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**“They Would Take Me for a Witch or a Poisoner”: Marginalization and the Woman Scientist in  
*Fin-de-Siècle* Speculative Fiction**

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<1>The prevalence of male scientists in the canon of *fin-de-siècle* popular fiction, particularly in the famous mad scientist narratives of H. G. Wells, curiously neglects to reflect the significant increase in qualified women scientists throughout Britain and Europe during that period. Indeed, the apparent absence of women of science from the canon reinforces popular nineteenth-century arguments that women were incapable of practicing the physical sciences. However, two neglected works of *fin-de-siècle* popular fiction, George Griffith’s *Olga Romanoff* (1894) and T. Mullett Ellis’s *Zalma* (1895), feature female “mad scientists” who produce chemical substances that threaten political stability. Like their fictional male counterparts, Olga Romanoff and Zalma Pahlen possess overwhelming ambition, employing cutting edge science to acquire extraordinary power, only to die violently as a result of their overreaching. In these speculative narratives, women scientists are controversial figures who are both alienated from and villainized by their society, while their work in the laboratory is derided as unnatural or even criminal. Ultimately, the depictions of women scientists in *Olga Romanoff* and *Zalma* neither definitively support nor condemn women scientists; rather these novels use such characters as a means to critique late-Victorian double standards for women and the threat of chemistry’s potentially monstrous creations, regardless of its creator’s identity.

<2>Although these novels are speculative in setting, the narrators and supporting characters of *Olga Romanoff* and *Zalma* refer to these women as witches and poisoners: derogatory labels that discredit Olga and Zalma’s scientific practice by ascribing their aptitude to supernatural forces or criminality. The societies of both novels, like that of *fin-de-siècle* Britain, lack the means to conceptualize the woman scientist, and thus narrators and characters alike resort to the “available cultural bodies” of witch and poisoner to label the alien, threatening figure of the

woman scientist (Swenson 4). Consequently, the woman scientist is not linked with science's fantastic future, but instead the villainous women of history and myth. At the same time, both novels draw attention to, first, the skill with which these women practice science and, second, the irrationality of the narrators and characters who view them, not as scientists and equals, but as witches and deviants as a result of their own failure to accept the scientific prowess of female rivals to their authority. In doing so, these novels work to interrogate Victorian conceptions of witches and female poisoners by challenging the ideology that informs the use of such labels to restrict and marginalise Olga and Zalma as illegitimate practitioners of science.

### ***Olga Romanoff, Zalma, and 1890s Speculative Fiction***

<3>Despite the trend in criticism of rediscovering “lost” texts, both *Olga Romanoff* and *Zalma* have yet to appear in studies of Victorian literature or speculative fiction. Although this is not particularly surprising in the case of *Zalma*, which has been out of print since 1897, it is so for *Olga Romanoff*, not only because it has been frequently reprinted by small science fiction presses, but also because its author, George Griffith, played a significant role in the development of speculative fiction in the 1890s, when his work was second only to that of H. G. Wells.<sup>(1)</sup> Both *Zalma* and *Olga Romanoff* offer insight into late-Victorian perspectives of scientific practice and the influence of both foreign and female scientists on that research. These texts, both released by Tower Publishing—a short-lived publisher that specialized in speculative and adventure fiction in the 1890s—furthermore challenge the tropes of speculative and future-war fiction by depicting their title characters' struggles to assert themselves in a male-dominated world, just as the novels themselves feature women scientists within an equally male-dominated genre.<sup>(2)</sup>

<4>Griffith's *Olga Romanoff* is the sequel to *The Angel of the Revolution* (1893), in which a group of anarchists overthrow the despotic Romanoff rulers using airships and ray guns.<sup>(3)</sup> These novels catapulted Griffith to fame, and, as Moskowitz argues, he “remained the best-selling science fiction author in England” until the publication of *The War of the Worlds* in 1898 (Moskowitz 182). In *Olga Romanoff*, first serialized as *The Syren of the Skies*,<sup>(4)</sup> the last heir of the Romanoffs seeks to reclaim her empire from the Aerians, a eugenically-perfected race who, to maintain world peace, control all of the world's airships and submarines. Olga uses a formula she inherited from her father to produce a mind-control potion, with which she captures two Aerians, whom she forces to construct airships and submarines for her armies. A series of airship duels ensue until a comet finally destroys the earth's surface and Olga dies in a fit of madness.

