Barbara Czarniawska undertakes the study of what she calls news production in news agencies. When considering the consequences of the news industry for advanced societies, including their economic, political and cultural realms, the importance of this research topic is unquestionable. Yet, just as broad implications concerning how news agencies influence and shape the public sphere are not the focal point of investigation, the book inspires to have a closer look at the inner life of news institutions themselves. By describing the processes of creating, fashioning and steering the news flow, Cyberfactories makes readers realize that it is worth considering journalism’s institutional and technological back-stage of which we are hardly ever spectators.

The book is accurately and purposefully located within the framework of media studies. Yet, it is not an emblematic example of these. It studies media not media broadcasts only. There are numerous interesting details about the way journalism operates within the matrix: from journalist techniques and story formats to aspects of company organization and handling the workflow. The strength of Cyberfactories resides also in the exploration of highly complex institutions of collective work. This is where the “cybernization” and “cyborgization” became self-evident up to the point where insiders have to stumble on them to realize these processes are of actual relevance.

The core of the research is built upon a set of substantial questions: What do news agencies actually do? How do they produce their news? What is overflow? How is it managed? There are six chapters devoted to the aforementioned topics. The first one presents a general outlook on the study and sketches of the methodological framework of the whole work. It also enumerates some of the basic theoretical concepts that stimulated the fieldwork.

The second chapter is comprised of an account of origins and development of news agencies Czarniawska was specifically focused on and where she was ethnographically involved: Swedish TT, Italian ANSA and Reuters. The first part of this chapter is devoted to Reuters – a brief historical reconstruction of main facts in gradual alteration of the company’s structure and commercial strategy. The description is heavily based on secondary literature, rather limited in number but evoking interesting and widely unknown steps that led to the current supremacy of Reuters in the news industry.

The fifth chapter undertakes a detailed depiction of Reuters as a matrix in both literal and metaphorical meaning of the term. Czarniawska tries to bring about the reconstruction of the blurry and razor-
thin boundary separating Reuters (called after Bruno Latour “macro actor”) from the outer world. Czarniawska considers Reuters’ *matrix* as an un-graspable ensemble of nodes in the net, where nodes themselves are linked to one another by means of information and communication technology, software tools and standard organization procedures. The common ground for the whole system is the speed of news production and market competition.

The last chapter is to put together and, up to a certain point, to integrate important analytical threads derived from previous parts of the book. Special attention is brought to phenomena like: circularity of news production, which includes situations when sources influence news producers, news producers imitate each other or cause events to make them news, and readers/listeners create their own news; the relation between speed requirement and standardization of product *matrix* metaphor. Czarniawska also signals and intensively develops key concepts of the book, the notions of *cyberization* – computerized control of news production and *cyborgization* – technologically driven modification of the producers.

When looking at the whole study from a more general perspective, there are two main aspects of the book Czarniawska accounts for: 1) conduct and scope of field research and 2) data classification and theoretical generalizations.

The range of research methods involved in the study convincingly reflects the complexity of the subject matter. Czarniawska’s study is based on document and text analysis, participant observations (including shadowing) or individual interviews. In order to fully benefit from extremely rich material collected during the fieldwork, the book offers extracts from transcripts of conversations, excerpts from teleconferences, detailed descriptions of news agencies’ business environment. There are also some photos from the “inside” available, for instance, Reuters’ newsroom, or ANSA offices.

An impressive fertility of the fieldwork, which is undoubtedly an advantage of the study, turned out to be overwhelming for some parts of the book, though. Especially the 4th and 5th chapters are marked with a lower lucidity due to half-page long quotations and examples, notes from the field and extensive illustrations. Even considering the specificity of the writing, a reader might have some difficulties to find a balance between the author’s task to provide a convincing account for the investigation and the readability of the given portion of the text. To some extent, this narrative style and form of argumentation continues nearly up to the very end of *Cyberfactories*.

Bits of conversations derived from interviews and team meetings seem to be called forth in accordance with a requirement of treating individuals “out there” as informants – those who know best what happens around them and are competent to name the world they perpetuate. It seems plausible to believe that this presupposes a particular notion of common sense. The latter part of the 4th chapter presents the author’s point of view on this topic. Informants, to use this rather worn out terminology, have not been taken in fact as contributing to an ongoing process of defining and redefining their shared reality. In this regard, the very way of asking questions and the manner of handling answers becomes crucial for the outcome of a whole study. In the case of *Cyberfactories*, the actual use of informants’ utterances and the way of discussing their claims indicate the assumption that those small and large forms of discursive formulation should be treated as a source of acquaintance rather than actual object of cognition. On the one hand, to fade this distinction is to risk to reproduce in final theoretical generalizations insiders’ methods of naming and framing the world. On the other hand, it opens the possibility of proving the validity of research conclusions by putting them under evaluation by “insiders.” Race/competition category and *matrix* metaphor could possibly show how this distinction is far from being assured in the context of conferred interviews.

