us, the pay and benefits are unbeatable in this industry.”

This study looks at people like Annie. Ordinary, welcoming, comfortably middle-class, white-collar professionals who decided to make a career in one of the most profitable industries in the world. Many of the literature I came across on the pharmaceutical industry, especially the

medical knowledge bureaucracy, assumed a mystifying, even vilifying tone when analyzing the industry's structural forces in the light of several public health crises is the past two decades induced by pharmaceutical companies. While, these authors lifted the veil on an organizational culture obsessed with profit at the expense of people's health, there was a lack of conversation about people like Annie. The individuals who make up these large organizational structures and who personally depend on it for their livelihood. Therefore, I decided to find some of these workers to get an idea how much responsibility they have over the social consequences of their organization and industry. Through the helpfulness of this study's participants, and their willingness to open-up about their professional life, I gathered data from seven long-time industry workers totaling seven hours of conversation. After analyzing transcripts, I came to an unexpected result. The findings agree with what has been said previously not just on the contemporary pharmaceutical industry, but on the very nature of specialized work ever since the Industrialization. To best facilitate this aspect of the gathered data, I used the concept of the "Cheerful Robot" coined by American sociologist, C. Wright Mills (1959). The individuals I interviewed expressed directly and in-directly how they exists as part of a large, rationalized organization. Working there they show no need nor interest in their organization's social consequences and assure themselves on the social neutrality of their work at the least, and social progressiveness at best by the means of self-rationalization. This study stands in affirmation that rationalized social structures do not equal in greater personal and societal freedoms. Hence, the workers of the medical knowledge bureaucracy are a contemporary manifestation of a social issue as old as modernity.

THE CHEERFUL ROBOTS OF OUR TIME

On Reason and Freedom: The Cheerful Robot

C. Wright Mills' assessment on reason and freedom reaches back to the Enlightenment assumption that increased rationality leads to greater freedom (1959:166). This quintessential assumption has been the backbone of the West's transition into modernity and is still with us today. We were born into these organizational structures which creates the illusion of their permanence. In many aspects, the sociology which Mills proposes is aiming to identify these perennial social forces - culminating in bureaucracies - by exactly describing their elements and their interactive functions. However, if anything, Mills is deeply concerned that the uncontested belief in the principle of rationality will lead to the deterioration of the individual's ability to exercise reason, and thereby unknowingly forfeiting their free will. Mills declares this divergence between rational organizations and the enervation of individual reason as the cardinal problem of modern societies (1959).

Mills states that rational organizations are not the aggregate result of the individual ability of free will and reason (1959:169). On the contrary, due to the proliferating fragmentation of division of labor within large organizations, the individual is subsumed in their narrow “milieux,” the everyday tasks and struggles which must be dealt with. This overstimulated personal milieux blunts the individual's ability to reason against the larger structure and even dissipates the desire for it. Mills sees this phenomenon as the organization “expropriating the very chance to reason” by the merit of its highly divided functions (1959:169).

The high degree of division of labor also connotes an unexpected problem. The limitation of a comprehensively social sense of responsibility. In contrast to mere occupational duty, social responsibility is the ownership or accountability for the problems troubling larger society, and the will to resolve these troubles by exercising individual reason. While the strive for an absolute social responsibility is an overreach, there needs to be a counter-balance from the isolated existence of the individual largely created by division of labor, and its apathetic hallmark, occupational duty. Mills points out, while the individual retains a functional rationality within the premises of her localized day to day occupational duties, she is irrationally unaware of the systemic consequences of her work, never achieving a comprehensive social responsibility. As Mills puts it, the individual in the bureaucracy is "with rationality without reason" (1959:170).

The last aspect of the individual within a rationalized system is the incitement for self-rationalization. Mills borrowing the concept of Karl Mannheim, acknowledges how large organization structures indirectly lead the individual to adjust her "impulses, aspirations and manner of thought" in accordance with the mindset of the organization (1959:170). Self-rationalization operates as a hidden mechanism because it is executed almost as an automatic response by the individual who must adapt certain mental and behavioral characteristics to ensure economic stability. The struggle for economic stability indirectly coerces the individual to become a specific type of person, one who is not only willing to work for the interests of the organization, but passionate to do so. Therefore, the individual constructs a sense of excitement for her limited duties within the organization, even when that would seem unnatural outside the context of economic stability.

Rational organizational systems create an individual who lack a comprehensive social responsibility and through self-rationalization become the epitome of what Mills describes as the "Cheerful Robot" (1959:171). While the factory workers of Marx were pressurized into conducting repetitive, robot-like labor they were not required to compromise their emotional dimensions. On the other hand, the Millsian Cheerful Robot must manipulate personal affectability to harmonize with the needs of the organization. This phenomenon perplexed Mills and he asked whether the individual can be "made to want to become a cheerful and willing robot", as well as "can he [*sic*] be happy in this condition" (1959:171)? These questions are so profoundly connected to Mills' historical time that he firmly believed that it is a "major theme of the human condition in the contemporary epoch and of all studies worthy of the name" (1959:171).

Almost 70 years passed since the dystopian analysis of Mills and his question remains equally relevant and unanswered at the same time. Today, the largest corporations grew to unprecedented sizes, they worth billions of dollars, and employ hundreds of thousands in their reinvented bureaucracies. Organizational cultures no longer prefer a direct, top-down chain of command, but rather create seemingly autonomously functioning departments with individualized goals. These mini-organizations within the corporation then are encouraged to work in collaboration with each other through constant and intricate communications demanding the employee's full affective commitment to the cause. By creating small teams, organizations can harvest the unmatched efficiency of labor fueled from a personal level. Regardless of emotional involvement, the individual acquires no comprehensive social responsibility as the personal milieux only intensified in the digital age. The individual only does what she can to keep economic stability while trying to ‘have fun’, successfully convincing herself that she found

happiness in her work. In the 21st century Cheerful Robots continue to function subsumed in large rationalized structures, lacking social responsibility, except she is evermore self-rationalized in accordance with the organization.

It is important to reflect on the nature of Mills' use of the 'ideal type', a consciously exaggerated description of reality to demonstrate the specific features of the object at hand. While ideal types are a great way of setting up contrasting binary systems, they can also derail the analysis by considering them as *echte* reality. Therefore, we should keep a constant reminder in the back of our heads, that while reality does contain elements of the ideal type to some degree there is more nuance to it, and usually less momentum which rushes us to quick conclusions. On the other hand, an overly detailed description of reality can lead to such an overflow of information that diffuses the argument. The argument about the medical knowledge bureaucracy can be examined through the lens of Actor-Network Theory in the future to get a more explicit understanding.

Profit is the Bottom Line

In order to really understand how pharmaceutical companies function we have to examine everything through the lens of business and the arrangement of different interests. The pharmaceutical industry is a trade system with a handful of major corporations whose task is to supply drugs to fulfill the demands of the market, or more simply, those people who need the drugs to get better. While health is considered among the top, if not number one human value, the pharmaceutical industry's task is not to better the state of health of the people. Since it is an industry, an economic activity manufacturing goods, its primary task is to make profit to upkeep the given corporation's life cycle. The bettering of people's health and the generation of profit

happens to line up two separate interests, that of the sick person wishing to get better and that of the capitalist who wishes to accumulate profit. The capitalist at this point realizes that the illness of the sick person generates a demand waiting to be fulfilled and they decide to create a cure to sell in exchange for money. From the point of view of the business man, the state of illness becomes a market where products can be sold. The business is looking for large markets, so it can sell as much of its drugs as possible, but if the market is small they will have no interest in *curing* the illness. This is one of the reasons why there are fewer and expensive therapeutic opportunities for tropical illnesses. Simply, the number of infected people are relatively insignificant which wouldn't yield a high return of investment for the company.

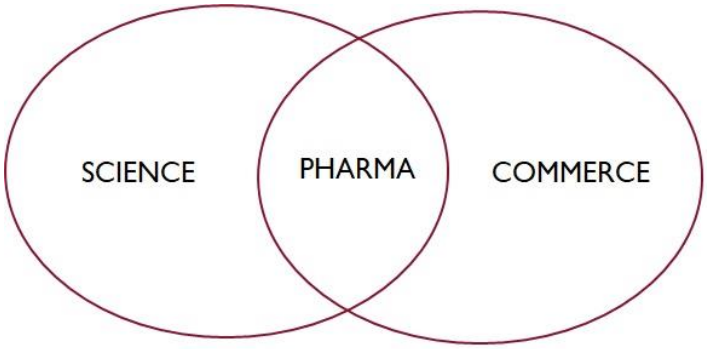


Figure 1.

Medical Knowledge Bureaucracy

So far, the model I outlined about the elementary function of pharmaceutical companies is basic and quite intuitive, however don't let it deceive you as it has far reaching consequences. It is essential to keep in mind, everything what follows serves the number one principle of business: making profit. Among the responsibilities of running a pharmaceutical company the production, consumption and dissemination of medical knowledge becomes inevitable as only through the channels of sound scientific understanding can the company create and market its

therapeutic products. There has been a considerable amount of literature dealing with this topic within the newly founded discipline of pharmaceutical studies (Sismondo 2018; Goldacre 2014; Matheson 2008; Healy 2004).

To create a successful pharmaceutical product companies need to employ a wide variety of teams ranging from people who identify possible disease gaps and develop a potential plan for a new product, contract research organizations (CRO's) who execute the necessary clinical studies as a paid service, publication planners who facilitate the creation of medical publications about the product in targeted journals, and also medical writers who write materials ranging from articles, educational content to all the necessary regulatory documentation to get the formula approved by the FDA. All these professional teams work in their own environment, applying their own specialties in the process of medical knowledge creation, however they all work under the executive leadership of their departments, be that R&D or marketing, which are directly reporting to the Vice President or the President of the company, who are ultimately in the service of their shareholders.

