

Louvel Severine (2021) *The Policies and Politics of Interdisciplinary Research. Nanomedicine in France and in the United States*. London and New York: Routledge. 180 pages. ISBN: 978-0-36719-243-3

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Countless books on interdisciplinarity have been published over the last 50 years. *The Policies and Politics of Interdisciplinary Research* by Severine Louvel, however, is of a different kind. Here, the author departs from both the celebratory literature on interdisciplinarity and the abundant 'how to' instructional reports on recommendations for successful interdisciplinary research centres and training programs. Instead, Louvel offers a critical perspective that will undoubtedly be of interest to STS scholars. She makes an original contribution to the literature on interdisciplinarity by examining the emergence and institutionalisation of nanomedicine in France and the United States.

Louvel's book comprises seven chapters, each of which examines key settings where interdisciplinary policies and knowledge politics intertwine. These settings (chapters) include funding programs and their impact on interdisciplinary groups; peer-reviewed journals; university research hubs; discourses around interdisciplinary research; the relationship between established disciplines and the nascent nanomedicine field. The book as a whole serves as a thematic exploration of the institutionalisation of nanomedicine rather than a sequential development of an idea; therefore, individual chapters can be read as part of the collection or independently.

The richness of Louvel's book precludes from trying to thoroughly address every aspect in this review. I will thus focus on the chapters making key contributions to the understanding of interdisciplinarity; specifically the ones that I found the

most fascinating from my own standpoint (i.e. as a sociologist of knowledge interested in the relationship between disciplines and interdisciplines and in the rhetoric around interdisciplinarity).

Louvel's analytical ground is at the crossroads of science studies and the political sociology of science. She focuses her attention on the politics behind interdisciplinary policies. She frames interdisciplinarity as a mode of knowledge production socially constructed by organizations, actors, interest groups, etc., each with their unique vision, goal, and level of power. Louvel argues that current policies are creating a new sociopolitical order in academia, resulting in a redistribution of power between stakeholders. As she puts it, her goal is "to contribute to the critical studies of interdisciplinarity by investigating the economic, political and sociocultural purposes underlying interdisciplinary policies" (p. 16). Building on Frickel and Moore's (2006) influential book, *The new political sociology of science*, the premise underpinning her work is that the understanding of science—and thus interdisciplinarity—needs to take into account the interplay between internal and external forces to the scientific field. Dissociating the scientific field from its social environment can only yield a partial understanding.

Louvel's book builds on a vast body of work on disciplines and interdisciplinarity. In the Introduction and Chapter 1, she brilliantly summarizes ongoing debates. The scope and depth of Louvel's synthesis is worth mentioning. Her analysis is comprehensive such that even well-versed



scholars in interdisciplinary studies will undoubtedly benefit from the new light she casts on extant work. Novices will gain a reliable and thoughtful introduction to the most pertinent STS and sociological literature on interdisciplinarity published in recent years.

In Chapter 2, Louvel perceptively demonstrates that the institutionalisation of nanomedicine as an interdisciplinary field does not necessarily imply the elimination of boundary work or divisions between research groups. Scientists from different disciplines navigating their career within nanomedicine each pursue various interests and career goals. As she emphasises, if researchers in nanomedicine wish to “foster shared commitments toward interdisciplinarity and promote it as a whole” (p. 29), they also seek to differentiate themselves from other sub-groups and maintain social and symbolic boundaries around their specific sub-research area. Behind the ‘unified front’ of nanomedicine, Louvel argues that an internal reality exists where each subdiscipline is actively positioning itself in a struggle for authority and resources. This boundary-work gets operationalised through discursive strategies: researchers engage in definitional struggles within nanomedicine to promote their own ways of seeing and conducting research while devaluing alternative ways. Louvel’s findings are novel as they challenge the widespread belief in academic circles that interdisciplinarity creates research spaces free of divisions. Building on a large set of empirical data including interviews, document analysis, and bibliometric measures, Louvel persuasively casts doubt on this perspective.

The conclusion reached by Louvel highlights a central, but underexamined, question in interdisciplinary studies: Does interdisciplinarity remove boundaries, relocate them, and/or create new ones? Louvel expands on previous work addressing this question, for example, Albert et al. (2017), Jacobs (2014), Moore (2011), Panofsky (2011). Louvel’s close examination of the inner dynamics of nanomedicine serves to demonstrate that even a field that appears to be united from the outside can remain fragmented in the inside. Nanomedicine is a convenient umbrella term—as it provides public visibility and attracts funding—but, as a research field, it appears to be the locus

of internal struggles for authority and recognition between research groups—thus relocating existing boundaries and creating new ones.

A second key argument developed by Louvel is that an interdisciplinary research field can flourish with the support of disciplines. Contrary to the commonly held position according to which disciplines and interdisciplinary research are antithetical—the latter being often seen as a mode of knowledge production freed from the former—Louvel shows that this is not necessarily the case. She cogently articulates this idea in Chapter 6.

The institutionalisation of nanomedicine research followed two different paths in France and United States, but in both countries established disciplines and departments were vital to its development. They provided organisational stability, student enrolment, faculty positions, and research spaces. In the United States, nanomedicine was housed within graduate research programs in the newly created departments of biomedical engineering. In France, in the absence of powerful biomedical engineering departments, nanomedicine found its institutional home in departments of physical sciences and pharmaceutical sciences.

As Louvel rightly contends, disciplines and departments are often portrayed as being rigid and exclusionary (see for example Crow and Dabars, 2014). These traits arguably preclude them from being able to accommodate the organisational flexibility required by interdisciplinary research. Louvel’s findings, however, suggest that this view needs to be reconsidered. Both in France and United States, the connection between established disciplines and the emerging field of nanomedicine were synergistic and profitable to both. In France, by creating a new academic space for scientific discovery, nanomedicine provided established disciplinary departments a renewed identity that proved instrumental for acquiring national visibility at the university level. Nanomedicine researchers, in return, gained access to a steady flow of graduate students. In the United States, a similar synergistic relationship occurred; nanomedicine mobilized the national reputation of biomedical engineering departments into a higher profile for itself. In turn, its association with these departments helped them to stand out from their competitors within the scientific community.

Louvel's book should be read as a thorough examination of the institutionalisation of nanomedicine in France and the United States and, more broadly, as an essay on the complicated relationships between disciplines and interdisciplinary research fields. At the end of the book,

readers will know more about nanomedicine and its development within the academic field. They will likely also appreciate how Louvel shakes up many of the taken-for-granted assumptions and unproven facts about disciplines and interdisciplinarity.

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