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Engineering Womanhood: The Politics of
Rejuvenation in Gertrude Atherton's *Black Oxen*

We cannot . . . perform the comic opera bouffe of transmuting an old hag into a giddy young damsel. . . . But, under certain conditions, we can stretch the span of . . . usefulness, and enable the patient to recapture the raptures, if not the roses of youth.—Eugen Steinach

In her autobiography, Gertrude Atherton pronounces her novel *Black Oxen* (1923) a “miracle [that] gushed out like a geyser that had been ‘capped’ down in the cellars of my mind, battling for release.” According to Atherton, she finished this novel in record time, typing at a speed she “had never commanded before.”¹ The geyser propelling the completion of what would become one of Atherton’s most successful and controversial books was nothing less than a “modern scientific fountain of youth”—the result, she claims, of a course of anti-aging treatment that gave her “renewed mental vitality and neural energy” (4, 556, 562). In Atherton’s case, this therapy consisted of eight sessions of X-rays directed at the ovaries. Known as rejuvenation (or reactivation, the term Atherton preferred), the treatment was promoted in the 1920s by scientists, physicians—and Atherton—as a means for restoring sexual and mental potency.

Rejuvenation therapy was big news in the 1920s when Viennese physiologist and biologist Eugen Steinach published the results of his early vasoligature operations. First performed on rats in 1910 and later on humans in 1918, the procedure tied off the sperm ducts, which purportedly had the effect of reversing the internal and external signs of aging.² Steinach claimed that attacking the aging process “at its

roots”—the sex organs—regenerated both the body and the mind, resulting in increased physical and “psychic alertness” (*SL*, 11). Steinach was not the first scientist to explore rejuvenation. In experiments carried out between the 1860s and 1930s, scientists reported that altering physical appearance also produced marked effects on instinctual and social behavior. For Steinach, the result was a wholly rejuvenated subject, the entire “erotization . . . of the individual” (*SL*, 6).³ According to Steinach and the retinue of scientists marketing rejuvenation as a cure for mental as well as physical senescence, the hormonal interaction of the sex glands with other ductless endocrine glands both regulated physical growth and determined individual personality.⁴ This link between biology and behavior was important in a eugenics-laden culture concerned that social degeneration was due largely to the continued propagation of the biologically unfit. In the rhetoric of eugenics, sex (as in sexuality and sex instincts) determines individual and social behavior. Social purity campaigns aimed at combating prostitution, male promiscuity, and venereal disease also focused on curing insanity, feeble-mindedness, and degenerative criminal behavior by controlling and regulating sexual reproduction. Sterilization and castration were thought to prevent propagation of the unfit and, as a consequence, to change undesirable social behavior. Rejuvenation discourse emerged in the 1920s and 1930s as another solution for social decline, but Steinach’s treatment, rather than focusing on birthrates and breeding, offered a way to *restore* the “fittest” stock to physical and mental health. For a maturing population who had come of age in the Victorian era and were now witnessing the deterioration of its social ideals and laws of decorum, rejuvenation therapy seemed an appealing means of regaining a competitive edge in the youth-obsessed culture of modernist values.⁵

Atherton’s *Black Oxen* represents a collaboration between literature and science that both registered and shaped American attitudes toward science as a means of restoring the individual and the nation to health. The novel, along with Atherton’s promotion of her own treatment, demonstrably influenced cultural attitudes in the United States about scientific intervention in the enhancement and prolongation of human life. By legitimating fiction as fact—the mythic fountain of youth was not only possible but verifiable—Atherton changed the direction of scientific and cultural discourse on rejuvenation, endorsing it not only as a strategy to ward off aging but also as a means

to seize agency, particularly for women who felt socially displaced or feared becoming socially extinct in a cultural environment doubly preoccupied with women's reproductive power and with youth. Atherton's story of Mary Zattiany, the protagonist in *Black Oxen* who undergoes the Steinach treatment in Vienna and then returns youthfully incognito to New York, not only promotes science as the solution to white aristocratic and aristogenic extinction but, more significantly, articulates a narrative about the reconstruction of social boundaries through the scientific engineering of gender. Atherton's brand of science fiction not only responds to post-World War I anxiety about the collapse of social and moral boundaries but also forecasts the concerns about racial and genetic hygiene that were heightened during World War II. In its depiction of the national preoccupation with reconstructing the body politic by strategically reshaping the human body, Atherton's fiction worked in concert with medical and scientific experiments of the era that focused on women's bodies in an attempt to construct a narrative of social transformation and mobility.⁶ Rejuvenation therapy, in *Black Oxen* and in Atherton's declarations of her own successful treatment, reactivates bodily youthfulness and personal agency while at the same time promising a more functional and progressive nation.

Even more than an interaction between literature and culture, Atherton's rejuvenation narrative depicts an evolutionary shift in the literature of science that anticipates our contemporary preoccupation with erasing the markers of aging and also our debates over embryonic cellular regeneration.⁷ Atherton's novel of transfiguration itself marks a transformative moment in the encounter between the cultures of science and literature, because it effected a conversion of the American public to a belief in the promises of scientific rejuvenation. The community of rejuvenation scientists rallied around Atherton's novel precisely because it represented empirical evidence that endeavored to "ward off opposition of any kind" and march rejuvenation science toward victory as a revolutionary discovery.⁸ Biologist Paul Kammerer, for example, seeking to popularize Steinach's findings and make them the "property of the general public," endorses Atherton's novel as "proof of the theory of evolution." As a Darwinian treatise, he writes, it locates human knowledge at the "beginning of a . . . process of conquest, penetration, and transmutation instigated by biology":

What seems farther removed from applied science than the fine arts? Nevertheless, shortly after Darwin's imposing appearance, literature developed a distinctly new form in the so-called Evolution Novel. Exactly analogous to what happened then, our present time has brought forth the Rejuvenation Novel of which Gertrude Atherton's remarkable book, "Black Oxen," is an example within closest reach. (*R*, vii–viii)

For Kammerer, Atherton's novel is more than mere fiction; it brings "theory together with practical achievements" to authenticate rejuvenation as a revolutionary discovery and to bring about a greater understanding and acceptance of science among the "great masses [who] cannot be prevented from eventually learning all the facts" (*R*, xi). Kammerer's rhetoric suggests that the public has been kept unaware of the "facts" of rejuvenation science and, more significantly, that Atherton's story is a milestone, a "new form" of cultural work that not only blurs the boundaries between scientific fact and literary fantasy but also eventuates public knowledge and acceptance. This encounter between science and literature, then, not only intensifies literature's critical role as the representative of culture but, more important, suggests the ways in which novelistic representation functions as a form of scientific discovery. What makes Atherton's novel new, as suggested by the scientific community especially, is its transmission of science through a form compelling to a popular audience; in turn, rejuvenation science used this form as a means of promoting its agenda of social change through biological transmutation, rescuing itself from critique, especially in the United States, as a burlesque science.⁹

Atherton's novel also represents a new form within cultural narratives about gender. With the publication of *Black Oxen*, rejuvenation therapy in the United States turned its focus predominately to white career women or women of the upper class. This is an important shift in the scientific rhetoric and treatment of aging, which up to this point advertised claims and promises of renewal based upon experiments and treatments performed mostly on men. On one hand, this gender shift registers the eugenicist impulse to engineer women's bodies—at least socially desirable white bodies—for increased propagation. On the other hand, it evinces a new scientific inclination toward reactivating outstanding genetic characteristics in women of "good" breeding

or training. In discussing the impact of her novel, Atherton shrewdly remarks that her book “‘started something’” in its emphasis on the promises of rejuvenation science, most notably for women:

Women from all over the English-speaking world wrote to me wanting to know if my book were a fairytale or if it were really true that they might hope to renew their youthful energies. . . . I felt that I had “started something,” and had no right to disappoint these eager, sometimes desperate, women. . . . It was the first time they had seen a ray of light in a future menaced with utter fatigue and the clutching of younger hands at jobs that were wearing them out. (4, 560–61)