With that said, the medical knowledge created in this highly rationalized bureaucracy has a greater impact beyond the financial returns of the company. The systematically disseminated knowledge deeply influences how medical professionals and the public understands diseases and the possible treatment choices. The knowledge created minimizes the avenues of possible treatments to certain pro-industry ones, usually a method of cure which can be turned into a good of mass production. Behind the patient’s conscious awareness the industry colonizes pharmaceutical futures. While adopting medicine creation to a free market economy generated a wide range of possible cures to choose from, it also produced unwanted public health disasters

such as the wide spread, fatal cardiovascular side-effects of COX-2 inhibitors and the Opioid Crisis which leaves hundreds of thousands dead or addicted in the United States. Beyond fatalities, the pharmaceutical industry's medical knowledge bureaucracy also created circumstances where previously unmedicalized conditions were becoming areas of therapeutic intervention. This leads back to the idea of expanding markets, because without growth companies are only deemed to their demise. These health markets were expanded by the redefinition of what counts as high cholesterol, the pushing of chemical imbalance theory as a cause of depression, hormone replacement therapy as a solution for menopause, the understanding of attention deficit disorder, social anxiety disorder and even female sexual dysfunction. Granted, not all these new treatments have fatal side effects, they are all promoting a certain therapy culture which revolves around drug consumption. Corporations placing profits as the fundamental basis for inventing medical treatment is deemed to have a significant consequence in the health future of drug consuming societies, impacting all major economic nations around the globe, but mostly pertaining to the highly industrialized, Global North.

The Individual Employee within the Bureaucracy

Its employees organized in a meticulous bureaucracy, the pharmaceutical industry exercises hegemony over the understanding of diseases and their appropriate therapeutic methods solely to fulfill the corporate purpose of profit generation. While there have been numerous studies exploring the functions of the specific organs within this bureaucracy, little is known about the individuals who constitute it. By gaining a biographic understanding of the individuals' relationship to the fulfilled bureaucratic position new depths of understanding can surface pertaining to their responsibility and social awareness of the long-term industry

consequences. These are individuals who one way or another decided to make a career in the pharmaceutical industry's knowledge generating or knowledge disseminating bodies. Even though there are a large variety of positions which can be fulfilled in medical communications (an umbrella term for industry entities engaging with medical knowledge) there are commonalities in terms of a philosophical commitment and belief in the corporation. Most of the time these people are extremely ordinary people who work their 9-5 jobs only to return home to their children in the afternoon. Yet the work of these people is far from ordinary, it is highly specialized in engagement with first-rate medical research and the impact it leaves cannot be understated. The remarkable ordinariness of these highly educated people is frightening and fascinating at the same time. Frightening because of the level of specialized knowledge they wield and the social impact their activity creates, and fascinating because they seemingly remain oblivious about the previous part.

It has been duly discussed in previous literature, that the individuals operating the mechanism of this knowledge bureaucracy remain untouched by the fact that their profession determines the health future of a global collection of societies, and often not for the better. Sergio Sismondo (2018) described the medical knowledge bureaucracy as "shadowy" and populated by actors stripped from their agency only functioning as numb zombies in favor of the pharmaceutical companies interests. His argument evolves around the idea of hegemony where the company doesn't need coercion to execute its will. Its values and perspective become the ‘common sense’ understanding of how things are and should be done. This way pharmaceutical companies influence and dominate discourse in medicine, an ongoing activity largely made possible by the rationalized system which produces, organizes and disseminates medical knowledge. Sismondo's argument (2018) is extremely insightful, however he goes on elaborating

on the specific functions of certain departments or organs within the bureaucracy and doesn't ask the underlying socio-philosophical question: *How much responsibility do individual employee's have over the social consequences of the medical knowledge bureaucracy?*

THE MEDICAL KNOWLEDGE BUREAUCRACY

I. Pharmaceutical Publication Planning

What is Publication Planning?

The fact that pharmaceutical corporations blend medical science and commercial interests as they develop new drugs for expanding health markets has been gradually revealed in more detail by academic research in the past two decades (Rochon *et al.* 1994; Flanagin *et al.* 1998; Mowatt *et al.* 2002; Healy and Cattel 2003; Angell 2005; Matheson 2008; Sismondo 2009; Goldacre 2014; Sismondo 2018). A considerable amount of these studies focused on one or more elements of *publication planning*, the systematic practice of creating and communicating scientific information to support the marketing of pharmaceutical products (Sismondo 2009). The primary purpose of pharmaceutical publication planning is the creation of scientifically supported medical literature, mainly in the form of journal articles, around the pharma company's developing product (Matheson 2008; Sismondo 2018). Usually pharmaceutical companies contract medical communication agencies or have their own publications team who meticulously, planning years ahead, draw out the development and publishing dates of manuscripts in target journals (Sismondo 2009). As an industrial research complex, driven by commercial interests it raised serious concern around the compromise of scientific standards within the academic community, and such suspicions were supported by studies which

statistically proved the relationship between *industry sponsorship of clinical trials* and pro-industry trial outcomes (Bekelman *et al.* 2003; Lexchin *et al.* 2003; Healy and Cattel 2003). Additionally, *ghostwriting*, the issue of unnamed hired medical writing assistance has received thorough scrutiny. Ghostwriting is defined as the purposeful textual omission of acknowledgment of writers who meet authorship criteria by substantial contribution in a published paper (Ross *et al.* 2008). Medical communication agencies hire or employ medical writers, often Ph.D. educated individuals, whose task is to outline and draft manuscripts for future publishing based on limited data provided by the company, however, regardless of doing the majority of scientific literature production their contribution often went unnoticed in the final paper (Matheson 2016). Industry policy responded to criticism by acknowledging medical writers in small print footnotes, nonetheless still doesn't recognize their work as intellectual contribution, thus disabling them from attaining authorship level. That is reserved for very influential, systematically recruited academic experts, called *key opinion leaders* (KOLs) (Matheson 2016; Sismondo 2013). However, when in the mid-2000's large pharmaceutical companies, such as Pfizer, Parke-Davis and Merck & Co., had to face scandalous litigations for the unexpectedly large number of complications related to their products, a major problem of the persecutors was the inability to assign responsibility to a single author. Internal documents not only revealed a wide range of contributors but uncovered the existence of a growing techno-corporate bureaucratic system, which redefines how medical knowledge is gathered, created, controlled and disseminated (Sismondo 2018). Publication planning of medical literature serves a greater, hegemonic structure what Sismondo (2018) terms *assemblage marketing* and Matheson (2008) analyzes as a Foucauldian dispoistif, which consists of funding clinical trials and patient advocacy groups, producing medical literature, dissemination of literature by KOLs at

continuing medical education events, and by pharmaceutical representatives in physician's offices, as well as traditional marketing methods ranging from journal and television advertisements to distributed memorabilia. More importantly, the industrial research complex of this pharmaceutical regime raises concern over the future safety of therapeutics patients (Williams *et al*. 2011). As impactful as existing research revealed publication planning to be, no academic work has yet explored it through the individual experiences of the publication team members or managers. In depth interviews with employees could shine light to the exact personal beliefs, biases and there biographical or structural origins which enables this hegemonic activity to be reaffirmed. Therefore, there is a paramount importance on the qualitative path of future research.

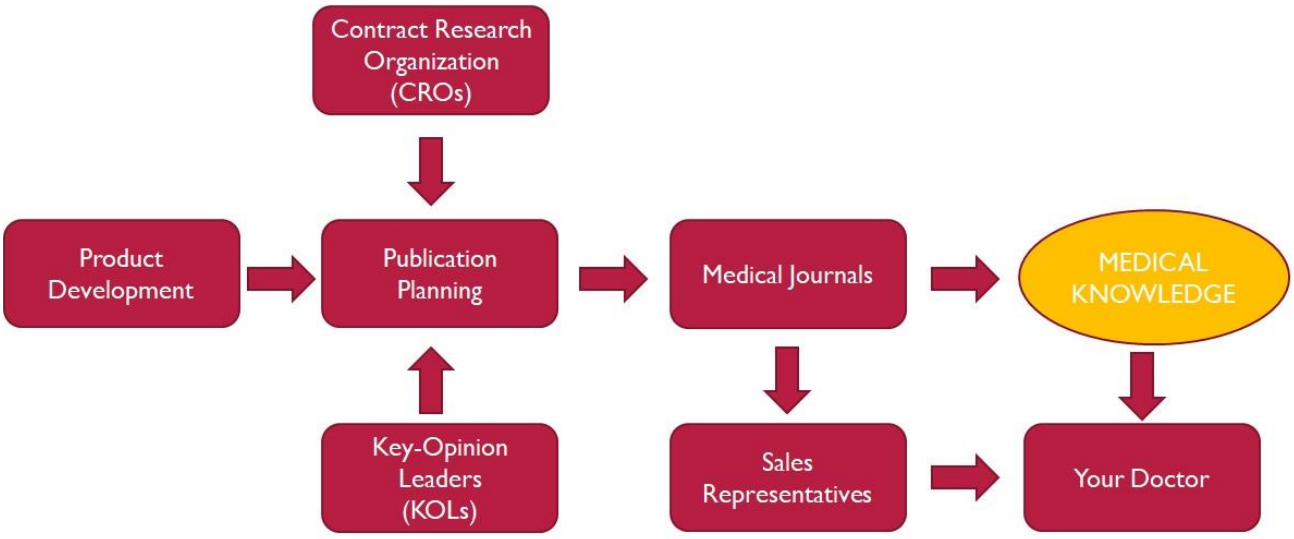


Figure 2.