<5>Despite this *deus ex machina* conclusion, the novel was popular with contemporaneous reviewers, who called it “even more thrilling and more fascinating than its predecessor” and “the most finished” of Griffith's novels to date (“From” 2; “*Olga*” 2). Although reviewers hardly

refer to Olga or her practice of science, the *Morning Post* stated that the novel's "imaginative and glowing style" would appeal to those readers "who enjoy purely speculative fiction" ("Mr. George" 2). Appearing at the height of popularity of the future war tale, *Olga Romanoff* was predominately remarked upon for its airships and weaponry, which were "rapidly standardized" by Griffith's contemporaries, including Wells (Stableford, "Science Fiction" 23). However, the novelty of its depicted technologies has overshadowed the significance of its title character during a period when powerful women scientists were, arguably, equally novel.

<6>In 1895, Tower Publishing released *Zalma* by T. Mullett Ellis, an architect who had published the speculative prose work *The Romance of a Star* in 1893 to minor acclaim (Stainton-Ellis). That *Zalma* features a young Russian heroine who uses her scientific genius to strive for world domination suggests that Ellis sought to capitalize on *Olga Romanoff's* commercial appeal. Although *Zalma* was reprinted in an illustrated edition in 1897, critics called it a "book of little merit" with a "preposterous mixture of fact and fiction" that was "impossible to take seriously" ("*Zalma*" 545; "Four" 8). Any summary of the novel must unavoidably reveal the source of reviewers' disdain: Zalma Pahlen, the illegitimate daughter of a Russian anarchist scientist and a Spanish princess, is a published poet, talented in the sciences, and fatally attractive to men. After multiple misadventures, Zalma becomes the leader of her father's anarchist organization, learns bacteriology, and mass produces anthrax cultures that she plans to dump over European major cities from balloons to wipe out the corruption that plagues society. However, her plan is foiled by a Secret Service agent, and Zalma takes poison to escape capture even as the revolution her anarchist movement inspired rages in the streets below.

<7>Ellis's reliance on sensational plot elements detracts from *Zalma's* depiction of speculative science, and it is thus difficult to classify the novel as speculative fiction in the same vein as *Olga Romanoff*. Nonetheless, *Zalma* participates in the future war genre and engages with the science of its time, including detailed descriptions of British laboratories, vivisection, and the production of bacterial cultures in order to question the ethics of contemporary scientific practice. Ellis's critique also highlights larger concerns about science and scientists that reflects the Victorian popular image of the scientist as an "inhuman and amoral torturer" or "dabbler in dark arts" that anti-vivisectionists used to influence public sympathies against immoral laboratory practices (M. Willis 212). *Zalma* uniquely explores the repercussions of a woman performing that "inhuman and amoral" role in the midst of the real-life anti-vivisectionist campaigns that targeted the laboratory as a space of distinct horror—or, as the doctor Anna Kingsford called it, "the chambers of the medieval sorcerer" (qtd. in Butler 114). Ultimately, reviews of the novel overlook Zalma's experiments in favor of the novel's sensational and scandalous plot, which suggests, as in the case of *Olga Romanoff*, that either the idea of women scientists was already normalized within society or, more likely, these reviewers consciously

sought to highlight the novel as mere sensation fiction in order to devalue these novels' potentially revolutionary content.

### **Unnatural Women: The *Fin-de-Siècle* Female Scientist**

<8>On the rare occasions that women scientists appear in nineteenth-century literature they are predominately either the lady doctors of New Woman fiction, or the women on the margins of amateur science in such minor works like Wilkie Collins's *Heart and Science* (1883) and Thomas Hardy's *Two on a Tower* (1882). These two novels offer particularly troubling depictions of women of science whose forays into the male domain of science are criticized, or even mocked, as a result of what Patricia Murphy calls "an obsessive fear that feminine intrusion necessarily brings corruption, contamination, and destruction" (87). That these same fates are shared by Olga and Zalma stresses how late-Victorian fiction outside of New Woman fiction affirms a strict boundary between women and the practice of science. In crossing this boundary, a female character becomes a danger to society as a threat to social hierarchy or even, as in the case of Olga and Zalma, as a villain capable of mass-destruction.

<9>This treatment of women scientists—and women who engage with science even in minor capacities—occurred while the Victorians, in their struggle to accept women as professional scientists, questioned their emotional stability, physical ability to practice science, and the potentially negative impact on their empathy. Women in both the "literal and literary space" were frequently excluded from "medicine and employments that required education," including scientific study (Swenson 3). Russian women had worked as independent researchers since the 1870s, which likely influenced Griffith and Ellis to make their protagonists of Russian descent and set their study of science in contrast with that of Aerial and British women (Creese 22; Creese and Creese 265).<sup>(5)</sup> That Olga and Zalma inherit or appropriate their research from male scientists is similarly accounted for by the fact that most women scientists in late nineteenth-century Europe and Britain were engaged in research groups or as laboratory assistants (Creese 19; Creese and Creese 272). In such a climate, it would have been too revolutionary for Griffith and Ellis to *also* make their women scientists creators of original research—be it new chemicals or new life forms—despite the speculative and fantastical nature of the narratives. Nonetheless, both novels explore the limitations for women scientists that already existed within British society, under the guise of speculative fiction, in order to question society's contradictory system of beliefs about scientific practice and the nature of genius.