What troubled Atherton—and the many women who underwent the Steinach treatment—was modern culture’s “new order”—the “Reign of Youth” that pushed aside women who had “outgrown their primary function,” designating them historical remnants of an “old regime.”¹⁰ Dale Bauer claims that *Black Oxen* promoted Atherton’s belief that “eugenics is the power of the young” and “politics is the power of the mature”;¹¹ accordingly, what rejuvenation therapy could buy for aging women was not a renewal of their reproductive capacities but a purposeful, willed, productive social role. In Kathleen Woodward’s terms, rejuvenation functioned as an “arena of visibility,” a place of “representation and self-representation of older women . . . on the social stage.”¹² As claims about her own rejuvenation suggest, Atherton regarded the “geyser” of artistic production as more compelling than reproductive or sexual power. For Atherton, rejuvenation not only reversed her mental sterility, thus revitalizing her writing, but also effected a transformation of self that made her more socially visible. Moreover, this transformation could increase aging women’s political vitality, she believed, in exchange for the politics of reproduction. This shift from women’s reproductive power to political power is explored in *Black Oxen* through Mary Zattiany, who ultimately renounces romance with a young, virile American man in favor of a position of international political power through marriage to a savvy Hungarian diplomat. What rejuvenation accomplishes in these conspiring autobiographical and fictional narratives is women’s greater mobility and achievement beyond the confines of reproductive politics.

Yet Atherton also reveals anxiety about rejuvenation in *Black Oxen*, mainly, as I will explore presently, through concerns about sexuality “conceived of” in Daniel Joseph Singal’s words, “as a hidden geyser

of animality existing within everyone and capable of erupting with little or no warning at the slightest stimulus" (*MCA*, 4). Although the novel's rejuvenated protagonist redirects sexuality into politics, thus suggesting the promises of this "new" womanhood, the narrative also demonstrates a reactivation of Victorian notions of gender ideology through its almost obsessive attention to the sexual "geyser." Atherton's investment in rejuvenation seems to route the meaning of this new narrative form into familiar configurations of gender, even as she promotes (both personally and fictionally) a feminist agenda that recognizes and attempts to unsettle social inequalities between men and women. This paradox of retrogressive gender ideology and progressive gender politics is oddly resolved in the scientific and literary stories of rejuvenation that captured public attention and swayed public sentiment about science through promises of conversion—a metamorphosis of selfhood that embodied at once the old and the new, aging and youth, restraint and release. Read together, Atherton's story of reactivated womanhood in *Black Oxen* and Steinach's account of scientific experimentation demonstrate both the anxiety and possibility attendant upon the transformation of personhood articulated in the narrative of rejuvenation.

Rejuvenation as Conversion Narrative

Translated with the help of Atherton's doctor, Harry Benjamin, Steinach's *Sex and Life* is part literature of scientific discovery and part autobiography, written to give "the public . . . authentic information about my investigations and doctrines." Beginning with a brief history of his birth and his genealogical ties to other scientists, Steinach traces the evolution of his work from his time as a "young lab assistant" through "all the stations I have passed" until he finally arrives at a scientific "vista . . . of bearable old age in which within natural limits the physiological conditions of life can be made to predominate" (*SL*, 12). Rhetorically, Steinach's autobiographical approach to his story of scientific experimentation is an effective strategy for advocating his rejuvenation therapy as merely another form of "natural science," because it suggests his own organic progression (*SL*, 13). Critics of rejuvenation invariably either dismissed it as a sexual fad or were unsettled by its story of unnatural metamorphoses from old age to youth. Steinach attempts to redress what he sees as "misrepre-

sentations and misunderstanding” about rejuvenation (*SL*, 12) by creating a narrative of natural conversion, one that transforms inferior physiology into superior bodily functioning while at the same time proposing a medical method for transforming undesirable characteristics into socially practical and acceptable behavior.

The attraction of rejuvenation was, for some, its threat. Aging, a reassuringly predictable human condition, appeared now to be fluid, controllable at will. Selling rejuvenation to the public thus presented the “youth doctors” and their advocates (like Atherton) with scientific and moral challenges as they reassured readers of the positive impact of this scientific reorganization of categories such as old age and youth, reality and appearance, and even male and female.¹³ In Steinach’s claim, for example, that in nature “absolute masculinity or absolute femininity represents an imaginary ideal,” he unsettles any “natural” sex boundaries in an era already uncertain about the universe and humans’ place within it. As Singal has argued, modernist culture lacked Victorian culture’s “set of values that offered moral certainty,” not the least of which were “immutable natural laws” reinforcing dichotomies between human and animal, civilized and savage, which “fostered a tendency to view the world in polar terms.” These dichotomies formed distinctions based on class, race, and gender and were “permanently rooted in biology and the general laws of nature” (*MCA*, 4–5). While for many, these absolutes were not to be tampered with, the narrative of rejuvenation at once disintegrates these biological categories while at the same time suggesting that such transformations can help engineer a familiar, safe social morality.

Steinach’s argument for rejuvenation begins with an old and common practice of successful and, by his account, necessary conversion: the domestication of animals. Claiming that the criteria for experiments manipulating biological sex characteristics in order to prove a behavioral link “were established in real life before they were set up in the laboratory,” Steinach cites the castration operation as the “oldest of all biological animal experiments”:

Since remotest antiquity domestic animals have been deprived of their sex glands with the intent of preventing the development of those characteristics typical of the species. The most primitive pastoral peoples knew that . . . castration . . . could change not only the body type of their domestic animals but also their behavior. . . .

[They] transformed the wild bullock into the patient ox, the lean pugnacious cock into the fat stolid capon, the tough hen into the tender poulard, and the fiery stallion into the amenable gelding. (*SL*, 3)

The domestication-through-castration narrative provides an early example of social engineering in which removing the sexual organs transforms behavior—notably, undesirable behavior—to make the animals tamer and more controllable. Perhaps of more significance in Steinach's description, though, is the suggestion that not only can nature be altered but that it should be altered. “[C]haracteristics typical of the species,” in Steinach's view, are undesirable and need to be suppressed to ensure the harmony of the social environment. Attributing potentially degenerative characteristics to nature and then claiming that science can correct these defects helps establish the importance of science in controlling nature's malignancies. According to Priscilla Wald, the ideology of social control developed at the turn of the century as “part of the early sociologists' efforts to develop a science of society that would help them understand and promote . . . cohesion.” Steinach's story of conversion extends this discourse by declaring science capable of altering and controlling nature for the health of the body and the community.¹⁴

Steinach's work on the improvement of “sex character,” his term for both the physical and behavioral traits that denote the “hallmarks of masculinity and femininity” (*SL*, 2), parallels the focus of eugenics discourse on improving the human race by better breeding during its period of greatest influence, between 1905 and 1930.¹⁵ Although Steinach was not as interested in breeding superior characteristics as in regenerating them, his statements about the importance of the sex organs and their dual function resonate with the two approaches to social reform in eugenicist rhetoric. Mark Haller describes these dual concerns as “positive” and “negative” eugenics. The positive arm of eugenics encouraged increased propagation among the aristogenic who carried outstanding qualities in their genes while “negative” eugenics focused on preventing breeding by the cacogenic, or those with defective or undesirable genetic features.¹⁶ Similarly, Steinach claims that the sex organs function reproductively, as the “all-important preservation of the species,” and preventatively, in “fashioning and maintaining the individual” (*SL*, 5). Along with his assurances that domestication by castration creates a better society,

Steinach's experiments support the interests of eugenicists in finding, developing, and maintaining superior sexual and, consequently, social functioning.