The Process of Publication Planning

An ex-industry insider, Alastair Matheson explains (2008) that new chemical formulas are either invented or bought from an external source which then enters the phase of clinical

development. He details how marketing experts work on conventional promotion, medical experts on clinical development, data management and publications, while external service companies, such as contract research organization, contribute by conducting clinical trials (Matheson 2008; Sismondo 2009). Nevertheless, the goal of pharmaceutical development will always remain profit generation, which shapes decision making during clinical development. Pharmaceutical companies generate a monumental amount of data (Bekelman *et al.* 2003; Lexchin *et al.* 2003) not only to increase product safety, but to boost profitability. Matheson (2008) notes that essential decisions in clinical trial design such as choice of comparators, study size and duration, treatment regiments and outcome measures can be altered to facilitate product potential (Bekelman *et al.* 2003; Lexchin *et al.* 2003; Safer 2002; Sismondo 2008). Specific canons of literature are developed around the researched drug which contains a collection of arguments about its effects on human biology and fields of medicine it can be further employed (Matheson 2008). These canons, if scientifically viable, can solidify into 'product dogmas' by the positive affirmation of recurring clinical trials. The 'product canon' possesses a normative power which, according to Matheson has an intrinsic potential for compromising the scientific maxim of truthfulness, if not in outright scientific falsifications surely in more subtle manners of deciding to generate, select, analyze and publish data with the marketability of the product in mind. The ingrained commercial mindset often results in the lack of publishing or suppressing 'unhelpful' data from the point of view of product success (Angell 2004; Healy 2004; Kondro and Sibbald 2004; Hopewell *et al.* 2007; Turner *et al.*, 2008), however publication bias is present both in the commercial and academic world as well (Dickersin 2005; Halpern and Berlin 2005; Goldacre 2014). Once the portfolio of the product is mature and solidified, so-called key messages are crafted for promotional use, which serve a narrative purpose of framing the drug as

the solution to a particular health problem (Matheson 2008). The chief medium of pharmaceutical communication is the scientific journal article which is at the center of communicating product development to the academic establishment (Healy and Cattel 2003; Sismondo 2007; Steinman *et al.* 2006). Pharmaceutical companies contract medical communication agencies to create a publication plan which delivers primary manuscripts on new clinical trials data, secondary manuscripts containing analysis of that data, and review-articles which assess the totality of literature published on the drug to find possible gaps of research and create a supporting intellectual landscape for the product (Sismondo 2009). Such review-articles cost around US$20,000 or more (Matheson 2008). The job of medical writers at the agency is to create concepts for future articles based on "marketing relevance, medical need or educational value" (Matheson, 2008). At the same time key opinion leaders (KOLs) are recruited as authors for these future articles who may contribute to the manuscript, even though they rarely make new choices as they usually receive a well-developed article and there is no time to make cardinal changes, consequently they mainly contribute their status and sense of impartiality (Sismondo, 2009) to the project, meanwhile the company oversees they remain "on-message" (Matheson, 2008). KOLs usually receive an honorarium, however it is rarely a direct payment because that is perceived openly unethical. More support comes in the form of research grants, paid consultancy and paid talks at continuing medical education events. (Matheson 2008; Sismondo 2013). The unprecedented, explicit description of the steps of publication planning was revealed by the work of scholars who were once industry insiders (Matheson 2008) or took the effort to leave their armchairs behind and engage with the pharmaceutical community (Sismondo 2009). While non-ethnographic research delivers important conclusions, it cannot compare to experiencing the fabric of a professional community's social reality.

Ghostwriting and Industry Sponsorship

The first-ever scientific study of ghostwriting was done by Shapiro *et al.* (1994), who mailed a self-administered survey to 184 authors from a sample of 200 multiauthored biomedical papers to determine contribution amounts to each named author. They found that author contributions greatly varied; a considerable number of times, authors accounted of no contribution, which led to the conclusion that scientific authorship principles are not sufficiently met by these practices. A similar self-administered survey was conducted by Flanagin *et al.* (1998), who examined the proportion of ghostwritten articles from a sample of six peer-reviewed journals (a total of 809 articles) in 1996. They found that 11% of the articles contained ghostwritten contributions. Mowat *et al.* (2002) results reflected an 11% ghost contribution in Cochrane review articles. Healy and Cattell (2003) compared 55 articles on sertraline to determine the academic impact of industry related versus non-industry related articles measured in citation numbers. They found that industry-linked articles have twice as many authors, and that these articles are four times longer with five times higher citation rates. Bekelman *et al.* (2003) concluded a statistically significant relationship between industry sponsorship and pro-industry results in a sample 8 articles evaluating a total of 1140 original studies. Similarly, Lexchin *et al.* (2003) analyzed 30 studies to find out if industry funding skewed results in favor of the sponsor and concluded that a systematic bias exists in support of the company's developing product. Bekelman *et al.* (2003) stated that financial support from industry can cogently alter biomedical research, while Healy and Cattell (2003) concluded that industry-linked articles are of good quality, they raise concern on the true objectivity of the scientific basis of therapeutics. Such meticulous research as reviewed on ghostwriting and industry

sponsorship managed to solidify the concerns of academia against the pharmaceutical industry which has laid the groundwork of justification for further inquiry.

Court Published Internal Documents

The growing instances of litigation, such as with rofecoxib (Graham *et al.*,2005), have formed an outstanding opportunity in understanding how pharmaceutical companies shape and push their products, because previously inaccessible internal documents became published during lawsuits. After the mid-2000's, academic research started to uncover the depth and multifaceted influence of the pharmaceutical industry, including publication planning. Steinman *et al.* (2006) published a narrative review on the promotion of gabapentin by using internal industry documents dated between 1994-1998 published by litigation. The researchers found that gabapentin promotion was a complex system which included continuing medical education to disseminate messages to doctors, recruiting reputable key-opinion leaders, researching and publishing with the help of medical communication companies, and suppressing unfavorable study results. At the request of plaintiffs as expert consultants Ross *et al.* (2008) examined the extent of ghostwriting in one pharmaceutical company through 20,000 court published internal documents dated between 1996-2004. Among the 250 relevant documents, Ross *et al.* (2008) found that Merck employees closely collaborated with medical publishing companies to prepare manuscripts and to recruit academic authors. Financial support was half the time omitted from landscape shaping review articles but were present 92% of the time in published clinical trials. Both Steinman *et al*. (2006) and Ross *et al.* (2008) were working from previously inaccessible primary sources which has allowed them an opportunity to reveal the intricate

interconnectedness of pharmaceutical communications which is another example of how beneficial it is to understand the quality of communication between corporate actors.

II. Greater Influence of the Pharmaceutical Industry

Emerging Theories

While the concept of ghostwriting has been the focus of many academic articles, the social reality of the issue emerged with more detail in Sismondo's study *Ghosts in the Machine: Publication Planning in the Medical Sciences* (2009). It discussed the third annual meeting of ISMPP, the number one not-for-profit organization which represents publication planners world-wide. Sismondo attended a workshop titled Publication Planning 101/201, which he first accounts in *Publication Planning 101: A Report* (Sismondo & Nicholson 2007) and more extensively accounts in *Ghosts in the Machine* (Sismondo 2009). *Ghosts* is a more mature version of the *Report,* with details describing the multifaceted system of pharmaceutical influence. It tackles these layers under the subheadings of Order, Marketing, Journals, Authors, Physicians and Sales Representatives, and Creating Knowledge through Mediation. Sismondo's work is important given its ethnographic approach together with its successful attempt to collect and categorize the components of what he later calls *assemblage marketing,* a concept developed from Actor-Network Theory to collectively describe the totality of strategies used by the pharmaceutical industry to achieve market hegemony (Sismondo 2018:30). Sismondo argues that the multifaceted contributions to pharmaceutical research may be merely a feature of the development of new modes of biomedical science (Sismondo 2009). Philosopher Leemon McHenry (2009) in a comment, contested Sismondo's argument by stating that ghostwriting is

designed to hide crucial trial information, because ghostwriters receive only partial raw data and don not employ critical evaluation when producing an article. In a reply to McHenry, Sismondo explains that condemning publication planning altogether is unwanted because it limits the possibilities of further understanding (Sismondo 2009). He agrees with the danger of hidden trial information; however he argues that these cases are special occasions compared to the humongous amount of industry sponsored literature published. According to limited data, 40% of the very sizeable medical literature on recently approved drugs is ghost-managed (Sismondo 2009a). Sismondo infers that this large volume of work succeeds by being of good quality, and continually gets published in respected journals is a sign of hidden structural forces which enable the manifestation of the publication planning phenomenon on such a high level. Matheson (2008) along with Sismondo (2009) agrees that industry sponsored publications are of high quality and carry academic value, regardless of the publication planning procedure.

Sismondo's (2009) description of ISMPP has been imperative in understanding the pharmaceutical community and their efforts to deal with the controversial nature of publication planning. By attending the conference Sismondo was able to see the faces and hear the voices of the actors within the corporate network which contributed to the highly original nature of his research. This type of research proves to be inevitable when understanding the shared social reality of a self-protected, corporate community.

Looking at the literature, academic understanding of publication planning started in the mid-nineties with research projects focusing on the controversial phenomena of *ghostwriting* which revealed that it is present in a significant proportion of published medical literature (Shapiro *et al.* 1994; Flanagin *et al.* 1998). Pharmaceutical publication planning is an extremely

complicated phenomenon due to the excessive division of labor involved in the process, especially when using external service providers such as medical communication agencies, contract research organizations or seemingly neutral *key opinion leaders* (Matheson 2016; Sismondo 2013). Moreover, it has been statistically proven that *industry sponsorship* results in industry favoring outcomes (Bekelman *et al.* 2003; Lexchin *et al.* 2003; Healy and Cattel 2003), also some experts state that the raw data is liberally reported or suppressed in the manuscripts prepared by medical communication agencies who provide a service to the pharmaceutical company (Matheson 2008; Goldacre 2014). What is more, litigation processes in the mid 2000's revealed internal documents of pharmaceutical companies for the first time which to the surprise of researchers uncovered a much more extensive knowledge creating corporate system than thought before. Sismondo calls that system *assemblage marketing* (2018). Finally, Matheson (2008) and Sismondo (2009) revealed some of the insider publication planning culture and outlined the skeleton of the workings of an outspread industrial establishment. While past research has extensively discussed the quantitative prevalence of publication planning the field of pharmaceutical studies (Sismondo an Greene 2015), it still lacks a qualitative understanding of the actors themselves who drive the machine of publication planning, such as medical writers or publication managers. Further research needs to open an ethno-biographical avenue, where the actors' social circumstances, professional motivations, career trajectories and daily experiences are revealed and placed in greater context, creating a more highly realistic and specific understanding of the bureaucracy of medical knowledge and publication planning.

Corporate Logic in the Pharmaceutical Industry

Applbaum (2009) focuses on how the pharmaceutical industry manages and artificially unites interests in order to gain 'voice share' and push its own agenda. He recognizes the immense power corporations wield not only over their respective industry but over our own lives, as they sneak in to influence the way we imagine, think and feel about issues of health. He discusses, corporate logic, which is a way of thinking where the importance of profit topples the moral responsibility of healing people.