<10>One question that emerges from this history is why British and Russian scientific institutions differ in their acceptance of any woman attempting to practice science. Overall, Russian women had better access to university-level courses in the sciences prior to the assassination of Tsar Alexander II in 1881, and some joined the Russian Chemical Society as early as 1870 (Creese 24, 20). Even following the discontinuation of Russian university courses

for women, when they instead trained in Switzerland before returning to Russia, such women as Anna Volkova and Yulia Lermontova were able to attain senior positions in Russian institutes despite continued concerns of “political and sexual radicalism” (Creese 20, 22; Rayner-Canham and Rayner-Canham, *Women* 47). These concerns were fuelled by psychological and biological discourses that held to the “widespread assumption that women were arrested in their development” (Murphy 27). For example, Charles Darwin claimed that men possessed “greater intellectual vigor and power of invention” in contrast to women’s powers of intuition and imitation, while J. McGrigor Allan similarly asserted that “woman is utterly unable to compete with man” because her inability to maintain “purely intellectual direction” makes her “content, in most instances, to let others think for her” (Darwin 597, 605; McGrigor Allan, qtd. in Murphy 15). Such assumptions influenced women’s access to higher-education, particularly in Britain, where a university education in the physical sciences was either out of reach for women or an informal exercise that resulted in no degree, and thus no professional recognition.

<11>Universities and other British institutions thus ensured continued masculine dominance in scientific pursuits, a dominance that was already inherent in the popular use of “man of science” to refer to scientific practitioners in the nineteenth century. Such labels as “man of science” or “scientific man” failed to create a space for women by specifically linking science with a masculine noun (DeWitt 10-11). Women seeking to study science, particularly the physical sciences were furthermore excluded from the laboratory-based institutions “that were essential for valorizing scientific achievement and offering scientific employment” (Mussell 7). For instance, Cambridge did not recognize any women as members of the university, and they thus could not gain the degrees necessary to obtain higher-ranking positions in their field (Mussell 15 n2). Such limitations caused the greatest discrepancy between British and Russian women scientists of the late-nineteenth century, which leads to a nearly twenty-year lag between the earliest sole-publications of chemical research by Russian women and those by their British contemporaries. The contradictory approach of British institutions to the treatment of women scientists emerges from a culture that was itself uncertain about the class status, morality, and sex of the woman of science.

<12>While these British women were struggling to obtain institutional recognition, they were equally excluded from popular notions of genius because, as anthropologist Cesare Lombroso claimed, “women of genius are men” because “the few who emerge have, on near examination, something virile about them” (138). The period’s definitions of femininity and genius were as incompatible as woman and science, which effectively trapped the woman of genius between “the masculine realm of intellectuality” and “the feminine realm of emotionality,” and thus could not “comfortably inhabit both” realms (Murphy 67). In this context, women who attempted to infiltrate the male-dominated realms of science could call into question, if not entirely elide, their claim to female identity, effectively causing them to be

“unsexed” (Swenson 88). In this regard, the woman of genius becomes a hybrid of male and female who defies natural law, and who, by extension, potentially inhabits the realm of the monstrous.

<13>The monstrous female genius appears in multiple forms of Victorian media, indicating a wider cultural belief in the threat posed by intellectual women. For instance, Susan P. Casteras notes that, in Victorian art, “the woman endowed with superior creativity typically found a visual equivalent in the witch or sorceress” who “personified a Romanticized notion of mad genius” that “many viewers probably deemed ... both pathological and frightening” as a result of her hybrid status as “not entirely human, or at least soulless and often bestial” (142, 145). Such figures appear to assume supernatural powers and mythological status like Circe, Morgan le Fay, or Lucrezia Borgia, women whose power of “miracles, wisdom, and healing” had, over the course of the Renaissance and Enlightenment, been appropriated by male practitioners under the label of science (169). At the same time, men of science like Darwin and Lombroso, as well as male authors like Griffith and Ellis, reconstruct the woman of science as a criminal, monstrous Other whose science exists on the margins, if not in the realm of magic.