As far as theoretical inspirations of the study are concerned, both “vertical” and “horizontal” alignment of them are very interesting. A wide range of philosophical, sociological and anthropological traditions brought together allows the observation of the phenomenon of overflow management from a variety of different angles. It is understandable when trying to anchor one’s own research in many harmonizing studies of other scholars as possible, including works on detail-oriented ethnography. Yet, much of these considerations are linked to more abstract ideas which are extremely difficult to compare. To give an example, Luhmann’s vocabulary, highly technical and inevitably endowed with specific methodological and ontological prerequisites, is presumed as somehow complementary to the social studies of science (including Latour, Knorr-Cetina and the like). Other broad-spectrum sociological-philosophical references are the notion of presentation of the world, disputes over the relation of mind to facts of outer world or Gabriel Tardes’ law of imitation.

Nonetheless, *Cyberfactories* is much more than that. The general approach adopted and presented in the book is to put forth an unexpected thesis and then to advocate it by providing illustrative examples. The most obvious one would be the dissolution of the seemingly harsh line separating work of humans and work of automates. This idea has already stimulated the growth of the rich bibliographical record, including massive debates around works of the most renown figures in this research area (including Bruno Latour, Michel Callon or Edwin Hutchins). Although Czarniawska does not comment much on the controversies that have aroused among sociologists of science, cognitive scientists, anthropologists and philosophers, it is beyond doubt that *Cyberfactories* is full of illuminating general observations throwing another spotlight on the problem.

The book also endorses many middle-range notions that were previously coined by other scholars. To take just a few examples of theoretical pillars of *Cyberfactories*: standardization via product – multilateral imitations of ways of producing news outcomes; tacit knowledge as non-discursive and to a great extent unconscious means of performing day-to-day tasks; shared cognition, as derived from works of Edwin Hutchins; gatekeeping – filtering function of software that the work of Desk and News Editors got significantly interfered with and relocated by. All of them serve to highlight the importance of the way overflow is being managed, cybernized and cyborgized in three news agencies under study. Throughout the book, such an eclectic approach, including referring general concepts to empirical data, proves its benefits as an exploratory attempt to grasp various aspects of the issue.

The analytical conclusions derived from this exhaustive study ought to be seen in the light of Czarniawska’s multiple previous works on the topic. It is worth mentioning that *Cyberfactories* continues the line of organization studies widely known from other Czarniawska’s books and articles.
In the multitude of fascinating systematizations about the inner world of contemporary news production systems, one appears to be of prime status – “factories employ cyborgs.” The aim of the last chapter of the book is to integrate the detailed analysis of overflow management constituting a vast part of the study with cyber-related issues and matrix analogy. Those topics of research are signaled in the title of the book but a detailed analysis of both is left for the end. Czarniawska draws on the parallel, not on metaphor, between humans and cyborgs. She proposes convincing arguments in favor of considering news agencies as employing cyborgs, that is, beings of mixed nature. In this view humans and technology are not just interdependent – they become fused into one. Heavy use of technological devices, especially mobile phones and computers, is not just a way to facilitate everyday tasks and duties. Under the pressure of market competition, budget restrictions and speed requirements, the use of technology is not a matter of choice – it is obviously indispensable. An ungraspable amount of information and multidirectional relations that come into play in the matrix transform sheer journalism into a news industry where cyberfactories are of pivotal importance. An enormous part of the collaborative work would be impossible if it wasn’t maintained by hi-tech systems. It is especially clear in the case of the software (cybernization) used for selecting, filtering and dispatching information, texts and tasks amongst other actants (to use this Latourian term).

Czarniawska also seems to argue that cyborgs are not that important in their individuality. Since the brain of cyborgs is collective and it operates via Internet network, the heart of the system is its server, memory is located in electronic archives, et cetera. Czarniawska asks a striking question whether it is right to say that the system has become complemented by humans and not the other way around. Although, having as basic assumption, to release humans from tedious jobs and to liberate their creative potential, the mechanization has led to the increasing automation of work and produced unexpected, heterogeneous and sometimes conflicting consequences. Czarniawska observes that delegation of a growing number of duties to machines and to software forces people to work more and faster. Just as overflow and technology, humans also have to be managed in order to be able to adjust themselves to news producing systems: new joiners follow a formal training in journalism, they gradually get “flexible” and “easy-going.” Software they work with is designed to be simple enough to let people forget the real human-technology interference.

Cyberfactories is surely not only for those curious about the alterations of journalism. Conclusions Czarniawska draws from her studies and from other works she explores can be inspiring for readers of a variety of interests even for the broad public. Ultimately, more and more people are involved in the immense flow of information not only as spectators but also as participants and producers. Circularity of news goes hand in hand with cyber-processes forming a characteristic syndrome of advanced societies. It is more than clear Cyberfactories proves this issue to be of critical significance.