Applbaum uses the word 'consumer paradigm' to discuss how pharmaceutical companies now see patients as consumers, and how this change of perspective influences the interaction between manufacturer and consumer. In this process, agency - the ability to choose from free will - is diminished and absorbed in the new system. The lack of agency means that we think less about our consumer choices, also we are less aware of our position in the supply chain. In a way, consumers are only little paper boats flowing on the river of pharmaceutical predestination. After all, most of us will not override the decision our doctor makes since we assume that they know best. However, Applbaum points out that this is not the case because in this new system of pharmaceutical production doctors are stripped from their expert agency as well and become yet only another member of the supply chain. They become someone that needs to be convinced by citing scientific publications over and over again until they themselves agree to float along with the current. It becomes hard to resist. Just as the person restlessly trying to swim upriver so does any sort of anti-industry voices are slowly drowned out by the overwhelming "synergic" power of the pharmaceutical industry. Applbaum uses the term "synergic" to show the modus operandi of the pharmaceutical industry aligning conflicting interests and eliminating any possible points

of friction. Applbaum calls this the "getting to the yes" method, a managerial methodology of persuasion that promotes a perspective that declares all are sitting in the same boat, therefore we must all work towards the one goal. The river flows on uninterruptedly.

In many ways the pharmaceutical markets forced expansion, or pharmaceuticalisation, can be easily fit into a metaphor of colonial conquest. Individual companies, to survive, must conquer new markets. The existing markets are quickly filled up, or in other words, the needs of patients are quickly met by many different competing powers, therefore the desire to find new markets arises. This can be achieved in two major ways. First, it can be discovered, such as the appearance of a new disease. Secondly, and more importantly, they can be created. The second method fits better the corporate paradigm of total control and predictability. Pharmaceutical companies construct markets by redefining existing diseases, mainly expanding their definition. The main tool for this endeavor is medical knowledge itself and its very production. If pharmaceutical companies can control the academic understanding of diseases, it means that they can control the necessitated treatments for it as well. Nevertheless, these manipulations must be slow and subtle, remaining within the boundaries of the norms of the modern scientific enterprise. Correct science, however doesn't mean good science, which is ideally critical and not afraid to destroy its previous assumptions if they turn out to be false. However, Big Pharma is reluctant to reconsider areas of medical knowledge which serves its entrepreneurial interests.

Pharmaceuticalisation and the Importance of Global Clinical Trials

As stated before, to create a new drug, pharmaceutical companies need to employ a wide variety of actors. These actors range from people who identify possible disease gaps and develop a potential plan for a new product, publication planners who facilitate the creation of medical

publications about the product in targeted journals; and medical writers who write marketing materials. However, there is one actor who holds an utmost importance in this cycle: contract research organizations (CRO's). Contract research organizations perform clinical trials ordered *à la carte* by the contractor to procure data that fits the marketing goals of the pharmaceutical company. Essentially, CROs are a research specialized, auxiliary bodies serving pharmaceutical companies by utilizing local resources to conduct clinical trials, may that be a preliminary Phase 1 or an advanced Phase 3 trial. CRO's first emerged in the late 70's but live their golden age today. They serve as the motor of globalized pharmaceuticalisation, the major organizing force of human health on the planet which is tied to substantial financial interests. As a result, the transnational aspect of clinical trials has raised concerns over issues of transparency, subject safety, and ethical liability stemming from extensive international economic disparities. What scholars of pharmaceutical studies collected shows that global clinical trials are yet another controversial extension of an industry which rarely gets a taste of its own medicine.

Existing as a service industry for the incredibly wealthy pharmaceutical enterprises, CROs quickly became a source of financial alternative for physicians and patients as well. Anthropologist Jill Fisher (2008) makes a dual diagnosis. On the one hand, physicians are perfect candidates to take on research contracts because they have convenient access to patient populations who could be enrolled into trials, and they are eager to do contract research for financial benefits counter-balancing their decreasing revenue. However, physicians registered with the FDA as principal investigators have no input in the study design or the interpretation of results; they only receive instructions from the contracting company to administer the investigational drug, collect data, and monitor the safety of human subjects (Fisher 2008, 3). On the other hand, Fisher states that the recruited participants are often coming from

disproportionately deprived socio-economic conditions, for whom enrolling in clinical trials means a "free doctors visit" and an opportunity to get treatments which they were unable to afford before.

According to Adriana Petryna (2009), this dichotomy is at the heart of the globalization of clinical trials. In other words, are the democratizing clinical trials a source of capitalistic exploit or are they serving disadvantaged populations, or even both? Petryna focuses on this question on a global level where international socio-economic inequalities can and do become opportunities of considerable financial gain for large pharmaceutical companies. Clinical trials account for one third of all clinical development expenditures and they are still growing (Petryna 2009, 5), but these costs can be suppressed by utilizing CROs in countries where certain treatments are in great need. In the example of Poland, Petryna demonstrates how the high-rates of cardiovascular related deaths and the lack of blood pressure drugs created an ideal demographic for trial recruitment.

Another example of how clinical trials are being outsourced to non-US countries is presented by Kaushik S. Rajan, who describes India as a self-identified, target experimental site for the globalizing clinical trial industry of the West (2010). However, this connotes certain transnational issues. Petryna asserts as health risks become a resource for capital, ethical variability becomes a core value and a presumed modus operandi in globalized clinical research, meaning that First World countries enforce stricter regulations than Third World (2009:7). In contrast, Rajan states that the Indian government and regulatory bodies went great lengths to ensure international ethical standards. However, this turns out to be a double-edged sword. Rajan articulates how the codification of ethical standards brought transparency to issues of consent

and compensation, but also created the legal framework of systemic structural violence allowing the exploitation of local populations (2010:228). To illustrate this, Rajan explains how a CRO operating near a large, impoverished industrial sector benefits from the 'voluntary' participation of unemployed workers. These workers were first downsized from their jobs, then their shelters were torn down, and finally they were forced into homelessness where they were chased off the streets of Mumbai. Rajan ironically remarks, only after this, the workers became free to choose if they wanted to be enrolled into a compensated clinical trial. To make matters worse, India primarily serves as a desired destination for Phase I trials, where healthy subjects are introduced to potentially harmful molecules to test the basic safety of the components. Rajan points out that since the Indian population has less access to Western medicine, they are therapeutically non-saturated, making them purer subjects to test new drugs on. In the United Sates, most subjects have such a heavy history of medication use that drug-drug interactions cloud the trial results. Nevertheless, through the case of India, Raja reaffirms Petryna's (2009) and Fisher's (2008) argument that the globalizing clinical trial industry legally benefits from transnational disparities.

Joseph Dumit (2012) understands this phenomenon as outlined by Rajan as a mechanism of a constantly growing pharmaceutical market where medicine becomes only secondary to the money it returns (2012:92). In an economy where growth is the sole purpose of any capitalistic endeavor, the diseases treated by pharmaceutical companies are only the commercially attractive ones, and the existing disease gaps are quickly filled by industry competitors. Alongside Fisher (2008) and Petryna (2009), Dumit identifies clinical trials as the growth engine of pharmaceutical companies, which becomes the normalized approach of quantitative health in

treatment development (2012:89). Dumit concludes, CROs move the machine of "venture science" forward where health is only subordinate to profit (2012:89-94).

Williams and associates (2011) circumscribe this phenomenon under the definition of pharmaceuticalisation. This multi-dimensional, socio-technical process is aimed at turning physiological conditions and capabilities into opportunities for pharmaceutical intervention and ultimately profit. Similarly, to Sismondo (2018) and Applebaum (2009), Simon and associates promote the idea that the distinctly modern phenomenon of pharmaceuticalisation cannot be understood outside the larger workings of a "pharmaceutical regime" - an outspread and multifaceted system of scientific-corporate relations which increasingly encroaches our understanding of health. In the spirit of constructive social science, Simon and colleagues propose to view pharmaceuticalisation as a value neutral term, equally weighing both its positive and negative consequences. Although, this becomes divisive considering industry-induced public health crises, such as the Opioid Crisis, or the global exploitation of human subjects as discussed by Petryna (2009) and Rajan (2010). On the same note, the authors entertain the possibility of de-pharmaceuticalisation, a sudden devolution of the expanding approaches of commercial medicine (embodied in the commodity of the pill). But, this idea is contradictory of Dumit's (2012) "venture science," an inventive and adaptive capitalistic effort accumulating a global revenue of 1,143 billion dollars in 2017 alone (Statista 2017). It doesn't take a rocket scientist to see that as one of the top five most profitable industries in the world, for-profit pharmaceutical companies are unlikely to go away any time soon.

Sismondo (2018), together with Dumit (2012), equally emphasize the importance of the emerging clinical trial industry led by CROs. Lamenting the gone glory days of mid-20th century

pharma, Li (2014) describes how on the global, post-Fordist stage of the pharmaceutical industry research and development departments - once cornerstones of pharmaceutical companies - are now downsized and farmed out to CROs. This is not surprising since the median expense of a Phase III trial is at 19 million dollars which, of course, doesn't guarantee a successful outcome (Mullard 2018). Randomized controlled clinical trials (RTCs) - referred to as the gold standard of medical science - are partly responsible for these high costs. However, they compensate with extreme statistical precision, at least in theory. Such a venerable reputation, while not entirely undeserved, can lead to certain problems.