<14>That, in both *Olga Romanoff* and *Zalma*, the woman scientist’s research is interpreted by observers as sorcery despite a futuristic setting and the absence of magic, is not an extraordinary phenomenon in *fin-de-siècle* popular fiction. For instance, in L. T. Meade’s 1899 serial *The Brotherhood of the Seven Kings*, a female medical practitioner, Madam Koluchy, allegedly employs occult powers to bewitch her patients despite her regular use of cutting-edge technology, including x-rays and biological weapons. Aside from suggestions of hypnotism, no magic ever actually appears in the stories, yet the narrator, a biologist, refuses to regard Koluchy as a scientist or physician even though she successfully practices as both. Christopher Pittard argues that the text highlights “the threat of the medically knowledgeable female master criminal” because Koluchy’s “mystical powers have been an affront to medical science” (147, 153). Chris Willis similarly contends that, in texts such as *Brotherhood* and H. Rider Haggard’s *She* (1887), “a specifically feminine form of power is linked to the occult to threaten the supremacy of a male-dominated status quo” (64). However, Willis sets this “female power” of “instinct, spirituality, and the supernatural” in opposition to the “male power” of “science and logic” without considering the ambiguous space wherein, for example, Haggard’s Ayesha is simultaneously a supernatural being and “a great chemist” (Haggard 184n; C. Willis 65). More recently, Janis Dawson argues that the fantastical characteristics of Koluchy and, by extension, her contemporaries make them “both appalling and appealing” to audiences because they embody anxieties surrounding the New Woman and degeneration—a degeneration not only of the British Empire, but also, I would add, of British science (68-69). These novels may suggest that any science practiced by women becomes, by virtue of their gender, something other than legitimate science, be it magic or crime. At the same time, *Olga Romanoff* and *Zalma*

specifically depict women who appropriate or inherit the research of men, which raises questions regarding the legitimacy of revolutionary scientific discoveries: if women's experiments, including those appropriated from male colleagues, are regarded as criminal or magical, is not the work of those male colleagues equally questionable? These texts thus challenge definitions of legitimate and illegitimate scientific practice—that is, what signifies science as opposed to magic or crime, regardless of whether or not the practice actually engages with the occult or criminal. By challenging this definition, *Olga Romanoff* and *Zalma*, like their contemporaries, critique the ambiguous nature of a practice in which potions can become poisons, bacterial cultures become biochemical weapons, and scientists can become witches and poisoners.

### **Witchcraft, Poison, and Power**

<15>While depictions of the New Woman doctor and the Nightingale nurse have received scholarly attention, both the woman scientist and the relationship between women, science and witchcraft remains unexplored.<sup>(6)</sup> Such an absence may exist because texts that associate the woman scientist with witchcraft tend to be popular texts that have only recently begun to attract scholarly attention, including works of detective and speculative fiction.<sup>(7)</sup> Despite this gap in scholarship, critics have linked witchcraft and Otherness so that, even in those narratives that contain little or no relationship to science, “witch-figures, whether overtly malevolent or dangerously attractive, are represented as racially Other” (Moran 145). Such assumptions align these women with supposedly exotic, degenerate races who, according to the Victorians, were associated with black magic or criminality—that is anyone ostensibly not English (Dawson 63). Even as Russians, Olga and Zalma are still characterized as Other with their “lustrous,” “jet-black” hair, and a foreign upbringing that the novels’ Anglo-Saxon characters use to disparage the genius of both women (Griffith 333; Ellis 38). Griffith and Ellis’s depictions of their title characters were likely influenced by the ways in which many prominent Victorian women of science were Russian or Eastern European, including Marie Curie and the founder of the Theosophical Society, Helena Petrovna Blavatsky, whose writings, including *Isis Unveiled* (1877), discussed various means of combining studies of science and the occult. That Griffith and Ellis explicitly feature Russian women scientists reflects British anxieties regarding an uncontrollable Other in which the female foreign scientist plays a similar role to Dracula—the Eastern invader whose supernatural powers threaten Victorian hierarchies and whose ability threatens Western dominance over technological innovations. Although Olga and Zalma are neither supernatural beings, nor are they practitioners of witchcraft, they are still referred to as witches by their male antagonists as a means of limiting their authority as scientists and geniuses. By ascribing Olga and Zalma’s powers to supernatural forces rather than to intellect and scientific prowess, these male characters can reaffirm the belief that women are incapable of genius or, indeed, any advanced study of science. Neither Olga nor Zalma needs to be an actual witch in the sense

of casting spells and evoking spirits; their ethnic Otherness, scientific aptitude, and eccentric behavior distinguishes them as deviants who are, as a result, abused and alienated by their societies. By employing the label of witch, *Olga Romanoff* and *Zalma* highlight the derision and irrationality with which Victorians, particularly male professionals, Othered women scientists, British or otherwise.