Steinach's interest in rejuvenating women began in 1912 with sex-organ transplants and hormonal injections in female rats, guinea pigs, goats, and "barren pre-senile cows." These early experiments, Steinach contends, produced desirable socioeconomic effects. Through ovarian transplantation, fertility was restored, and breeding, particularly of pedigree livestock, was "ensured for years to follow" (*SL*, 186–87). When he began sex-hormone treatments in women, Steinach claimed similar results in women's social functioning through the reactivation of sex characteristics. He recounts, for example, the transformative impact of rejuvenation treatment on a young female student who was prematurely amenorrhoeic, her menstrual dysfunction having resulted in psychological affliction as well. Hormone injections, he claims, cured her physical and psychological abnormality. Before treatment, this adolescent "suffered from depression and caused her parents anxiety with her refractoriness"; she was stubborn, refused to eat, and appeared to suffer from dementia and "incipient schizophrenia." After treatment, however, these symptoms—both the physical and those with social resonance—disappeared: "[S]he again became one of the best students, accustomed herself once more to ordinary food, and lost her irritability and quarrelsomeness" (*SL*, 199). This scientific case study, Steinach's most detailed account of the results of rejuvenation on women, emphasizes positive, socially desirable results of sex hormone reactivation. In remarkable similarity to the story of the barren cow, this narrative of a girl in "danger . . . afflicted [with] a sense of inferiority" (*SL*, 200) traces a process of conversion that results in a potentially reproductive, more amiable, and, therefore, more manageable girl.

Atherton's story of her own conversion is much like the story of rejuvenated womanhood Steinach tells, with physical as well as mental boons that, she claims, enabled the completion of her otherwise "embryonic novel" (*A*, 558). After receiving ovarian X-ray stimulation, Atherton describes her transformation from a torpor in which she was "too stupid to sustain a conversation" to a state of invigoration in which her "brain seemed sparkling with light" (*A*, 558–59). This metamorphosis from "stupid" to "sparkling" revives in Atherton an interest in her stalled novel. As she regains her youthful productivity,

ebullience, and literary fecundity, she becomes the embodiment of Steinach's narrative of successful conversion.¹⁷ Atherton's therapy left her reproductively sterile, but at sixty-four, when she underwent her first treatment, she was past the usual childbearing age. She considered the exchange of her reproductive potential a small price to pay for reactivating a "mind [that] had really gone sterile" (A, 554). Atherton's description of herself as mentally impotent corresponds to scientific and sociological attitudes toward women in their fifties and sixties that deemed them victims of their own biology. In the early twentieth century, treatments for the physical and mental symptoms of menopause grew out of work in endocrinology, especially sex-organ transplants such as Steinach performed, which allowed scientists to isolate and subsequently experiment with the chemical substances—hormones—that these glands produced. By the 1930s, once the sex hormones were identified, they could be administered to ameliorate the effects of estrogen depletion. Yet while science purportedly found a way to control the biological bomb of menopause, a woman of fifty was still socially outcast from a modernity focused on reproductive youth. In the traffic between science and culture in the early twentieth century, menopausal and postmenopausal women were rendered "dysfunctional in reproductive (sexual) terms and therefore virtually unrepresentable," as Woodward remarks.¹⁸ Rejuvenation therapies were thus particularly attractive to menopausal women, as these various clinical treatments promised both physical and mental restorations of health—and identity. Therefore, while Atherton's treatment in *Black Oxen* does not restore reproductive fertility, like Steinach's treatment for the younger woman in his own narrative, Atherton's story of conversion extends the promises of rejuvenation to aging women, offering a new narrative of the possibility of women's social agency.

In her autobiographical pitch for rejuvenation, Atherton emphasizes the treatment's transformative effects, tracing a process of self-conversion that, as in Steinach's narrative, places rejuvenation in the context of other naturalized, publicly accepted, scientific means of species preservation, from "replac[ing] old teeth with new, put[ting] delicate babies in incubators," performing cancer-curing operations, and finding other "palliatives for the diseases of old age" (A, 561). In reconstructing the boundaries of the body, rejuvenation offered the ultimate narrative of possibility in the reconstitution of identity, replacing nature with a more functional and coherent self and autho-

rizing, in essence, a hybridized and elastic sense of personhood. The seemingly rejuvenated Atherton might have been able to literally give form to Steinach's science, but *Black Oxen* posits a slightly different narrative of conversion, which underscores a tension between the potential for social vitality promised by advocates of female rejuvenation and questions about whether such a conversion enabled women to transcend gender and sexual constructs. Unlike Steinach's and Atherton's autobiographical accounts of rejuvenation, which are concerned primarily with promoting the treatment's desirable transformative effects, *Black Oxen* registers the social and national ambivalence about the breakdown of epistemological borders, thus narrating cultural concerns about identity in ways that the science does not or cannot.

In the novel, Countess Mary Zattiany is one such border figure, crossing gender, political, and national divides as a newly rejuvenated "young" woman. Atherton's heroine sums up the impact and implications of rejuvenation when she admits to her lover, Lee Clavering, that she has found a way to reverse the physiognomy of time:

"I do not merely *look* young again, I *am* young. I am not the years I have passed in this world, I am the age of the rejuvenated glands in my body. Some day we shall have the proverb: 'A man is as old as his endocrines.' Of course I cannot have children. The treatment is identical with that for sterilization." (*B*, 176)

In a passage resonant with Atherton's autobiographical claims about rejuvenation, Zattiany quotes Steinach and turns his scientific justification for cellular regeneration—" [A] man is as old as his endocrines" (*SL*, 130)—into an adage for the logical yet "subtle rebellion against nature" that has restored her youth, giving her "an entirely different complexion" than aging, aristocratic "women of [her] type" (*B*, 176). Rather than experiencing the "decay of beauty, the death of magnetism," the renewed Zattiany gains the power and agency of a new form of womanhood that combines her restored youthful body with a mind that nonetheless retains the memories and "wisdom of experience" (*B*, 172). This new, composite "complexion" distinguishes her from both aging women and the younger generation, suggesting a fluidity that transcends the boundaries of both age and gender typology. The conversion of Mary Zattiany as aging American expatriate to Mary Ogden who returns young again to New York articulates concerns, however, about this performative notion of new womanhood, repre-

senting Zattiany as both desirable and grotesque. Erased of the signs and markers of age and yet imitative of the past, this womanhood is at once old and new, seemingly “all” woman yet “absolutely” not, or as Zattiany is described frequently in the novel, “there . . . yet not there,” as if “somebody else seemed to be looking out of [her] eyes” (*B*, 51).

The Politics of Science and Social Hygiene

The ambiguity ascribed to Zattiany throughout *Black Oxen* points to the ways that the science in the novel pivots on the female body and its meaning within emergent political concerns about national reformation. In Atherton’s narrative, the rejuvenated body constitutes a mediating term not just between old and young, as in Steinach’s narrative, but also between self and other, thus representing a paradigm for U.S. national concerns about a discordant, shifting social environment. *Black Oxen* coordinates concerns about national progress and social hygiene through attention to breeding, heredity, and youth, opening with its male hero, drama critic Lee Clavering, and his stream-of-consciousness musings on New York’s penchant for youth, “especially since [World War I]” and “visions of his own extinction” should he become “supplanted by some man younger than himself” (*B*, 3). As he thinks about his own precarious social position, he yearns for the “consummate woman” of “distinguished ancestry” to match his own as a transplanted Southern aristocrat “born in the best society” (*B*, 4). At this moment, Zattiany enters the narrative as a spectacle provoking public curiosity because of her remarkable beauty and European decorum—a woman of mystery who reminds Clavering “of the family portraits in the old gallery at home” rather than the young, fashionable women of contemporary New York (*B*, 4). Clavering, obsessed with uncovering the identity of this apparent foreigner, pursues this unusual woman who “did not look a day over twenty-eight,” with her “smooth white skin and . . . undamaged throat,” yet who paradoxically seemed “subtly not young,” with eyes that “seemed to gaze down out of an infinitely remote past” (*B*, 5, 6). Zattiany’s incongruous appearance, embodying at once youth and maturity, the present and the past, hints at the novel’s underlying concern with the uncertain consequences of scientific rejuvenation and also collaborates with the often ambiguous political climate of the 1920s.