Bothwell and her fellow researcher's (2016) reviewed the historical development, benefits, and criticisms of RCTs in order to re-fertilize the eroded discussion around the idolized methodology. After setting foot in post-war Britain, the US quickly adapted RCTs to counterbalance issues of unreliability stemming from unstandardized case studies, supporting permission requests for new medications. Originally developed to eliminate bias in research, states Bothwell's team, RCTs have evolved into an expensive, bureaucratic system which funnels 25 billion dollars into contract research organizations every year. This not only drives up the costs of medication on the patients end, but RCT's are so time-costly that new medical innovations appear by the time of the publication of results. Above all, Bothwell and associates quote historian Harry Marks, "even the simplest RCT is the product of a negotiated social order, replete with decisions — some contested, some not — and with unexamined assumptions" (1997). This character of negotiability has been the strongest reason behind the fallibility of the golden goose. It is underscored by Dumit (2012), as well as Sismondo (2018), that the possible points of manipulability are diverse, ranging from the selection of comparators to selection of subject pools and manipulating subject expectations to reduce the placebo effect. RCTs reflect a

scientific culture mesmerized by statistical analysis, however profit motive lays behind the results as a latent variable. This testifies for the impossibility of an unbiased medical science, as long as research is connected to financial gain. Therefore, the findings of Bothwell and colleagues support the thesis of bureaucratization in medical research, the pillar of 21st century "venture science," and further refutes the unlikeliness of de-pharmaceuticalisation in the near future.

To summarize, contract research organizations serve as the pumping heart of pharmaceuticalisation as they constantly amass statistical data in order to argue for further biomedical interventions on the behalf of ever-expanding drug companies. All this occurs at the risk of those who are enrolled in clinical trials around the globe. While pharmaceuticalisation does involve medical innovation for the betterment of wealthy societies, it does so in a rigid and costly manner. This reflects prescription prices at the patients end, who have no other option but to subscribe to the dominant understanding of health shaped by pharmaceutical corporations. However, even this stark predisposition remains the privilege of primarily Western societies with a developed economy. Those in the East and Global South, such as Poland and India, must endure the fact that the treatments they risked their health for are unlikely to appear on shelves of local pharmacies and suffice with humble compensations for their "volunteer" service in the global clinical trial industry. For the most, global clinal trials remain a bitter pill to swallow.

METHODOLOGY

The research project was utilizing two major qualitative methodologies to find answers to its main questions. These two methodologies were field notes and interviews. Field notes were taken in a workshop titled ‘Publication Planning 101’ as a part of a major industry conference for publication planners. The initial two interviewee subjects for the project were met at this conference as well, whom later on provided me with further contacts thus efficiently participating in a snowball sampling mechanism. Seven semi-structured phone interviews were conducted with industry professionals lasting between 30 to 90 minutes. All the interviews were tape recorded after receiving the consent form. There was an initial set of question around which the interviews were constructed, however I used my intuition and the interests of participants to take the conversation away from the planned-out points and explore unexpected topics. This was beneficial to the quality of information gathered, as participants were encouraged to talk about what they felt passionate about (regardless being that a positive or negative feeling). Whenever I felt an emotional charge in the participant's tone, I encouraged them to expand more on the topic and go into more detail. Based on feedback, all interviewees had a good general experience in participating in the interview and some of them even gained insights into their own life story or just released pent up emotional tension. After conducting the interviews, they were transcribed and coded according to appropriate themes. All data was collected under a four-month period between October 2018 - January 2019. In total, 7 hours of interview audio was recorded which amounted to 96 pages of single-spaced transcripts. The field notes totaled at 8 single-spaced pages.

Informant	Company Type	Company Size	Department	Position	Race/Nat.	Sex	Age	Family
RE	Pharma	S	Medical Affairs	Associate Director	White/US	F	40-60	Mk
SD	Med Comm.	M	Medical Communications	Executive Director	White/US	M	40-60	N/A
OV	Pharma	S	Medical Affairs	Vice President	White/GB	F	40-60	M
WM	Pharma	XL	Global Commercial Development	Director	Asian/CHN	F	40-60	Mk
LS	Freelance	N/A	N/A	Medical Writer	White/US	M	40-60	Mk
DK	Freelance	N/A	N/A	Medical Writer	White/US	F	40-60	Mk
FR	Freelance	N/A	N/A	Medical Writer	White/US	F	40-60	Mk

Figure 3. M=married; Mk=married with kids

Justification for Qualitative Methodologies

The research project set out the goal to investigate to point of view of the individual employee who operates within the pharmaceutical company's medical knowledge bureaucracy. To achieve this goal the obvious type of methodology was qualitative, as it is much more suitable to detect subtleties in the gathered information which in turn leads to an enhanced level of texture and detail in the final data set. Furthermore, with qualitative methods - most prominently in interviewing - the investigative framework was much more adaptive to the benefit of my gut instinct to follow up on points of emotional friction in order to unlock new tangents of data. Above all, with qualitative methodologies I was able to achieve the presence of a 'human experience' in the data set with a range of different emotions. A dimension of information arguably telling of the individual's perceived reality. Aiming to step into the shoes of the informant, the qualitative path allowed me to understand the logic of the individual's thinking patterns and observe their utilized vocabulary in regard to their professional perception of self.

When I was analyzing data and constructing my argument I had to be aware that my methodology comes with certain downsides. Most prominent is an unavoidable presence of

subjectivism and bias, both on the participant's and the researcher's side. On the participant's side, bias can manifest in the accurate recollection of memories either towards the positive or negative ends. On the researcher's side, there is an interpretive bias, meaning a decisive influence in what was noticed or 'pulled out' from the existing data set. As qualitative data can be interpreted in multiple ways, in this present research an extra amount of responsibility and consequent scrutiny must be placed on the researcher accounting for a possibility of unnoticed biases. The qualitative roam also demands the balanced, interpretive ability of the researcher to create what anthropology calls a “thick description” which "grows out of the delicacy of its distinctions, not the sweep of its abstractions" (Geertz 1973). With all that said, it has to be noted that no matter how detailed and delicate one's research is, it always remains an incomplete analysis.

Lessons of Ethnography: Studying Up

Studying up, as anthropology calls the studies focusing on people wielding greater power than the researcher, creates its own unique challenges as opposed to the more common studying down. Those who work in the pharmaceutical industry organize themselves in relatively tight professional circles which seem impenetrable for an outsider. I often heard during interviews and on the field the phrase “everybody knows everybody in this industry” or some version of that. Indeed, during the conference I attended some participants were surprised to see their ex-colleague in the room and excitedly conversed about the old times. Such interactions of familiarity created a sense of a cohesive in-group, at least to the extent of the shared professional background. When I sat among these industry insiders during the workshop, I felt that I am participating in an inner ritual where all the participants had the experience which justified their

presence except me. The question of ‘what are you doing here’ was quite perceptible around me when I introduced myself as a college student interested in publication planning. The room felt tense for a moment as everybody before me qualified with legitimate industry experience. I managed to dispel some doubt by suggesting that I am interested in publication planning as a future career. While my conscience signaled that my presentation of self isn’t entirely true, it allowed me to justify my presence and thus, allow the ritual of industry training to unfold around me in more intact form. It turned out later on during the workshop, that it became more and more usual that younger people gain interest in some aspect of medical communications. Many large academic institutions now have Master level programs aimed at providing training for this segment of the industry. However, these people are at least graduate level students, therefore an undergraduate already preparing for his career in medical communications was practically unheard of, but with the current trend of increasing popularity of this profession the participants just booked it as one of the positive surprises of this rapidly changing industry. The challenge of studying up faced me with the issue that if my presentation of self doesn’t line up with the values of the group, I can potentially end up in a position where I can be perceived as someone who threatens the integrity of the subjects and exposes them to possible damage in reputation. While the validity of my presentation of self was dubious, it must be noted that without it I couldn’t have acquired the status which allowed me to access at least a partially natural or unrestrained observation of this enclosed and vulnerable environment.

Vulnerable might be the last word most scholar would use to describe members of an industry who are fueled by immense financial and political resources from their institutions, however from the perspective of industry professionals the case takes a different form. For example, I got the sense that the presenters of my workshop see themselves as people who lived

and fought through the scandalous times of publication planning and are proud of their achievement of surviving cut throat litigation procedures and “coming out alive.” Active members of the publication planner organization work hard to make publication planning look ethical, and they extensively covered every ethically sensitive topic throughout our training, making sure that they gave the audience the *right* answers. It all seemed pristine. This workshop was an opportunity to get all attendees at the same page concerning Good Publication Practices, a concept at the heart of the institutionalizing efforts to consolidate industry wide ‘ethical behavior.’ An idea of greater depth than the publication planner organization engages it at. Our presenter were professionals who earn their living by guiding their teams to stay in line, meaning that they immaculately abide by federal law and avoid any unnecessary attention. Within the circumstances of the workshop, they were passing their knowledge of orderly behavior over to the less experienced audience. My observational activity which involves a heightened level of attention and scrutiny to detail is something medical communication professionals are trained to avoid and be aware of. From their own perspective, these industry professionals are vulnerable to an outside observant who is there to raise questions as that can, if they are untrained, cost their professional reputation and eventually their job. There can be no greater punishment for a pharmaceutical industry professional than the loss of reputation and reliability, because careless action can damage the image of the industry itself which is a serious concern for future business and anxious shareholders.

This research project deals a lot with general morality, business and scientific ethics. During the time I conducted the interviews I went through a series of philosophical dilemmas about myself. Including the solidity of my own research ethics and decisions I made during data collection. First, while I was clear in my motivations at the meeting, as in “I am here, because I

am interested in publication planning", I was still moved to alter my behavior in order to fit into the studied environment. This project could only have succeeded in my mind, if I could gain intimacy with the subjects which of course was a challenging task due to the isolation, and in-group protection mechanisms of the pharmaceutical world. Obviously, people from the outside were not welcome to attend the workshop, meaning people who do not align themselves up with the professed "professional" values of the pharmaceutical world. Professionalism has several meanings in this context, among them are the unquestionable manifestation of the organizational embodiment which limits the individual employee's scope only to the task at hand and not further than her actual responsibility. Fully embracing one's task is a key element in efficient collaborative work. This actualizes itself not only between team members but also between departments. A willingness to work also constitutes the 'professional' mentality which is surrendering one's will to the team manager's instructions with a passionate, proactive attitude. In short, I had to assume and present these qualities of professionalism in order to gain trust. This is not surprising coming from a very enclosed professional environment who deal cards in an extremely sensitive business. How ethically did I act when in my method of communication assumed a passive, listening, but 'eager to learn' attitude, which created the perception that I am a potential talent of this industry. After all, I made it into the workshop and presented myself as someone interested in the industry 'career-wise'. If my true opinion or position were to be revealed, the access to the desired information would have been completely impossible. The bottom line is how could have I have conducted my study without any form of deception. Probably, it would have been impossible.