<16>In *Olga Romanoff*, the male hero is adamant that Olga is a witch rather than a scientist, and his diction has a significant influence on how other characters and the novel's narrator characterize her. Infuriated that Olga would dare defy his authority, Alan Arnold describes Olga's potion as one of the "the vile spells of the evilly beautiful Syren of the Skies, who had so fatally bewitched him" (Griffith 143-44). His disregard for her abilities influences his references to Olga throughout the novel; he only refers to her as a girl, witch/sorceress, or poisoner, thereby demonstrating his adherence to particularly demeaning gender roles that exclude Olga, a Russian woman, from any position of authority.<sup>(8)</sup> In contrast, his wife Alma calls Olga a "genius," albeit it an "evil" one; furthermore, Alan's sister reminds Alma that "you know too much about chemistry not to know that such horrible poisons have existed for centuries" without any suggestion that spells are involved in Olga's work, thus revealing that these women regard Olga's potion as a product of science, not magic (338, 106). The novel distinguishes between male and female responses to the woman scientist by drawing attention to the threat that specifically male characters perceive the woman scientist posing to them, and their authority. *Olga Romanoff* calls into question the use of derogatory labels such as "witch" by ascribing their use to a specifically male ideology that refuses to acknowledge either the genius or even the basic skills of the woman scientist.

<17>Olga openly comments on the use of such labels to demonstrate her recognition of the negative views her male-dominated society holds of her transgressive activities. While in her laboratory, she states that "if anyone could see me just now, I fancy they would take me rather for a witch or a poisoner of the fifteenth century than for a girl of the twenty-first" (54). She does not call herself a witch or poisoner; these are instead the opinions she imagines others would use to interpret her laboratory work. There is no precedent for Olga in this fictional future; the very sight of her standing over her apparatus would make that society mistake her for a witch rather than a scientist. Even the advanced Aerians regard her as an anomaly and conclude that her extraordinary powers must be magical. When Olga describes a dream to Alan in order to impress him, he immediately asks "what are you? A sorceress, or—No, you cannot be an Aerial girl in disguise," which again demonstrates his inclination to assign any unexplained behavior to a magical source (69). Alan offers only two options that reflect the binaries of Victorian gender roles: those that distinguish women as either Angels of the House or witches. Although women like Olga and *Zalma* fall outside of the stereotypical binary, those who adhere to its rules still attempt to situate women scientists within those rigid categories.

<18>The narrator also describes Olga as a supernatural being, which obscures the novel's apparent critique of labelling women scientists as witches. According to the narrator, Olga possesses both an "almost perfect physical loveliness" and a "witching" voice while her eyes contain a "witching spell," all of which suggest that she uses witchcraft as a means of seduction (32, 33, 155).<sup>(9)</sup> These variations of "witch" displace her ingenuity onto a supernatural source and make it appear that her appearance alone—rather than her talent for manipulation and her use of a mind-control potion—enables her ascendance to power. However, the way in which the narrator frames Olga's power as supernatural conflicts with Olga's own views while she produces the potion. During the experiment, a chemical reaction forms "a pale orange-coloured flame" that distorts Olga's reflection in a mirror so that the "unearthly" light that she "called forth" is able to "melt" her mask of beauty and alter the color of her skin and eyes, just as the potion's color changes over the course of her experiment (55). Even as the narrator highlights how Olga's practice of science is unnatural, Olga states that it is merely "what four generations of inherited hate and longing for revenge have made me" (56). To her, the so-called demon in the mirror is, like the formulae of her potion, an inheritance, a century's worth of "hate and longing for revenge" that finds its outlet in the last descendant of the Russian Tsar. Olga views the image as a reflection of her desires and the history that fuels them, fully understanding that any distortion of the image is a trick of "the light of that terrible flame" (56). It is only the narrator who applies supernatural language to the scene by constructing the image as a monstrous product of the experiment—Olga's own version of Hyde. Although the narrator constructs the scene as a revelation of Olga's monstrous soul, she herself dismisses the image and, indeed, emphasizes her lack of concern for it and for the supernatural as a whole: "Bah! that is enough of dreaming, when the time for doing is so near" (56). She is too occupied by her experiment and plans to distract herself with fantasies and illusions—including that which prevents male characters from taking her seriously as either scientist or political strategist.

