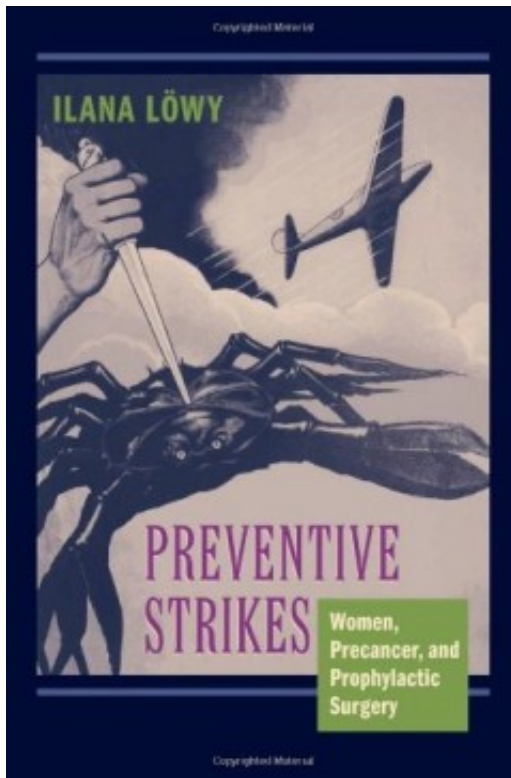


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## Ilana Löwy's Preventive Strikes

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By Eric Boyle



[Preventive Strikes](#)

[Women, Precancer, and prophylactic Surgery](#)

by [Ilana Löwy](#)

Johns Hopkins University Press, 2010, 344 pages

In April 2014, an article in the *Journal of the American Medical Association* identified a disturbing correlation between cancer screening and “overtreatment.” Mammography, it turns out, may result in some women enduring grueling therapies that they do not even need. In fact, some studies estimate that nearly one in five women whose breast cancers are found by mammography end up being overtreated as a result of “overdiagnosis,” meaning that some of the tiny cancers it finds would probably never progress or threaten a patient’s life.

For readers of Ilana Löwy’s book, *Preventive Strikes: Women, Precancer, and Prophylactic Surgery*, these findings come as no surprise. Löwy’s compelling narrative is driven by what the author sees as a bewildering

and perplexing relationship between the sophistication of diagnostic technologies (grounded in the latest developments of molecular biology) and the crudeness of modern cancer treatments. As the author also deftly reveals, the diagnosis of cancer itself has long been a complex, uncertain, and ritualized practice, shaped not only by shifts in scientific knowledge and technological advances, but also professional priorities that are historically and geographically contingent. L?wy shows how professional and lay understanding of cancer was and continues to be shaped by the aspiration of identifying and eliminating precancerous lesions, like those identified by mammography. But the author also argues that present-day preventive recommendations risk oversimplifying complex phenomena.

*Preventive Strikes* provides an invaluable contribution to ongoing discussions about preventive screening tests by offering provocative arguments about their origins and surprising history. Diagnostic tests have historically capitalized on the anxiety of healthy people, but tests have also produced a new kind of subjectivity in understanding and defining disease, as people have been “defined as being at higher than average risk of disease, either because they possess dangerous body parts (embodied risk) or because they have statistically abnormal readings of a laboratory test (‘fear by numbers) (6). L?wy illustrates how a persistent shift from the diagnosis of disease to the diagnosis of risk, meanwhile, has historically had a wide range of social and economic consequences, from reinforcing or justifying prevailing gender norms to producing new classes of consumers, medical technologies, and professional services, and thus new markets for merchandise and services.

In Chapters One and Two, L?wy explains how pathologists obtained control over cancer diagnosis roughly between 1910 and 1930, as changes in scientific knowledge and technology provided a clearer understanding of the physiological processes involved with the disease. While at the beginning of the nineteenth century, most experts believed that cancer was a local manifestation of a constitutional disorder, with hereditary predisposition being a factor in some cases, by the end of the 1800s cytology (the study of cells) had effectively challenged this systemic view of cancer. Pathologists, such as Rudolf Virchow and Julius Cohenheim, defined cancer, at the cellular level, as specific changes in tissues. Influenced by their observations of occupational cancers, they identified persistent irritation of tissues (physical, chemical, etc.) as the cause and believed that cancer always started as a localized event. Ultimately, this conviction had practical consequences. It meant that fully developed malignancies were preceded by an earlier, intermediary stage, which in turn could be reliably identified by microscopic examination. L?wy uses case studies from the New York Hospital and the Curie

Foundation in Paris to illustrate how the development of the new frozen-section biopsy technique effectively made the diagnosis of breast cancers the domain of a new breed of surgical pathologists by the 1930s, even as some surgeons continued to argue that breast cancers could only be diagnosed definitively following surgical procedures.

As pathologists acquired a greater familiarity with breast lesions they made efforts to develop and improve a system of classification, even as their efforts were hampered by morphological and clinical variability. Meanwhile, statistical and epidemiological data from the likes of Jane Lane-Claypool bolstered the idea that rapid detection and early intervention were the keys to successfully treating cancers. In the interwar period, this led to the creation of cancer registries, and the involvement of insurance companies, with the goal of improving diagnosis, preventive approaches, and therapeutic interventions. Nevertheless, divergent definitions of premalignant conditions, disparate views about desirable thresholds for intervention, and opposing opinions about the best way to limit the danger of malignancies continued.