Black Oxen thus begins with a romantic quest prompted by nostal-

gia for an aristocratic and aristogenic past and a preference for European women who simultaneously resemble and remember customs on the verge of extinction. This early emphasis on ancestry and the fall of New York's aristocracy comments on the cultural anxiety over a postwar democracy that seems to have leveled class and social status. Whereas before the war "New York Society was . . . the most exclusive Club in the world," now it has been hit with the "democratic flu," a sign, says Charles Dinwiddie, one of New York's old regime, that "aristocracy's done for" (*B*, 14). Political references and rhetoric, like this comment about the consequences of modern democracy for the white aristocracy, provide an important subtext in the novel, which not only chronicles concerns about the rise of youth culture but also demonstrates Atherton's critique of American civilization as tenuous at best and, at worst, on the verge of complete degeneration. In promoting rejuvenation as a triumph of science over nature, for example, Atherton, consistent with scientific propaganda of the 1920s and 1930s, denounces detractors of this modern "scientific marvel" as "fools [that] deserve the worst that malignant Nature can inflict upon them" (*A*, 562). She is particularly critical of the United States for its backward attitude toward evolutionary discourse—a position she deems threatening to national progress:

[The] great and free United States . . . is full of narrow-minded, ignorant, moronic, bigoted, cowardly, self-righteous, anemic, pig-headed, stupid, puritanical, hypocritical, prejudiced, fanatical, cocoa-blooded atavists, who soothe their inferiority complex by barking their hatred of anything new. The very word Science is abhorrent to them, and, if they ruled the world, progress would cease. (*A*, 561)

Atherton's investment in science as the answer for improving the political position of the United States resonates with eugenicist discourse advocating social reform through a sort of scientific or biological nurturing of nature, not nature unaltered. Atherton's response to what she sees as the nation's politically regressive denial of science is important in considering how, with *Black Oxen*, she attempts to democratize rejuvenation, negotiating the problems it raises in part by offering it as a narrative of cultural and national possibility.¹⁹

The novel, however, discloses through Zattiany a politics tending toward a Rooseveltian Progressive Republicanism interested in re-

viving and maintaining the political and social status quo, linking national progress to the shoring up of family ties—especially those, like Clavering's, with a sense of elite tradition.²⁰ Zattiany causes a stir not only when she reveals her rejuvenation secret but also when she declares her political leanings. Her claim that the “only hope of the present civilization was to avert at any cost the successful rise of the proletariat to power” is an unpopular sentiment even among the aging New York society, who were “looking forward [to] some idealistic regeneration of the social order” (B, 40). In a sense, Zattiany's politics seem at odds with her investment in rejuvenation, which prompts public scrutiny and outcry precisely because it is an “idealistic regeneration” that goes against the “social order.” Yet I want to suggest that in *Black Oxen* conservative politics work with the rejuvenated body in the reconstitution of a shifting social order. Consider, for example, Zattiany's personal political cause, which compels her to undergo the Steinach treatment so that she has the energy to restore the health of Viennese children and thus recover Austrian civilization. Ultimately, the narrative implies, when she leaves the United States and marries Prince Hohenhauer, she accomplishes precisely this goal of social regeneration through bodily rejuvenation. Zattiany's rejuvenated body, rather than mediating the transition to a new cultural and political era, works literally to resuscitate a Viennese political culture concerned not with revolution but with “renewed allegiance to traditional values”—a Vienna aptly described by Carl Schorske as a “bourgeois culture of feeling” struggling to regain political ground while suspended between an “old morality” and a new “scientific view” of modernity.²¹ In its veiled commentary on Viennese politics, as well as in its more overt claims about the United States, the narrative appears to laud the science of rejuvenation as the answer to political degeneration.

In its critique of political activism, from proletarian uprisings to those “with the virus of Bolshevism in their veins” (B, 40), the narrative also connects politics to social hygiene, reinforcing eugenicist claims for the interaction between a contagious individual and social disease. *Black Oxen* makes liberal references to bolshevism to analogize the social unrest brought on by “the youth of America” and their “individualism gone rampant,” reflecting, for example, cultural attitudes and fears of newly forming Communist Russia and the Red Scare.²² This political rhetoric also conspires with the claims of

biologists and other scientists, such as Peter Schmidt, who insisted that rejuvenation was a necessary next step in the hygienic march of “civilised man.”²³ In his explanation of the sociological as well as medical significance of Steinach’s work, Schmidt claims that rejuvenation marks a new but “natural” development in “hygienic medicine,” offering therapeutic promise to both the individual and the civic body. Schmidt insists that “life is thinkable in large cities” and that “civilised man exists” because of “hygienic medicine” and its “resultant hygienic arrangements” (*TPSO*, 135). Urban modernity, as the site of civilization, stands to benefit from rejuvenation, which would “restore an organism exhausted before its due time through the frequently rapid pace of social life” to its healthful best. This revival, says Schmidt, holds added political and economic value in the “after-war” era of the 1920s, with people and governments looking to restore their “working power” and ensure their survival (*TPSO*, 136).

Rejuvenation marketed its promises of individual and social restoration largely by depicting old age as unhygienic, underscoring regeneration’s story of power and agency with anxiety about aging and its accompanying signs of (bodily and social) deformation and degeneration. Scientific and popular literature of the 1920s and 1930s advertised rejuvenation for both women and men as the “renewal of their full ‘birthright’ by men of science.”²⁴ These narratives promised renewal and often even a reversal of the seemingly inevitable process of nature but did so by depicting old age as weakness, inferiority, and decay. For example, Charles Evans Morris, a New York City practitioner of rejuvenation, attempted to sell it to the public by describing life as a downward cycle from the “healthy . . . vigor . . . glory . . . [and] power” of youth to the “decline, sterility, senility, and death” of old age, finally suggesting that science can intervene in the plans of “Fate” or the “Almighty.” For Morris, rejuvenation science has a “higher, nobler, broader plan” that will produce nothing less than a “‘race of supermen’” unimpaired by disease and senility.²⁵ The crisis—or catastrophe—of old age may be avoided, says Morris, simply by “controlling the body chemistry,” but his plan to redesign social evolution by renewing the body pivots on the discourse of social hygiene seen in eugenicist discussions of political control and national power through “super” human evolution.

In *Black Oxen*, Atherton’s dialogue with the promises of rejuvenation science for human progress both condones and redefines eugeni-

cist politics, demonstrating the importance of her work in shaping the cultural and scientific production of knowledge about sex and gender.²⁶ On one hand, the narrative, echoing Morris's plan for "supermen," foresees that "human nature might attain perfection" through rejuvenation and its restoration of "man's [if not woman's] architectonic powers," ultimately "rous[ing] the law-makers of the . . . necessity of eugenics, birth control, sterilization of the unfit, and the expulsion of undesirable races" (*B*, 180); on the other hand, Atherton's novel, while having the cultural effect of promoting the Steinach treatment as a means of individual and national reformation, reveals skepticism about such regeneration, suggesting a more nuanced understanding of the political power actually available to women within the social schema of sexual modernism.

The Sexual Politics of Rejuvenated Womanhood

It is no coincidence that the science and literature of rejuvenation became increasingly embroiled in the gender politics of the 1920s, when new modes of sexual expression, greater reciprocity between men and women, and the feminist movement manifested shifting social values. In the heyday of "sexual modernism," freedom of female sexual expression, in particular, went hand in hand with women's rights and "freedom of thought and action" (*AM*, 225). Sexuality was a particularly knotted issue at the center of anxieties about the collapse of Victorian moral truths, because sexual passion was deemed dangerous, not only to the self-control of the individual but also to the moral certainty of society. Not surprisingly, sex is precisely the issue that the eugenicists and rejuvenates tackled in their parallel agenda for social reform. With *Black Oxen*, Atherton poses the critical question: What happens when rejuvenation moves out of the laboratory and into civilization? Steinach's claims about sex characteristics as imaginary ideals receive broader treatment in *Black Oxen*, as the narrative insists that outside the laboratory, modern society presents women with a set of fictions of identity, with contradictions and compromises linked to physical aging and aristocratic decline not experienced by men.