<19>While there are admittedly elements of Olga's potion that associate it with the occult, they are set in sharp contrast to Olga's employment of rational scientific methods. The mind-control potion is "the Elixir of Death,—death of the body or of the soul, as the possessor of it shall will," and, as Olga most frequently employs it, the potion places its subjects "in a sort of hypnotic trance" entirely under Olga's will, as though she were a hypnotist (60, 73). This potion stretches the novel's science into the realm of fantasy, but, in a footnote, Griffith asserts that "such a poison as this is no figment of the imagination," and he assures readers that "it has been known to Oriental adepts in poisoning for many centuries," while the Borgias were "certainly familiar" with it (60 n1). Such an illustrious history links the potion to both chemistry's origins in the East and to the Victorian fascination with female poisoners like Lucrezia Borgia, yet it fails to lend scientific verisimilitude to an already sensationalized chemical.<sup>(10)</sup> It is instead Olga's laboriously described process that distances her, if not her potion, from any supernatural explanations for her aptitude. Once she has studied the chemical formulae "intently for several

minutes,” Olga makes “a series of calculations on another sheet of paper and compared the result carefully with some figures on the slip. She made them three times over before she was satisfied that they were absolutely correct” (54). She then measures her chemicals with “most scrupulous exactitude ... weigh[s] out tiny quantities of the powders,” and mixes them “with all the care and deliberation of a chemical analyst performing a delicate and important experiment” (54). Throughout this scene, the narrator highlights Olga’s ability to perform the role of a professional chemist, particularly the serious, almost obsessive, attention she pays to her calculations and laboratory procedures, in what might be the most detailed laboratory scene in nineteenth-century speculative fiction. Her knowledge of practical science cannot be attributed to supernatural sources, which thus demonstrates how Alan is incapable of accepting the Russian woman as his intellectual equal. His failure to do so prevents him from truly defeating her by scientific or technological means; it is instead the comet that foils Olga’s plan for world domination.

<20>Significantly, this is the only scene in which Olga appears within any laboratory or with her equipment, and if she produces more of her potions, then those scenes take place off-stage, distanced from the political drama, melodramatic romance, and aerial battles that dominate the remainder of the narrative and, indeed, the initial reviewers’ interest. The novel thus indicates that there is no physical space for Olga to practice science or to exist as a scientist because all aspects of this future world—societal, historical, and even cosmic forces—work against her, ultimately annihilating her in order to restore peace, prosperity, and conservative social hierarchies. *Olga Romanoff* may take place in the twenty-first century, but it engages with the issues of the nineteenth, in which similar forces encourage society’s dismissal of the woman scientist based on historical prejudices and, indeed, societal fears of female authority and knowledge regarding such topics as poison.

### **“Turned into a Devil” by Science: The Case of *Zalma***

<21>The contrast between the woman scientist’s lack of magical powers and male characters’ belief in such powers is more explicit in *Zalma*, which contains no reference to the supernatural except for the male hero’s speculations of *Zalma*’s source of power, thus demonstrating his desperation to explain *Zalma*’s powers by any possible means. On learning the details of *Zalma*’s history, the Secret Service agent Charles St. Leger considers her to be “some demoniacal temptress, gifted with evil power” who, “by the dark paths that men like Mesmer and Cagliostro trod, or that Lucrezia Borgia knew ... had obtained knowledge of devious and wicked subtleties by which she could ensnare the souls of men” (Ellis 403). He associates her supposed powers with a dark, transgressive past that has been long hidden—literally occult, to draw from the term’s Latin origins—and that specifically threatens male autonomy. At the same time, St. Leger calls *Zalma* a “temptress” who seeks to “ensnare the souls of men,” which

suggests that he believes Zalma would use her powers to control men and would not hesitate to use her sexuality to do so. Therefore, not only does St. Leger deny Zalma's genius by claiming that her powers were obtained through magic in a Faustian bargain, he also reduces her to the trope of the seductive, emasculating witch. He characterizes Zalma as a purely sexual and supernatural being in his attempt to efface her connection to the realms of logic and genius; he remains unable to reconcile her performance of femininity with her aptitude for science.