Chapter Three examines how radical surgeries for breast cancer diagnoses nevertheless remained the gold standard of treatment throughout the interwar period, despite disagreements among pathologists and surgeons about the proper treatment of conditions that were considered “precancerous” like chronic cystic mastitis, which had been known to surgeons since the nineteenth century, and had been identified in benign and malignant forms. L?wy compares the treatment of these types of “proliferative lesions of the breast” in different hospitals to illustrate how the interplay of material constraints, technical variables, theoretical presuppositions, differences in surgical/medical cultures, and the perception of the female breast as a “useless organ” may account for the high number of mastectomies for benign tumors in the 1920s and 1930s (68).

In Chapter Four, L?wy argues that the success of the “principle of prophylactic elimination of precancerous lesions” in the second half of the twentieth century is no more clearly illustrated than it is with the “unproblematic acceptance of painful and sometimes mutilating treatments” for *asymptomatic* women diagnosed with “carcinoma in situ” of the breast and cervix (83). The term *carcinoma in situ* described a cluster of cells that, when examined under the microscope, looked exactly like cancer cells but did not invade surrounding tissues. Given that by the 1930s a cancer was considered, by definition, an invasive legion, the term *carcinoma in situ* appeared to be an oxymoron. Nevertheless, the term was coined in the 1930s to stress the close relationship between invasive and noninvasive lesions, as experts believed at first that in situ cancers were presumably rare. Unexpectedly, the development of new diagnostic

approaches—the Pap smear test for the detection of cervical cancer in the 1930s and 1940s and then mammographic screening for the detection of breast malignancies in the 1960s and 1970s—greatly increased the frequency of the observation of cancerlike noninvasive lesions. At the same time, L?wy argues “the desire to promote an early diagnosis of cancer probably favored the choice of the emotionally charged term ‘carcinoma’ to describe the lesions. The adoption of this term had in turn a practical consequence: a growing identification of noninvasive cancerlike lesions with carcinoma per se” (88). While the Pap smear was aimed at improving the diagnosis of confirmed cancers, it actually unraveled what was already a solid consensus around cervical cancer by encouraging problematic diagnoses of pre-invasive cervical lesions (carcinoma in situ) or less pronounced proliferative changes (dysplasia) following an abnormal test. And despite widespread disagreement about whether or not these lesions always led to a malignancy, in the 1940s and 1950s the majority of gynecologists nevertheless favored radical therapies like hysterectomies for noninvasive cervical lesions. The same pattern of diagnosis and radical treatment followed with mammogram screenings for breast cancer. By the 1950s and 1960s, some experts were advising women with carcinoma in situ in one breast to undergo a bilateral mastectomy, especially those women with a family history of breast cancer.

In Chapters Five and Six, L?wy pauses to examine the origins of screening and how it became so widely embraced. Until the mid-twentieth century, preventive treatment of premalignant lesions had been the domain of the physician, whereas after World War II, the development of mass screening campaigns became intertwined with public health interventions. Here, L?wy examines how and why the Pap smear was promoted as a tool for the early detection of cancer (by contrasting Pap screening in the UK vs. the US), and how the perceived success of screening for cervical cancer directly stimulated efforts to find a way to detect breast cancer. While experts championed early detection and mammography, from the 1970s on, critics identified problems with high rates of false positives, unproven claims of value, and overtreatment. L?wy identifies other consequences of screening here too—in terms of the danger that indiscriminate use of surgical procedures have presented, but also in terms of the psychological costs of “biological determinism.” A provocative discussion of what L?wy calls “cultures of screening” also engages the work of screening critics such as French oncologist Pierre Denoix, as well as sociological critiques of the rise of a “risk society” by the likes of Nicolas Rose and Ann Robertson (162-165).

Chapter Seven and Eight tackle the dual issues of hereditary risk and the controversial subject of prophylactic mastectomy, which L?wy characterizes as a new form of “surgical radicalism” (198). Here, the

author addresses a variety of scientific and cultural factors involved, but also focuses on the experiential consequences of prophylactic and reconstructive surgeries.

A concluding chapter engages a combination of emotional, technical, ethical, and administrative dilemmas created by a persistent diagnostic uncertainty surrounding breast and cervical cancers. L?wy argues that in a war against cancer (like in a real war), preventive strikes are frequently driven by a problematic mixture of fear and a desire to be in control. The author's concern is that a focus on prevention of risk, rather than reacting to an existing threat, may make "suspicion rather than evidence the new threshold for action" (235). L?wy notes that while the diagnostic category of "precancer" provided the basis for preventive strikes, the success of this category was not without a price: a systematic overlooking of uncertainties concerning the relationships between precancerous lesions and the disease of cancer. In concluding that "parts of the impressive edifice of early detection and screening for cancer were constructed on imperfectly stabilized foundations," L?wy offers a cautionary tale.

The breadth of the arguments and complexity of the issues addressed in *Preventive Strikes* will certainly appeal to those with an interest in the history of medicine and medical technologies, health policy, science and technology studies, and biopolitics writ large, but the greatest value in the book may be its ability to speak to general readers and doctors just as meaningfully.

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