FINDINGS

"Editors seek out prominent names, and men with such names crave even more prominence; given go-getting editors and craving notables, it is inevitable in our specialized age that reliance on the experts should bring about a large expansion of ghost-writing. The chance is probably fifty-fifty that the book of a prominent but non-literary man is actually written by someone else. Yet perhaps the ghost-writer is among the honest literary men; in him alienation from work reaches the final point of complete lack of public responsibility."

- C. Wright Mills, *White Collar*, pg. 208.

What Mills described as the Cheerful Robot phenomenon has three important characteristics. First, the Cheerful Robot appears in rationalized systems of organization. In the case of the pharmaceutical industry, this has been exhaustively documented throughout the chapter on the structure and different functions of the medical knowledge bureaucracy.

The second tenet of Cheerful Robots is the lack of a comprehensive, social responsibility. This aspect of Cheerful Robot arises from the high level of division of labor within the rationalized organization. The effect of division of labor on the individual employee's experience will be demonstrated by contrasting first-hand accounts of small biomedical companies with large pharmaceutical corporations. In both cases, the specialization of labor is a relevant factor limiting the scope of the individual on the overall process of the organization. These specialized roles within the organization are protected by newly emerging 'Best Practices' guidelines trumpeting safety and transparency of the publication planning process, but in fact, solidifying the fragmented nature of medical knowledge production and protect each actor participating in it.

The third tenet of Cheerful Robots is the high level of self-rationalization. As related parts of the self-rationalization process, individuals within the rational organization experience a certain degree of removedness, or alienation from their activity. This is achieved by the need to morph the individual's personal feelings to match the regulations of the organization. However, in this process the individual is not completely alienated. Informants accounted of moments of fulfillment as a part of their working experience. Nevertheless, the individual must embody the corporation to a sufficient degree to be able to continue working there. In the act of self-rationalization individuals seemingly unaware change their personality to fit into their organization's requirements.

The rational organization of the medical knowledge bureaucracy evokes Cheerful Robots in the pharmaceutical industry's medical knowledge production. These individuals while act functionally rational within the premises of their occupational duties, they lack a comprehensive social responsibility over their organizations work. Furthermore, via self-rationalization there seems to be no doubt within these individuals about the 'good' nature of their work, nonetheless many expressed a meaningful satisfaction about their careers even after articulating feelings of estrangement. The summation of these three elements paint a chilling picture of the contemporary Cheerful Robots in the medical knowledge bureaucracy.

I. LACK OF SOCIAL RESPONSIBILITY

Division of Labor

There are distinctions between personal experiences between ‘Small Pharma’, the small biomedical enterprises mainly trying to create a profitable formula, and Big Pharma, the established governing institutions of the pharmaceutical industry. The level of division of labor is arguably lesser in Small Pharma, as the workers tend to wear multiple hats and have greater responsibilities within the organization. An informant at a small biomedical company said, “Here everybody has to pitch in and do whatever just to survive.” Employees’ responsibilities are so essential that the survival of the company depend on them. Such a degree of life-and-death situations create a more vivid, a more involved production experience where the worker can directly see her impact on the final product. Due to the reduced scales of Small Pharma the individual worker has a much greater visibility of the entire production process. Multiple informants described Small Pharma as the "Wild West of the industry,” where large clusters of start up’s – such as in San Diego – trying to sell molecules for a 5 billion-dollar paycheck. In the “Wild West” survival is the greatest success and the death of the company always feels near.

The high rate of corporate mortality intensifies the labor experience because it psychologically demands the worker to be present. It is on her if the company is going to survive. If, against all odds, the biomedical company does succeed in developing a commercially attractive product it is expected to be bought by Big Pharma. In that case, the individual worker who spent her time developing the product is subsumed and relocated to the factory-sized office of a large pharmaceutical company or if she doesn't want to take that opportunity she is dismissed. This informant’s account illustrates the situation, she said “if the company starts

doing well, it's going to get bought by somebody else. It gets either absorbed, so I get laid off again or I will stay here for a little while." Ultimately, her work is dispossessed in exchange for a sizeable paycheck and she quickly finds herself out of work. In the world of Small Pharma death is inevitable, it is always lurking on the corner either as the threat of bankruptcy or less often, as the possibility of being bought out. Either way, the worker loses the product which she created with her two hands and in that void of dispossession loses the belief in her creative value.

An informant describes the heartlessness of mergers in detail, "Layser [large company] pretty much bought us for one of our drugs that we developed, Veretrex. Then they shut down the whole building in North Corona. This was the first time I got laid off in the pharmaceutical world. [sad tone] After six years of research, working in the lab." The informant reflected that "they just really wanted the pipeline, because Veretrex was going to be the first really big blockbuster inhibitor drug. It was huge at the time before they figured out it had cardiovascular side effects [chuckles embarrassedly]." Indeed, Veretrex created a huge turmoil in the pharmaceutical industry. When a presenter was discussing bad publication practices during the Publication Planning workshop I attended, she said that "several examples gave us [to the industry] a black eye", noting among them the scandalous Veretrex clinical trial papers.

Specialization

"I was just one person of the twelve other people who were doing the same thing, it was just medical review. There were whole other departments who did medical information, whole

other for publication. The scope of your job is a lot more narrow, a lot more volume of work doing the same thing, kind of like a factory.“

– Allie, Office Worker

Specialization highly concerns the nature of the medical writer’s work. Medical writing includes the production of documents interpreting and synthesizing medical literature and clinical study reports for the purposes of informing legal, medical and consumer audiences. While medical writing has always been part of medical knowledge production, with the increasing growth of pharmaceutical companies it assumed a greater role. In the past 20 years medical writing grew into an established service industry to support the work of pharmaceutical companies in creating and disseminating medical knowledge. This establishment of the profession is miraculous considering that it almost got banned in the 1980's and enjoyed unwanted attention during the early 2000's due to the ghostwriting crisis. Regardless of these set-backs, today medical writing is taught at universities across the country, both online and on campus, supplying a steady stream of student entering a slowly saturating work force.

It is, however, not the past of medical writing that concerns this inquiry, but the present state. Especially, the nature of the work. Three of my informants are involved in the medical writing business as freelance medical writers. Freelance medical writing is an entrepreneurial off-shoot of medical writing, where established medical writers take on different contracts by themselves from multiple clients. Those who manage to become established freelancer are usually very experienced writers with a well-connected network. All these three individuals have 20+ years in the industry and they are leaders of the largest association of medical writers in the United States.

The medical writer becomes highly knowledgeable in one or more therapeutic areas and remains always up to date with the latest improvements. This is taking a lot of time to achieve which not even physicians can afford. This results in the medical writer becoming more knowledgeable in certain areas than her doctor. Another way the medical writer is specialized is the type of writing she does. There are multiple types of medical writing, each demanding different stylistic choices based on the audience. A good medical writer masters, at least one of these specific writing styles. Although freelance medical writers usually know more than one medical writing genres. This specialization of the writing style is so important that it outranks the need for an advanced degree in the sciences. As one informant put it, "The thing is, you don't need an advanced degree for most of medical writing."

Industry Self-Regulations

We built off a separate group called the Medical Writing Certification Council to look into developing a certification program for medical writers. We spent a decade researching and working on this. The start of it was determining what characteristics a medical writer needs to have in order to be successful.

-Jeremy, Medical Writer

In the past decade multiple organizations sprung up to represent different arenas of industry professionals and promote so-called 'Best Practices.' Such organizations are the International Society for Publication Planners (ISMPP) and the American Medical Writers Association (AMWA). Each of these organizations emerged as a response to numerous court battles in the mid-2000's due to unethical behavior. These legal struggles left deep scars in the

reputation of the industry which these organizations try to amend with a set of guidelines ensuring ethical practices. For the publication planning world this is testified in the *Good Publication Practice for Communicating Company-Sponsored Medical Research: GPP3*. The authors sponsored by pharmaceutical companies created a de facto can/cannot manual regarding the publication process and the entailed roles and responsibilities. The GPP3 is held to be the primary reference document for anyone in the industry. One presenter at the workshop I attended referred to it as “the Bible of industry publication, it should always be on your desk.” GPP is so highly regarded, that industry professionals are reluctant to work with anyone who never heard to phrase “good publication practices.” It is understandable why the industry advocates these new guidelines as professional dogmas. As one workshop presenter put it “There were lots of bad practices in the past. Journal editors were suspicious, doctors are still suspicious. We are the ones to maintain integrity in medical publishing.”

By highly regulating the activities of pharmaceutical publication planning and medical writing, what seems to be a step towards transparency and accountability, is also serving as a legal shield to deflect against greater, social responsibilities. For example, the medical writer has to follow a set of ethical criteria when developing a manuscript. Part of this criteria is the commitment to a fair and balance presentation of data, however the data shared with the medical writer already contains the necessary scientific data to achieve a marketable interpretation in an ethical way. The medical writer's task is only to find these precious eggs and cook them together. By specializing on the task, the medical writer is not responsible for anything outside of her activity. As an informant highlighted this is most visible when writers receive data from their clients. "A medical writer can only work with the information that they are given. If a researcher for example forged data, you’ve got no culpability.” By the means of specialization, the medical

writer is legally circumscribed and restricted to a definite set of tasks, beyond which she has no control. The medical writer embraces this protection of the regulations and says, "I just really want to keep my fingers on the keyboard and I want everybody on my team to keep their fingers on the keyboard." What is an important step in creating medical knowledge, a step not devoid of corporate interests, becomes just keeping fingers on the keyboard and doing business as usual.

II. SELF-RATIONALIZATION

Organizational Embodiment

The workers of the medical knowledge bureaucracy all embody the values and interests of the organization to some extent. They must do so if they are to be deemed trustworthy and want to keep their employment status. The individual must go through a series of internal, rational processes where she realigns her personal values and interests with the organization's values and interests. This is a process of acculturation which has be achieved to certain level to gain access to the organization. After the individual gained her place at the corporation and learned to embody the pre-set cultural criteria, she duly avoids any further internal moral investigation to avoid conflict of interest. This becomes a process of normalization and suppression. The sensitivity of the pharmaceutical industry to its utmost efforts to keep integrity cannot be understated. It stems from the nature of their commercial activity as merchants of health. When someone tries to enter an environment which organizes around such an ethically delicate topic as the business conducted through the health of people, the resistance and filtering mechanisms of gatekeepers is considerably higher.