In *Aging and Its Discontents*, Kathleen Woodward notes that "in western culture age takes precedence over and may swallow up gender." Subordinating "the question of gender to that of age," Woodward places an important and critically undervalued focus on the issue of

aging in order to demonstrate that “in our [Western] culture where aging is perceived negatively,” the differences that distinguish us from each other, including gender, are replaced by the difference of old age.²⁷ While I am persuaded by Woodward’s astute analysis of the undemocratic social stigma of aging, Atherton’s fictional narrative of rejuvenation suggests that men fare better than women in this process. In *Black Oxen*, aging creates a likeness in men that strips them of their youthful “individuality,” making them “look so much alike as they approach sixty . . . and more particularly after they have passed it” (*B*, 7). These claims that men are united in their difference—by age—rather than distinguished because of their differences in personality, appearance, and character offer evidence of the leveling impact of the gaze that occurs, Woodward claims, when one looks upon the aging body. The nondiscriminatory age difference for men, however, is replaced in the narrative by familiar negative stereotypes of aging women as useless and grotesque. Aging men remain “handsome . . . polished [and] distinguished” while the novel’s aging members of the female aristocracy are “old and yellow” (*B*, 7, 16). And these gender distinctions in the physical appearance of aging extend to social usefulness. In comments that point to Atherton’s critique of gender privilege, the narrative acknowledges and attempts to challenge contemporary sexual politics: “[Aging] was not as hard on [men] as on women [who had] outgrown their primary function. Theirs at least was the privilege of approach; and their deathless masculine conceit—when all was said, Nature’s supreme gift of compensation—never faltered.” Nature compensates for degeneration in the male body by enabling men to retain a sense of youth and usefulness because they still have the “privilege” of the sexual “approach.” Even older men, the narrative claims, can function “in behalf of the race” (*B*, 42). Once women outgrow their “primary function,” however, they degenerate completely, losing both their appearance and their reproductive advantages. Zattiany, before her rejuvenation, elicits the strongest response in the novel to the aging female body as grotesque, when Dinwiddie recalls seeing her as an older woman: “‘She was the beauty and belle of her day. . . . But I caught a glimpse of her at the opera in Paris about ten years ago—faded! . . . withered, changed, skinny where she had been slim, her throat concealed by a dog collar a yard long—her expression sad and apathetic—the dethroned idol of men’” (*B*, 8). The claims that rejuvenation science makes for aging as degeneration are

evident here, as Zattiany's aging body is unable to disguise what some see as a hideous transformation from "idol" to beast.

Zattiany's rejuvenation, however, reverses this transformation as it effects another one, allowing her to reconstitute her body while at the same time rewriting "nature's original purpose," in which "man was essentially polygamous and woman essentially the vehicle of the race" (*B*, 56). Rejuvenation challenges the ideology of sexual nature by offering older women a narrative of possibility—of social production rather than social decay after reproduction. Zattiany, for example, feels "a profound gratitude for her complete freedom from the thrall of sex when she realized that with her [rejuvenated] gifts of mind and fortune she still had a work to do in the world that would resign her to the supreme boredom of living" (*B*, 57).²⁸ The narrative contains not only an indictment of nature and its social consequences but also a critique of the "fictions" that "civilization had heaped" over nature, namely, dreams of "mutuality," "perfect love," and egalitarian sexual and social relationships between men and women (*B*, 56–57). These "spurious illusions," says Zattiany, are the stuff of a romantic and "primitive civilization." The narrative advocates rejuvenation as a way to restore the "even balance between matter and mind" otherwise destroyed by "the urge of the race. A blaze that ends in babies or ashes" (*B*, 57, 92).

Atherton's argument in *Black Oxen* is not with nature itself but with a civilization (American, specifically) that has fabricated a myth of equality in its social environment and social politics. Atherton's critique of mutuality emerges at a time when, according to Stansell, "the emancipated woman stood at the symbolic center of a program for cultural regeneration" (*AM*, 226). This is the era of Emma Goldman and the "newest of New Woman, the feminist bohemian" who believed in the "power of emancipated individuals to transform themselves and others" (*AM*, 227, 231). In *Black Oxen*, however, Atherton rejects contemporary feminism, with its "stern advocates of the inalienable individuality of women," as a viable means of gaining female independence; this purportedly egalitarian social and political framework, as suggested in Zattiany's critique of New York romanticism, fails to bring about real change, particularly for women as they age. Sexual and political expression are Atherton's two primary concerns here, insofar as they signify the central conflict for rejuvenated womanhood. By investing in science rather than nature, Atherton's rejuve-

nation narrative attempts to revise this familiar social script in which women are either domesticated or exiled, offering them the chance to exchange the essentiality of sex for the social mobility of politics.

Along with rejecting modern feminism as a political option for middle-aged women, the narrative also renounces the new freedom of the flapper. In *Black Oxen*, the flapper represents the locus of cultural anxiety about the “Reign of Youth” and a new form of womanhood with too much sexual freedom and self-expression (*B*, 124). Atherton takes a sociological interest in the flapper, in a critique that resonates with eugenicist concerns about this “rebel girl” who shunned marriage, refused reproduction, and used birth control in the exploration of greater sexual autonomy (*AM*, 237). As Carroll Smith-Rosenberg explains, the flapper with her “quest for heterosexual pleasures . . . personified female freedom” in the 1920s.²⁹ For those espousing eugenicist rhetoric, like Margaret Sanger, who was instrumental in launching the birth control movement in the United States in the 1910s and 1920s, the problem of the highly sexualized flapper was that in using contraception for her own means, she was contributing to aristogenic decline.³⁰ In *Black Oxen*, Atherton pits her rejuvenated woman against the flapper, reacting to her trademark sexual politics by elevating Zattiany to the regal level of “queen” and denigrating flapper Janet Oglethorpe as a “near-strumpet” and “gutter-snipe” (*B*, 101). The novel makes repeated references to these “girls” as “freaks,” “Hottentot[s],” and “haggard degenerate[s]”; Greenwich Village itself is described as “an isolation camp for defectives” (*B*, 25–26). Atherton also relies upon scientific analogies to establish a hierarchy of female types, as when Zattiany scrutinizes Oglethorpe as a “representative of the new order with a scientific interest, as if it were a new sort of bug and herself an entomologist” (*B*, 107). With this analogy, the narrative suggests the containment of the problem of the flapper within the discourse of natural science—a subtle rhetorical strategy with a corollary to the eugenics imperative to study and ultimately control delinquent or defective women.

Zattiany’s eventual choice of politics over romance, in fact, is prompted by her awareness that rejuvenation therapy might have reignited what the narrative deems an unhealthy and unnatural sex drive. Zattiany imagines that rejuvenation has made her “immune” to “even the ghost of those old fierce desires” and is surprised when Clavering awakens her sexual passion (*B*, 57). Although the novel

rejects sexual politics in favor of the transcendent possibilities of rejuvenation, it lets us glimpse the failure of this regeneration narrative to give women a means of self-expression and identity beyond the purview of masculinist scientific rhetoric and patriarchal gender and sexual assumptions. Although physically attractive, Zattiany remains an image of the female grotesque. Refusing her protagonist the possibility of identifying with either the old women of New York City's aristocracy or the young flappers, Atherton reveals through her hybrid woman the tension of a transformation not entirely complete. Clavering's attachment to Zattiany is seen as "unnatural" (*B*, 203). And he questions whether or not he could forget her "real age": "Should he not always see the old face under the new mask, as the X-Rays revealed man's hideous interior under its merciful covering of flesh?" (*B*, 180). This question recalls the most common rejuvenation therapy for aging women, X-rays directed at the ovaries, which presumably had the effect of redirecting hormonal energy to other parts of the body, like the brain. Yet here what the X-rays "reveal" is an instance of Atherton thinking against herself. In her attention to the "hideous interior" highlighted by X-rays, she exposes her own uncertainty about the scientific reconciliation of body and mind through rejuvenation therapy.³¹