<22>The most disturbing aspect of Zalma's power for St. Leger is that she appears to combine her practice of the dark arts with modern scientific innovations, and once again he works to contain what Chris Willis calls "female power" within the categories of "instinct, spirituality, and the supernatural" (65). St. Leger speculates that Zalma's science is rooted in magic and that she has "possession of evil powers and malicious influences, acquired in the side roads of Science and deemed that they both possessed a knowledge of those black arts which Mesmer and Allauyer [sic] had used for the damage and destruction of men" (403). He bases this claim on his knowledge that "the deeds and modes of the astrologers and magicians were still practised—not, as in bygone days, in semi-ignorance and superstition, but with the increasing power that Science and exact knowledge has conferred upon these narrow bypaths of mysterious learning" (403). With this, St. Leger suggests that Zalma is an occultist, a belief shared by other upper-class characters who wonder "is her power Hypnotism?" even though, just prior to these statements, the narrator includes a detailed description of Zalma's laboratory experiments that contains no reference to magic, spiritualism, or the occult (429). According to these characters of authority, Zalma's abilities are not the result of her intellect and determination, but of some version of dark, occult magic that she has inherited or resurrected from history. These speculations highlight the irrationality with which society responds to Zalma's genius and practice of science, and additionally reveal how such harmful assumptions about women scientists are rooted in superstition and fear. From this perspective, if Zalma practices science and appears to have a strange power over others, then she must be a witch; these characters possess no alternative vocabulary to describe her as a result of a flawed ideology wherein women can only exist within a limited set of tropes and figures, none of which include science.

<23>In order to appropriate the power that she has been denied by her restrictive, patriarchal society, Zalma first embraces the role of female poisoner, particularly following the model of Lucrezia Borgia, whom Victorian historiography characterized as a highly transgressive figure, associated with "a desire for political power and unnatural sexual appetite" (Pal-Lapinski 102).<sup>(11)</sup> During a tour of the bacteriologist Septimus Adern's laboratory, Zalma becomes "most seriously fascinated by the possibilities of life and death that their conversation suggest[s]," but in her speculations that Adern's bacterial cultures could be transformed into weapons, she links the cultures' potential with history rather than the future (139). She asks Adern whether "a very wicked person, like Lucretia Borgia, who is said to have poisoned her

guests by the touch of a ring—could such a wicked woman—ur—communicate intentionally any of these diseases to some person she wanted to—to—to murder?” (139). Zalma believes that, with the cultures, she has discovered something “so much more dreadful, so much more terrible,” than “clumsy” poison that offers “incalculable power ... over the lives of men ... you could deal death to thousands, to tens of thousands” (140, 147). Zalma uses modern technology to expand the female poisoner’s power to a universal scale in which “some person she wanted to murder” becomes “tens of thousands” as she comes to understand the full potential of the bacteria. Zalma fashions herself as a modern Borgia—a figure whose empowerment inspires Zalma—to revise the paradigm of the Early Modern female poisoner to reflect late-Victorian scientific innovations. As science has made new types of poison available, the “wicked person” must adapt herself to their use, be it with a poisoned ring or by scattering “micro-organisms” from balloons (389). In the process of this adaptation, the poisoner of history and legend also evolves into the equally transgressive and potentially more powerful figure of the woman scientist.

<24>Zalma’s reference to Borgia disguises her interest in science, enabling her to take advantage of Adern’s prejudices against women in order to acquire knowledge that he would not offer to a rival scientist. Zalma performs the role of naive young woman for Adern’s benefit, speaking “with pretended dread” within the laboratory and later “forcing a laugh, the hollowness of which would have been noticeable by any listener whose mind was not preoccupied” (137, 141). Adern never suspects Zalma’s motives because he regards her as her “father’s daughter and hereditarily of a scientific and, therefore, inquiring turn of mind,” though he jokes that, otherwise, he would imagine she was “meditating some dreadful crime” (142). With this, Adern reveals that he respects her father’s genius, but not her own, which he regards as merely inherited. Similarly, Adern strictly limits the use of the bacterial cultures, stating that “any analytical man, desirous of committing a murder, could certainly do so elaborately” while anyone “without special knowledge” would be “more likely to commit *felo de se*” (139). Adern’s claim reflects the increasing exclusivity and specialization of scientific practice, and he particularly excludes women, even those like Zalma who possess an “inquiring turn of mind” (142). That the narrator refutes this in Zalma’s production of enough anthrax bacteria to “kill every living creature on the planet” without causing harm to herself indicates the novel’s critique of the narrow-mindedness of the scientific institution through its representative, Adern, who underestimates Zalma’s genius and ability simply because she is a woman (421). The novel is thus able to illustrate the dangers of excluding and alienating those on the margins of science, who have as much of an ability to revolutionize science and society for good as for ill.