Among other things, managers police their employees in indirect ways to ensure their organizational embodiment. As a manager informant puts it “trust is the most important element in this industry.” Trust is the assurance that business can go on, trust enables to industry to keep moving. Just as a person without a passport cannot travel to any country, trust is the passport into the deeper domains of industry workings and without trust one cannot get anywhere. Industry trust is also a sign of those who embrace the corporate philosophy fully enough to be loyal not hurting organizational interests. A manager informant calls colleagues with trust “like-minded people,” people who are willing to work and just “do a good job,” meaning they are willing to work in the spirit of representing the corporation’s best interests. Those who are not like minded, according to the manager informant, “get weeded out early on,” which is signaling that there are internal structures set in place which eliminate those individuals who fail to embody the corporation.

Nothing is more telling of the 'Cheerful Robot' experience today than job interviews at the pharmaceutical industry. Applicants are told be happy and positive when going on interviews, but are also told to be themselves, be authentic. It becomes clear that authenticity is welcomed as long as it remains positive in attitude, and the negative aspects of an authentic human being are rather not shown. What employers ask is something way more private than realized at first. If the applicant is asked to be authentic and positive-only at the same time, than she is practically instructed to change herself on such a deep level that her authentic nature actually becomes positive. It is only the irony of things, that by consciously molding herself into a positive person, the applicant loses her original authenticity she possessed. It is true that personalities do change over-time, and often individuals work on themselves to achieve a more positive outlook on life for personal reasons. While self-work is done in the spirit of mental

health, the positive attitude in the office might feel more like self-regulation. Given that some work environments can be better than others, for most employees the office is a zone of self-restriction and self-regulation. Emotions are not counted for in the production process and 'dramatic people' are individuals wasting production time and setting the company behind. As a manager informant described, “People can have bad days, as long as they return to the office the next day to continue working.” On the other hand, individuals who present a constant emotional set-back are removed from the team early on. In the pharmaceutical industry, just as in any other office, emotionality is only accepted in positive forms which enhance production, and it is prohibited in negative forms which limit production.

Alienation

If you work in the pharmaceutical industry you have to know that everything is constantly changing. You have to roll with the changes. People who like a more stable environment would not like to work here. It’s part of your existence, you do the best you can as long as you can and try not to take it personally. I learned that at the previous two jobs I had, I was really invested in what I was doing, it was pretty much my whole identity. Now, I am just here trying to do the best I can.

- *Becky, Medical Communications*

The words of Mill's at beginning of the findings section couldn't have been more adequate to describe the ghost-writing phenomenon within the pharmaceutical industry. It is

terrifying how correctly it describes the condition. I only have to switch the names of the actors. This is what this passage would look like using the actors of the pharmaceutical industry.

"[Publication planners] seek out prominent [authors], and [authors] with such names crave even more prominence; given go-getting [publication planners] and craving [key opinion leaders], it is inevitable in our specialized age that reliance on the experts should bring about a large expansion of ghost-writing. The chance is probably fifty-fifty that a [journal article] of a prominent [author] is actually written by someone else. Yet perhaps the ghost-writer is among the honest [scientific] men; in him alienation from work reaches the final point of complete lack of public responsibility" (Mills 1951:208)

Why is this passage still so much on point? It seems that the diagnosis of Mills on modern, white-collar work are still relevant today. Ghost writing in the pharmaceutical industry is done by medical writers, employed in-house or working on a freelance basis. Although manuscript writing is among the riskiest contracts a medical writer can get there is no lack of work force with the output of medical writing programs at large universities. Indeed, Mills predicted correctly that the overwhelming reliance on experts who fulfill specialized tasks will inevitably bring about growing number of ghost writers. Today medical writing managed to establish itself as a valid profession towards which new generations of eager students will plan their studies to aim for. Those university programs, usually MS degrees, are directly connected to the pharmaceutical industry on multiple levels, but most importantly through professorial and alumni connections. One medical writer informant said, “We all came to medical communications by accident now with the advent of biomedical programs in the communications people can actually choose it as a profession.” There is much to lament when one thinks of those students who really contain the potential for the

independent scientist, whose greatest distinction lies in her inapt curiosity and commitment not to a company or a product, but to the ideal of the scientific enterprise itself. Under the pressure of the need to create and sustain one's economic existence there is little room left for creative labor beyond the aim to find monetary compensation.

The alienation of the medical writer is a very particular one with multiple social forces pressing on her tight career track. The most important reason for accepting a position in the pharmaceutical industry comes from pure financial interest. Based on the 2015 data of the American Medical Writers Associations a medical writer can earn anywhere in-between 90k$ to 130k$ per year (see Appendix). The amount of income, plus bonuses allows medical writers to attain a very comfortable life style, where owning a house, a car and paying for a child's education are viable possibilities. Reaching this level of sustenance might be elevating and satisfying to some point, however keeping it becomes a much greater evil, and can lead to much greater depths of alienation. An informant explained, “When I got laid off and had no income for three months I felt alright, because I lived in this house for eighteen years and it was mostly paid off. If I had a house twice as big or if I had a mortgage twice as big I would be like freaking out.” In the pharmaceutical industry nothing lasts for long, and employees are likely to experience unemployment throughout their career. Once a medical writer establishes herself on a comfortable, yearly 120k$-level, she also develops areas of her life which become directly dependent on her income. As time goes by she has much more to lose. She might have children to send to school, and the whole family dines out once a week and goes on vacations out of the country. Her many meaningful aspects of her life become more and more dependent on the alienated labor she must conduct. Losing the level of life style and everything which relates to it is possibly the most frightening thing she must face, and she will commit everything to prevent a

financial back-slide. It is that fear of the back-slide that keeps her in the 'rat-race', and it's that which causes her to go even more deeply into alienation and further from her creative self. An informant anxiously described the fear of unemployment, “For me that’s really scary, I still have to get my kids through high school and college and it was hard for me to find this job and I don’t want to do it again. It got some money in the bank, but I am just waiting, it’s inevitable, if we do good we are getting bought, if we do not good we are going bankrupt or something bad is going to happen.”

Fulfillment

Medical writing is kind of like Michelangelo seeing David in the big rock. It’s not that he’s sculpting David, he is just releasing David from that stone who was there all along. It’s kind of the same thing. - Jerry, Medical Writer

After describing the various characteristics of the medical knowledge bureaucracy, especially considering the status of the white-collar workers within that system the question becomes legitimate, whether beside the plague of specialization and alienation does the worker feel like that they have a meaningful work experience? Marx and Engels (1844) argued that with the rise of factorization the working class lost its creative nature so essential for humans as species. With the white-collar world the situation is not so much different. Mills argued that the white-collar middle classes are turning into 'Cheerful Robots' where not only their working time is appropriated but even their personalities as they have to carry on their daily duties with a cheerful optimism (1959, 170). If we accept that human beings need to see themselves in the product of their labor, then we can consider the proposition that even when the laboring process is limited to a narrow space of a creative experience, humans tend to find some degree of

personal meaning in the labor what they have. However, this becomes a game of compromise. Once getting used to alienated labor even the thought of the possibility of greater fulfillment escapes the individual. Through incremental alienation the creative human experience is slowly pushed to the periphery, until at the extreme levels of division of labor it becomes impossible to conceive of the satisfaction creative labor can provide.

While working in the medical knowledge bureaucracy, this study's informants accounted experiences contradictory of alienation. For example, a researcher informant said, "After the whole time doing research with these companies I just felt like a Rockstar. I just did really well and I was in charge of this lab and I had this equipment and they would let me buy whatever and I had my own team of people." Also, look at the medical writer who in the dented quote who paralleled medical writing to Michelangelo releasing David from the marble stone. These personal narratives show that the classic Marxian interpretation of alienation has to be reformulated, since it is possible to find fulfilling experiences in labor even when that happen as part of a large, rationalized organization. These individuals have moments of their career's which they feel extremely proud about. For example, an executive manager said, "If you look at my resume, I am most proud that I saw my company not getting shut down by the feds." For him, overcoming a serious legal challenge meant real personal gratification.

Furthermore, probably the work of the freelance medical writers comes closest to Mill's idea of "craftsmanship" [*sic*], since the medical writer who works based on a contract is relatively the master of her own time and sets the tempo by which her project takes shape. The medical writer is a craftsperson of exact needs, specializing on the professional demands of the contractor. She tirelessly tries to come as close to the industry-ideal as possible. The ideal in the

world of medical writing is a product based on solid scientific facts and an overall composition of these facts which reflect a positive message on the product of the contractor. There are different types of medical writing: sales training writing, regulatory writing and manuscript writing among other things. All these breeds of writing require different qualities from the craftsperson who prepares the desired product on time, and to some extent on her own financial terms. Nevertheless, the medical writer is restrained by the demands of the industry, since no contractor will pay for an undesired final product. These demands placed upon the writer require time to familiarize with and master, however once the general formula is acquired the writer is capable to work infinite possibilities. Flexibility, if there is a single virtue, most describes the perfect medical writer. A medical writer informant expressed this, “As a medical writer because we have to plow through just ridiculous quantities of information in order to find out what it is what we really need to know in order to write and communicate what we need to communicate.”

CONCLUSION

The medical knowledge bureaucracy of the pharmaceutical industry is a perfect example to demonstrate how contemporary Cheerful Robots profoundly influence our lives, in this case our understanding of health. What we take at face value, such as the trust in the pharmaceutical industry, can reveal unpleasant surprises. The individuals who work to create and disseminate medical knowledge for the pharmaceutical industry are mostly unaware to what ends the product of their labor is used for. No matter how many years they spent at school, the rational organization of the pharmaceutical industry expropriates the reasoning abilities of the individual, making it hard to scrutinize the larger structure. But why would they want to do that? These professionals are handsomely compensated creating a comfortable livelihood for them and their families. In the stressful miliuex of the individual's life it becomes easier to adapt to the norms dictated by the industry than to swim against the current pursuing a socially responsible moral compass.