As Clavering suggests with his question, Zattiany's body is the source of conflict for him and the other characters in the novel who view her as grotesque because she willingly (in her youth) and scientifically (in middle age) refuses the "best traditions of American womanhood" (*B*, 193). Unlike other aging women of New York society, who "lived a life of duty . . . to family . . . husband . . . children . . . country, and to Society," the rejuvenated Zattiany, says one such woman, will "be at it again. She'll have the pick of our young men. I don't know whether it's all tragic or grotesque" (*B*, 194). The problem with Zattiany is that her "flesh" belies a hidden horror of an old mind with "an abyss of wisdom" potentially dangerous—to Clavering, because he cannot cross this abyss, and to all of "Society," whose members will further decline when their "young men" are taken out of reproductive circulation by a woman who threatens the "duty to the race" (*B*, 181). As a way to contain the threat that rejuvenated womanhood poses to society, the narrative reasserts domestic hegemony through its romance plot. Clavering, for example, attempts to overcome his uneasiness with Zattiany's hybridity by envisioning himself as a present-day rejuvenator invested with a sense of masculine and

nationalistic authority that extends beyond Steinach's laboratory. Convinced that while Zattiany's "body might be young again," he has the power to "rejuvenate that mind"—to "make her forget" that she had ever known "in varying degrees of intimacy the ablest and most distinguished men in Europe" (*B*, 183). As a way to effect this ultimate conversion, he removes Zattiany to a wilderness retreat in the Adirondacks, where indeed she agrees to marry him, recognizing that "her mind at last was as young as her body, and this man had accomplished the miracle" (*B*, 288). In this conversion from the already rejuvenated Countess Mary Zattiany to the Mary Ogden of her girlhood, the narrative strips away the markers of age and subsequently of place that tie Zattiany to her otherwise politicized identity, as she wonders, in this liminally transformative moment: "[D]id Austria really exist?" (*B*, 289). Atherton's rejuvenated heroine seems resigned to her desire for a "home" and "complete matehood" (*B*, 257), reactivated in the sense that she once again desires the trappings of her Victorian past.

Yet the novel does not end with Zattiany's marriage to Clavering; instead, Atherton expatriates Zattiany back to Austria, concluding the narrative with a twist on the conventional marriage plot. In a rejection of both the United States and its reproductive politics, Zattiany trades romance with Clavering for political power in Austria with Prince Hohenhauer, leaving unions based on love to "those women who have it in their power to repeople the earth." Atherton's conclusion, however, appears to undermine the argument for rejuvenation as social power and political progress for women by relegating Zattiany to marriage. Hohenhauer convinces Zattiany that even with her "mental gifts . . . political genius . . . acquired statecraft . . . wealth [and] restored beauty" she is not "strong enough to play the part [of the most powerful woman in Europe] alone"—"only as [his] wife" (*B*, 322). Political aspirations may be stronger than romantic liaisons, as Clavering too recognizes that Vienna is his rival, not Hohenhauer, but ultimately Atherton's rejuvenated womanhood reinvests in the appearances at least of domesticity by wedding politics to the conventional gender ideology of women as wives.

But to read *Black Oxen* as merely validating conservative gender politics is to miss Atherton's point that rejuvenation offers transformative power for women who do not or cannot fit into the highly charged sexual environment of the twenties, which equated youth with power. For Atherton, although eugenics and reproductive politics have a cer-

tain appeal, sex (and its illusions) remains the problem to overcome for women seeking to validate themselves in the public sphere. After all, the narrative claims, “power, after sex has ceased from troubling, is the dominant passion in human nature,” and for Zattiany in particular, “power had become the master passion of her life” (*B*, 336). If we think about Steinach’s dual definition of sex here as both biologically and behaviorally characteristic, sex in Atherton’s rejuvenation narrative signifies more than sexual relations. Insofar as sex makes us who we are, the ability to manipulate sex as Zattiany does—biologically, behaviorally, and socially—is a powerful statement of reinvented personhood. Atherton’s investment in science, seen in the conversion of Mary Ogden back into Mary Zattiany at the end of the novel, links biology to politics and national identity rather than to a reproductive, familial sense of selfhood. Hohenhauer convinces Zattiany to return with him because, he tells her, “you owe to Austria this wonderful rejuvenescence of yours. Steinach is not an American” (*B*, 320). Atherton’s skepticism about U.S. culture drives this statement, which rewrites Zattiany’s ancestry and lineage as one of science and politics. Zattiany’s rejuvenation necessitates a familial and national forgetting, but one that Atherton suggests might be important for women struggling with the delusions of sex and the degeneration of the body.

Atherton condones rejuvenation because it resists, even if subtly, a nationalistic sentimentality for an identity rooted solely in reproduction. It is not insignificant that Zattiany never has children. While aristogenic Americans condemn her for this lack because it makes her less a woman, Atherton, in her focus on science, intervenes in the social debates about reproduction by challenging the genealogy of mothering. Granted, she gives her protagonist the domestic work of mothering postwar Viennese children back to health, which might be viewed as a form of adoptive motherhood that substitutes for biological mothering. It is not surprising that Zattiany’s desire to serve as mother is linked to war. Eugenics gained popularity in the teens and twenties because of biological arguments for war (out of war would come human progress through the survival of the fittest), making the investment in women during wartime especially important because they were needed to reproduce the nation. Rather than reject this analogy of women and war entirely, Atherton disrupts it—changes its terms in order to suggest that women might play a different role in mothering as part of national progress and domestic security. To the

extent that Atherton tries to redefine the scientific discourse of rejuvenation by extending Steinach's notion of sex to include gender ideology, her rejuvenation novel suggests a rejection not of domesticity—women as wives and mothers—but of a national domestic platform that relegates women to these roles. Rejuvenation appealed to Atherton because it offered an alternative sense of self for aging women further displaced by the reproductive politics of the young.

The Modern Fountain of Youth

Rejuvenation therapy marks a pivotal moment in the sciences concerned with sex and sexual behavior. From Steinach's work reactivating sex glands to the work of his contemporaries in the field of eugenics and to our own current reproductive technologies, rejuvenation continues to make headlines in the popular press. Susan Squier makes critical links among these scientific fields, arguing that this work, considered comprehensively, prompts questions about the boundaries of identity and subjectivity.³² Rejuvenation science remains a formative narrative of personhood in contemporary manifestations, such as aesthetic or cosmetic rejuvenation treatments and embryonic stem-cell research, both of which promise to reverse cellular degeneration and consequently enhance and extend the health of the individual and society. Cosmetic rejuvenation, for example, attempts to deliver on its promises of a better appearance by reactivating, cosmetically and surgically, aging or "problem" skin cells, producing a healthier and more balanced individual who may function better in society.³³ Similarly, the recent public debates over stem-cell research pivot on concerns about the regeneration of embryonic cells for the purposes of halting or curing degenerative diseases—treatments promising the restoration of the individual and society to optimum health and functionality.³⁴ These claims—esthetic and biological—were precisely those made for simultaneous internal and external change in advertisements for rejuvenation therapy in the twenties and thirties. The story we know of rejuvenation in the twenty-first century is thus the familiar quest for the proverbial fountain of youth.

Anxiety attends these narratives of regeneration because they herald new understandings of the boundaries of identity. Through scientific engineering, the limits of the body and what it might accomplish or enable can be altered. Individuals free of disease might result

in a people free of disease. But what happens to notions of personhood if scientists can and do create genetically altered individuals? Is this morally acceptable? As in Atherton's novel, which gave form to this debate, contemporary American literature engages these questions in stories that explore concerns about the boundaries of selfhood in an increasingly (or so it seems) borderless world. Greg Bear's recent science fiction novel, *Vitals* (2002), for example, picks up questions posed by Atherton and the rejuvenators of the teens and twenties in a narrative about a biologist combating germ terrorism while trying to revolutionize science and reform society by halting degeneration and arresting the aging process. Steinach himself even makes an appearance as a character in Jody Shields's debut novel, *The Fig Eater* (2001), a crime-mystery story set in 1910 Vienna that weaves Freud's analysis of Dora with various and related turn-of-the-century scientific practices in criminology, sex behavior, and youth enhancement. This resurgence of interest in the promises of rejuvenation and the sciences surrounding it suggests a recurring concern with shifting and uncertain notions of identity—at once rooted in the body and simultaneously beyond it—and the subsequent need to locate and define the self within fluctuating social, geographical, and corporeal borders.

Prompted by such questions of identity, Atherton's narrative of rejuvenation offers an important and formative contribution to this discussion because it also highlights issues of gender in the masculine-dominated, purportedly gender-neutral rhetoric of scientific renewal. From Steinach's claims of hormonal reactivation to current research in cellular regeneration, debates about rejuvenation come back to issues of gender and reproduction. While the promises of these treatments are available to both men and women, women's bodies and reproductive rights are the locus of these scientific experiments and cultural discussions. Steinach's mining of the sex organs for hormones and his use of hormonal injections in rejuvenation, for example, developed into the use of progesterone and other hormones widely administered today to aid reproduction and to ameliorate the physiological and psychological symptoms often experienced by menopausal and postmenopausal women. Squier rightly argues for a "developmental trajectory from rejuvenation treatment to hormone therapy," both of which concentrate "scientific, medical, and [more recently] pharmacological" attention on the female body as the site of health maintenance and intervention.³⁵ Until recently, when Viagra emerged on the phar-

maceutical market as a cure for male impotency for men of any age, there was significantly less interest in the male body as an occasion for therapeutic hormonal or chemical interventions. With the widespread use of hormone replacement therapy, attention continues to focus on women's bodies because of pervasive negative cultural attitudes toward older women, who are cast into a sexual and cultural limbo and viewed with contempt when they cross such boundaries.³⁶ Atherton's narrative of rejuvenation culls scientific discourse on aging and evolutionary progress with concerns in popular culture about the politics of engineering new forms of gender identity. The womanhood that Atherton creates—and the one created by her own rejuvenation—attempts to redirect female biological destiny, releasing the cap on the geyser in order to redefine the relationship between nature and culture.

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Notes

I am grateful to Dale Bauer, Mary Jane Elliott, Lydia Fisher, Barbara Fuchs, and Bret Keeling for their astute readings of earlier drafts.

For Eugen Steinach's statement quoted in my epigraph, see George F. Corners, *Rejuvenation: How Steinach Makes People Young* (New York: Thomas Seltzer, 1923), 3.

- 1 Gertrude Atherton, *Adventures of a Novelist* (New York: Liveright, 1932), 559; further references are to this edition and will be cited parenthetically as *A*.
- 2 See Eugen Steinach, *Sex and Life: Forty Years of Biological and Medical Experiments* (New York: Viking, 1940), 6, 136; further references will be cited parenthetically in the text as *SL*.
- 3 On the evolution of scientific rejuvenation from the 1860s to the present, see Susan Squier, "Incubabies and Rejuvenates: The Traffic between Technologies of Reproduction and Age-Extension," in *Figuring Age: Women, Bodies, Generations*, ed. Kathleen Woodward (Bloomington: Indiana Univ. Press, 1999), 88–111. Age-extension therapies include a long history of treatises on "proper diet, exercise, and avoidance of harmful emotions" ("Incubabies," 94). Rejuvenation therapies multiplied in the first three decades of the twentieth century, following Charles Edouard Brown-Sequard's claim of restored youth and sexual potency after injecting himself with canine testicular tissue. The work in glandular science led by Eugen Steinach and his contemporary Serge Voronoff, the Swedish gland grafter famous for impregnating a chimpanzee with human sperm,

- was popular because it was promoted as the “elixir of life” (Squier, “Incubabies,” 89). In the twenties and thirties, rejuvenation experiments included surgical, radiological, hormonal, and cellular methods for reactivation. Motivated by these rapid developments, some clinicians—like Atherton’s doctor, Harry Benjamin—added other therapies to patients’ treatment plans, such as diathermy, which used electrical currents.
- 4 See, for example, Charles Evans Morris, *Modern Rejuvenation Methods* (New York: Scientific Medical Publishing, 1926). Morris, a physician working with William Bailey, an American physicist who gained popularity in the 1920s for his work in radioactivity and endocrinology, emphasizes the fundamental impact of the endocrine glands on human physiology and personality: “It is little realized by the world generally that every human impulse, every organic action, every fleeting thought, every trait of character, is a direct expression of the proportion of functioning activity of these mysterious endocrine glands. Human character is now definitely known to lie within these glands” (xviii–xix).
- 5 I use the term *modernist* here to denote a historical culture—like Victorianism—of values, beliefs, ideas, and perceptions. My use of *modernist* in this sense should not be confused with the aesthetic considerations of literary or artistic modernism. For more on defining *modernism* and *modernization*, see Daniel Joseph Singal, “Towards a Definition of American Modernism,” in *Modernist Culture in America*, ed. Daniel Joseph Singal (Belmont: Wadsworth Press, 1991), 2; further references will be cited parenthetically in the text as *MCA*.
- 6 Squier discusses the ways in which “scientific and technical strategies for reshaping the human body,” such as rejuvenation science, “functioned in consort with cultural and social conditions for shaping the human subject” (“Incubabies,” 90). I find Squier’s discussion useful in thinking about the link Atherton makes between the individual body—especially a woman’s body—and cultural or national concerns of the era.
- 7 Atherton’s fiction thus enacts what Dale Bauer calls “cultural dialogics,” which pivots on the notion that a writer’s work reveals both arguments for and challenges to prominent cultural issues; see *Edith Wharton’s Brave New Politics* (Madison: Univ. of Wisconsin Press, 1994), 4.
- 8 Paul Kammerer, introduction to *Rejuvenation and the Prolongation of Human Efficiency: Experiences with the Steinach-Operation on Man and Animals* (New York: Boni and Liveright, 1923), vii–viii; further references will be cited parenthetically in the text as *R*.
- 9 Rejuvenation therapies—often represented through mythic tropes about the fountain of youth—generated considerable controversy in popular culture and in the scientific community, particularly in the United States where the medical community was skeptical of rejuvenation’s promises of longevity. Yet as Squier notes, even the negative press during 1923 tempered skepticism with claims that attempted to galvanize the

public around Voronoff's and Steinach's scientific successes. Scientists of rejuvenation sought to align their research, experiments, and treatments with responsible work in gerontology that, with the emergence of modern medicine in the mid-nineteenth century, gained popularity and shifted from a fanciful pseudoscience to a legitimate, interdisciplinary field where embryology, zoology, and immunology converged. It was common, for example, to include a publisher's preface to scientific literature on rejuvenation in an attempt to persuade other scientists as well as the general public that rejuvenators were not uniform, carnivalesque charlatans but technicians able to control and regulate the human body.

- 10 Gertrude Atherton, *Black Oxen* (New York: Boni and Liveright, 1923), 124, 42, 112, 116. Further references are to this edition and will be cited parenthetically as *B*.
- 11 Bauer, *Brave New Politics*, 89.
- 12 Woodward, introduction to *Figuring Age*, ed. Woodward, ix. Although my focus in this essay is on the science of rejuvenation and its implications for gender ideology, I have found Woodward's work on aging and subjectivity instrumental for considering how Atherton treats the aging female body; see, for example, Woodward's "Inventing Generational Models: Psychoanalysis, Feminism, Literature," in *Figuring Age*; and *Aging and Its Discontents: Freud and Other Fictions* (Bloomington: Indiana Univ. Press, 1991).
- 13 I draw here on the title of the book *The Youth Doctors*, in which Patrick M. McGrady Jr. details his travels throughout Europe and the United States in search of practitioners of rejuvenation, advocating the various treatments he encounters as the "Life-extending Scene"—a shift in perception similar to the "Consciousness-expanding Scene" of the late 1960s ([New York: Coward-McCann, 1968], 15).
- 14 In tracing the development of the "carrier narrative" and its relation to the "ideology of social control," Priscilla Wald claims that in this era a more "scientific penology" emerges in which crimes are punished on the basis of their social threats in order to protect "national health and well-being" ("Typhoid Mary' and the Science of Social Control," *Social Text* 15 [fall-winter 1997]: 183). I suggest that this ideology of social control takes on even greater significance in the scientific laboratory, where (as Steinach makes clear) biology intersects with behavior.
- 15 Mark Haller describes the three stages of the eugenics movement, beginning with the era of race-suicide anxiety from 1870 to 1905, when hereditarian attitudes took root. A racist tone and a posture hostile to immigrants evolved from these attitudes, influencing the passage of restriction acts and the broader application of Jim Crow laws between 1905 and 1930. The movement finally declined with Hitler's Nazi regime in the 1930s (see *Eugenics: Hereditarian Attitudes in American Thought* [New Brunswick, N.J.: Rutgers Univ. Press, 1984]).