The Cheerful Robots of our time are not much different than the contemporaries of Mills. Why wasn't there a change for the benefit of independent reason and humanistic moral values? While the question can be approached from multiple angles the economic system of the United States is a good bet. Free market economy reigning over the pharmaceutical and health care industry propagates the tight hold of corporate interests over therapeutic products and the production of medical knowledge to support it. It seems impossible to detach financial interest from the equation due to wealthy shareholders, however that is the only solution for a humanistic health care approach.

This study set out to examine how much responsibility do the workers of the medical knowledge bureaucracy possess over the consequences of the organization they are part of. Through the in-depth interviews with industry insiders it was revealed that there not only isn't much thought given to acknowledging consequences, but there is almost no awareness of them. The workers interviewed all expressed the tenets of self-rationalization and the lack of a comprehensive, social responsibility. Utilizing the concept of C. Wright Mills, the interviewed individuals fit the idea of the Cheerful Robot.

However, the most chilling revelation was that these workers were surprisingly ordinary people, who present themselves in a professional manner at the industry workshop and in a warm, friendly manner when in conversation. These are the individuals that you could run across at your local Starbucks sipping a strong Americano. Only after reading the transcripts multiple times, I started to see emerging patterns of self-rationalization, willed ignorance and a general ghostliness. The more I read what these individuals said the more these patterns emerged, nonetheless my perception of them in person and on the phone was so unquestionably positive. They convinced me that they are highly educated professionals, who work restless to satisfy the health needs of millions across the globe. No wonder, it's hard to point fingers of what is exactly wrong in the pharmaceutical industry, since the people who operate it raise no suspicion. They are our friends, neighbors, ex-class mates or even our family. The Cheerful Robots don't appear as robots, on the contrary, they appear as diligent, orderly citizens who are passionate about their career and believe in the public benefit of their work. The Cheerful Robots in the 21st century are so ordinary that no one seems to notice them, while all we have to do is to look in the mirror.

EPILOUGE

In 1959 C. Wright Mills published *The Sociological Imagination*, an intellectual manifesto setting the target for the future of the social sciences. According to Mills, this target was to be found between the intersection of human history and the individual biography, and between public issues and personal problems (1959:5). Mills believed that the ambiguousness of Grand Theories and the restrictedness of Abstracted Empiricism will mislead social scientists who, by specializing on one will necessarily miss the other. For him, it is at the intersection where social phenomena are produced in all its patterned constructions and unpredictable constellations. For Mills, specialization meant an intellectual regression and conformity, where the act of questioning and investigation turn into a habit of answering and superficial exhibition. Surely, focusing solely on Grand Theories or Abstracted Empiricism will yield useful information, but only on a removed, passive intellectual plain where the spark of inspiration escapes the idea. Rather than trying to answer every single detail, Mills was striving to capture an essence in contemporary social life and tirelessly grappled with its central polemics. While he aimed big, he always based his ideas on solid, provable foundations, but never got stuck in the security of statistics. For Mills, it was only at the intersection of the two worlds where meaningful analysis can be conducted.

In many ways, Mills was a non-conformist in his day, and arguably would be still considered one today. Most of his works fell out of academic fashion, due to his restless desire to swim against the current, however many undergraduate courses keep him in the curriculum. Why is it that pre-graduate education cherishes Mills, while graduate courses rarely entertain him? Some people sense, Mills contains an inspirational potential in his insightful analysis of the larger trends in society which he captures through a prosaic, yet accessible writing style.

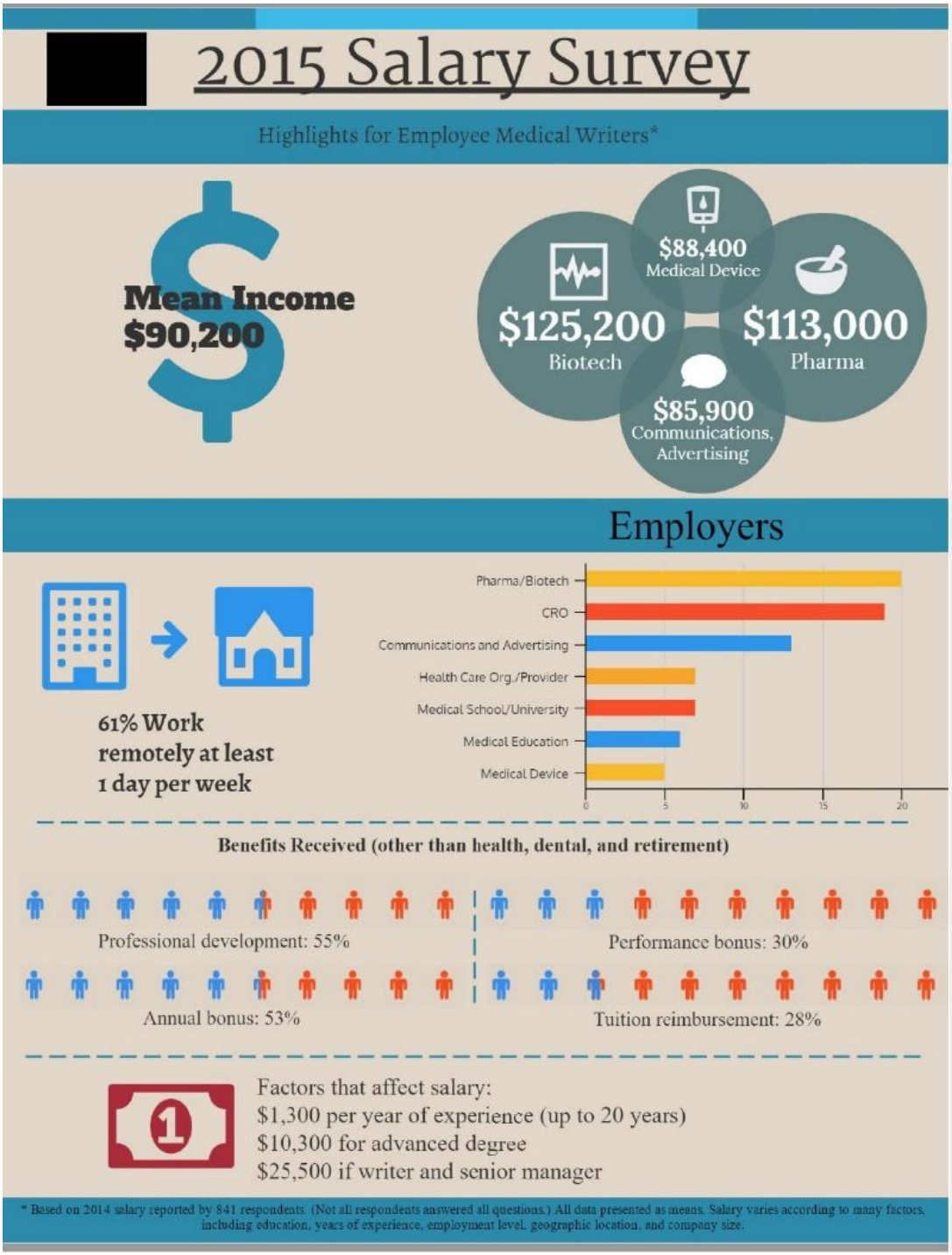
Educators of the youth intuitively identify a value in Mills which must be protected and handed down to newer generations. As if Mills was a seed, which the educator tries to plant in the student, hoping that one day it will take roots and grow. Many of the students will not heed the call in the noise of vocational strife, and others will try and fail on the journey, eventually forgetting about Mills. The educator's hope is that maybe some will come to blooming and continue this tradition of fundamental societal-individualism, at its core a humanist philosophy. The high-spirited Millis believed in individuality in the purest sense. This man built his own house. For him individuality meant a state of being where the locus of control is centered within, cradled by a compassionate conscience and a razor-sharp mind. This rootedness in the self, meant taking personal responsibility and agency over one's life and environment, even when one is aware of being subject to powerful social forces.

This societal-individualism is what is being lost in the bureaucracy, and that is why Mills rebelled against it so heavily. It not only erodes the individual's capabilities for reason but eliminates the very desire for it. In the bureaucratic organization, where specialization suffices, the idea of the collective is overcome by an overwhelming apathy. It is felt, there is little to change for a small person. Bureaucracies extract the spirit of individualism and replace it with an ersatz consumerist sentiment of personality. The Millsian radical individualism distinguishes itself with an overt sense of personal responsibility, but also by immense creative joy. The Millsian shows great effort in the work of craftsmanship not from a place of mere occupational duty, but from personal conviction and social calling. My analysis of the workers of the medical knowledge bureaucracy shows that the critique of Mills is still very relevant today, as bureaucracies keep dominating the white-collar life in new, less identifiable forms. What is worse, is that our very idea of self is built and restricted within the walls of these parcels of a

larger bureaucratic system. The problem is as old as modernity, industrialization and urbanization. Still most of main-stream academia prefers Abstracted Empiricism and keeps losing sight of the greater movements of history and the individual who constitutes it.

APPENDIX

Source: Study Informant




2015 Salary Survey
Highlights for Freelance Medical Writers and Editors*
Hourly Rates
Writers - $112
Editors - $73
Gross Income
Writers & Editors
$131,400
44 hours worked per week
6
Years of experience before freelancing
Primary Billing Method
5.0 %
9.0 %
26.0 %
60.0 %
By hour or day
By project
By word or page
Other (primary mix of hourly and per project)
Top 3 Recurring Expenses
87% Professional membership dues and subscriptions
79% Office utilities, equipment, supplies
63% Tax accountant
Business Structure
53% Sole Proprietor
29% LLC
15% S Corp
Top Gross Incomes
Regulatory documents - $168,600
Continuing education materials- $120,000
Scientific publications - $116,300
* Based on 2014 income reported by 451 respondents. (Not all respondents answered all questions.) All data presented as means. Income varies according to many factors, including, education, years of experience, and geographic location.

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