- 16 Ibid., 76.
- 17 Carl Van Vechten entitled his review of *Black Oxen* "A Lady Who Defies Time," referring to both Atherton's enduring career and the "resemblances, both figurative and literal, between the Californian and her heroine" (*Nation*, 14 February 1923, 3006). Van Vechten deems the novel Atherton's "most brilliant book to date" and admires the author's "vitality and youthful zest," which place her above her contemporaries as well as younger novelists, he claims. Bauer notes that Van Vechten took frequent jabs at Edith Wharton, Atherton's "staid literary rival," because he felt she lacked Atherton's "glamour and vitality" (*Brave New Politics*, 86). Unlike the critical acclaim that *Black Oxen* received in the literary press, however, the book's civic reception invariably characterized it as dangerous, a culturally undesirable and unhygienic story against which the public needed safeguarding. Some women's groups, for example, pressured their local politicians to ban the sale of the book and remove it from public libraries. For further reading on the civic reception and subsequent censorship of the novel, see "Censorship up in Far Monroe," *New York Times*, 4 October 1923, 22.
- 18 Woodward, "Inventing Generational Models," in *Figuring Age*, ed. Woodward, 150.
- 19 The United States was the target of rejuvenation advocates and practitioners, who viewed it as a place of utopic promise. In his treatise on the importance of becoming what he calls "Steinached," George Corners, for example, situates the United States in the familiar nationalistic position of the city upon a hill, simultaneously standing to benefit most from rejuvenation while serving as the rejuvenated beacon to the world (*Rejuvenation*, 94).
- 20 Theodore Roosevelt's interest in combating race suicide through the (selective) breeding of "native," white Americans certainly echoes the concerns of the rejuvenates, given his role in popularizing eugenics discourse in the United States. In his nationalistic version of a progressive U.S. republic, Roosevelt stresses the importance of women performing their "indispensable duty" as wives and mothers of more than three children. In aligning the reproduction of the citizenry with female reproduction, Roosevelt both taps into and fans the larger cultural anxiety about the decline in white birthrates reported in the U.S. census of the late nineteenth- and early twentieth centuries (*The Foes of Our Own Household* [New York: George H. Doran, 1917], 237).
- 21 Carl E. Schorske, *Fin-de-Siècle Vienna Politics and Culture* (New York: Knopf, 1980), 13.
- 22 Christine Stansell, *American Moderns: Bohemian New York and the Creation of a New Century* (New York: Metropolitan Books, 2000), 235; further references will be cited parenthetically in the text as *AM*. Stansell notes that while "political sentiment in the U.S. was overwhelmingly

against intervention” in the Russian Revolution of 1917, which brought the abdication of the czar and eventually the rise of Bolsheviks who took power as the Communist Party, there was also much sympathy for socialism and revolutionary politics, especially among New York City’s bohemian crowd.

- 23 Dr. Peter Schmidt, *The Theory and Practice of the Steinach Operation, With a Report on One Hundred Cases* (London: William Heinemann, 1924), 135. Further references will be cited parenthetically in the text as *TPSO*.
- 24 Morris, *Modern Rejuvenation Methods*, 4.
- 25 Morris, introduction to *Modern Rejuvenation Methods*, xix. To support his own agenda about the centrality of rejuvenation science to the continuation of human life, Morris quotes Fritz Haber out of context. Haber, who won the Nobel Prize for chemistry in 1918 for developing a process to synthesize ammonia, is best known for introducing poison gas, which led to the use of chemical warfare during World War I. Scientists often read Haber’s statement about a race of supermen as a “casual comment” and evidence of his “romantic imagination”; see, for example, Morris Goran, “Fritz Haber’s Politics,” *American Scientist* 35 (July 1947): 400–403. Morris, however, relies upon public knowledge of and sentiment for Haber, who was especially popular in the United States—perhaps more so than in his native Germany—to legitimate his claims about the importance of rejuvenation to human progress.
- 26 Bauer, in her study of Edith Wharton, and especially of Wharton’s *Twilight Sleep*—which, unlike Atherton’s novel, critiques “contemporary efforts at rejuvenation”—argues for the importance of reconsidering women writers of this era in terms of their dialogue with national and gender politics (*Brave New Politics*, 86). I would like to place Atherton in this critical spotlight, although she has not retained the popularity of her contemporary. There has been a recent resurgence of interest in Atherton, including the work by Squier and Bauer that I’ve already cited as well as Bauer’s essay on *Black Oxen*: “Refusing Middle Age,” *ANQ* 15.1 (2002): 46–60. I have argued for the importance of Atherton’s work in the context of women’s writing from 1890 to 1930, as well as for her engagement with cultural concerns from U.S. expansionism to racial and gender ideologies; see my Ph.D. dissertation, “Domestic Mobility in the American Post-Frontier, 1890–1900” (Seattle: University of Washington, 2000).
- 27 Woodward, *Aging and Its Discontents*, 16.
- 28 I am in agreement here with Bauer’s reading of *Black Oxen*: “Atherton finds political power more fascinating than reproductive power, and she bemoans the epoch of the submerged woman where woman’s only power could be social rather than national or even international” (*Brave New Politics*, 86).
- 29 Carroll Smith-Rosenberg, *Disorderly Conduct: Visions of Gender in Victorian America* (New York: Knopf, 1985), 282.

- 30 Haller notes that Margaret Sanger was a paradoxical figure, distributing birth control in Greenwich Village but later joining ranks with eugenicists in advocating the use of contraception for those who had family defects or a family history of insanity (*Eugenics*, 76). Sanger also endorsed sterilization of the “unfit.”
- 31 This is another enactment of Bauer’s definition of cultural dialogics; see *Brave New Politics*, 12.
- 32 See Squier, “Incubabies.”
- 33 Cosmetic rejuvenation is big business and receives ubiquitous attention in the popular press. In a random search through 35 popular fashion, entertainment, and news magazines, I found that all had articles and advertisements related to cosmetic rejuvenation treatments, from information on surgical procedures like facelifts to purportedly less invasive treatments such as glycolic peels and botox injections. The Web is host to over 65,000 sites devoted to cosmetic rejuvenation, posted mainly by practitioners and clinics promising services to improve health, personal appearance, or social adjustment. Nearly all these advertisements are geared toward women, as suggested in their texts and in the “before” and “after” shots, which feature the transformation of women through various rejuvenation procedures.
- 34 With the wide news coverage of biological cellular regeneration, phrases such as “surplus embryos” and “stem-cell colonies” have moved into the popular lexicon, raising ethical, moral, and financial questions and fueling debates about rejuvenation science—much like the controversy surrounding Steinach’s work in the 1920s. *Time* magazine, in its issue of 20 August 2001, for example, has a front-page feature on biologist James Thomson, crediting him with discovering the contemporary fountain of youth by stopping the “biological clocks” of embryonic cells. Contemporary scientists are extending Steinach’s research by going beyond the root of sex to the root of early cellular development and perhaps, so say some opponents concerned with the impact of rejuvenation, to the genesis of human life.
- 35 Squier, “Incubabies,” 99. Squier’s work is particularly helpful in understanding the gendered dynamics of rejuvenation and hormone replacement therapies, as she cites medical evidence from the 1920s demonstrating the proliferation of treatments performed on women compared to the very few “medical occasions” directed at men. The extensive contemporary propaganda surrounding the drug Viagra is an interesting, still unexplored, instance of pharmaceutical focus on the male body. While a fuller discussion of this recent phenomenon warrants critical attention, it is beyond the scope of my essay; it is worth noting, however, the similarities between rejuvenation treatments for men and Viagra—both of which promise to restore sexual functioning regardless of reproductive desire or capacity.

- 36 I am thinking here of the media attention to postmenopausal pregnancies, which, according to E. Ann Kaplan, illustrates both the public's and the medical community's disdain for the aging female body; see "Trauma and Aging: Marlene Dietrich, Melanie Klein, and Marguerite Duras," in *Figuring Age*, ed. Woodward, 171-94.