<25>Zalma’s references to Borgia highlight the limitations for a woman scientist in her society because, until she acquires an education in science, she can only discuss the potential of the

bacterial cultures within the language of poison. In the world of the novel, this language is one of the few available to her as a self-educated woman outside of the scientific institution. The only other language the novel depicts is that of the anti-vivisectionists, who claim that “everything is already known that is worth knowing” (303). Unlike these women, who are as narrow-minded as Adern, Zalma is “always receptive of knowledge,” and she thus discovers how to use science to overthrow a society that both rules women’s lives and frequently abuses its power (137). She claims that “poisons are of course entrancing to women-folk” because they can cause “the grave to close over the mouth that spoke, the head that held one, the arm that ruled one, the life that injured one to lie there, lifeless” (141). Zalma argues that poisons offer women a means to rectify the imbalance of power within their patriarchal society, but by the end of this passage, she distances herself from the personal revenge plots undertaken by female poisoners by exclaiming “how clumsy is any poison compared to this new power that bacteriology is conferring on mankind!” (141). She chooses to instead embrace the “new power” offered by science because it creates a future in which “some little round-shouldered spectacled man” of science can “exterminate a town, a nation, almost a race” with “a grain of sulphur with two of potash, and so much picric acid or something” (148). Zalma favors this seemingly limitless power of the scientist over “clumsy” poisons, and she acquires a specialized language and theoretical framework that encompasses bacteriology and germ theory, eventually leading Adern to accept her as “a true woman of science” (301). Even as this new label acknowledges Zalma’s accomplishment, it sets her in opposition to other women in the novel, such as the anti-vivisectionists, who inform Adern that Zalma “has been turned into a devil by men like you—by work like yours” (303). This claim effectively isolates Zalma in a way that may reflect anthropological claims regarding the “virile” and unnatural woman of genius, but not the reality of Victorian women’s engagement with science (Lombroso 138). Although the narrator claims that his “story is indeed one of real life,” its exclusion of women scientists is problematic because by 1895 women were increasingly present in British laboratories, even if as assistants (Ellis 19; Crease and Crease 266). The absence of other scientific women in the novel, in addition to Zalma’s characterization of the scientist as “some little round-shouldered spectacled *man*,” (148, emphasis mine) situates Zalma as a transgressive figure on the margins of society. Her entrance into the world of science is thus a violation that enhances her Otherness and aligns her with the monstrous and degenerate, as represented by the roles of poisoner and witch.

<26>Like *Olga Romanoff*, *Zalma* offers no place for the woman scientist, but in this case, it is largely because Zalma is neither able to surmount her own prejudices regarding women, science, and poison, nor the overwhelming desire for revenge that drives her toward mass/self destruction. The narrator of *Zalma* initially appears to emphasize her skills within the laboratory, and they describe how she works “with all the precision which Dr. Adern, now one of the most accomplished bacteriological experts of the day, was wont to exercise in his own

celebrated clinical laboratory in Cavendish Square” (390). By comparing Zalma to the “celebrated” professional scientist, Adern, the narrator appears to elevate her and, by extension, women scientists by demonstrating how they are capable of performing with expert precision. However, the narrator contradicts this by adding that “she did not work as a scientist would do,” because while she takes “an interest ... worthy of an advanced scientist ... her work, so far as it was necessary to her scheme, was of so simple a character that any medical student, or even a layman of average intelligence, could have mastered the subject in a few hours” (390, 391). The narrator may accept her “precision” and “interest” as equivalent to that of a professional scientist, but he rejects her actual “work” because, as he claims, Zalma only “required one of the very simplest cultures possible in large quantities and to obtain it her work was of the easiest” (391). Without taking into account the fact that Zalma has only recently educated herself in bacteriology and would thus not have yet attained a sufficient degree of expertise to attempt more complex experiments, the narrator, like Adern, dismisses Zalma’s genius and aptitude, largely because she chooses not to progress her scientific education beyond what is “necessary to her scheme” of mass poisoning. In this way, Zalma thus undermines her own potential as a scientist because, despite her natural curiosity and abilities, her work becomes wholly driven by her need to avenge her father’s death and the “the wrongs she has endured” (393). Consequently, she produces substances that serve no other purpose than as poisons, just as her role as a scientist is limited to the production of those poisons without alteration or improvement to the design, materials, or results of her laboratory work. Effectively trapping herself, Zalma is unable to maintain the precision and analysis necessary for her scientific labors, which become as “clumsy” as Zalma believed poison to be, resulting in the failure of her plans and, ultimately, the complete collapse of her role as woman scientist.

<27>By the novel’s conclusion, Zalma removes herself from the realm of science in favor of the more sensational, tragic suicide of female poisoners like Wilkie Collins’s Lydia Gwilt. With the failure of her plans, Zalma’s laboratory mysteriously transforms into a room containing candles, roses, and “a Venetian phial and a twisted glass” with “some curious blue powder” that is stored “in a jeweled and golden casket” (437). The substances from which she mixes the poison are not stored in beakers, but in perfume bottles, one of which is notably Italian. With these items, the narrator evokes the opulence, deception, and spontaneity of the historical poisoner, qualities in opposition to those valued by scientists according to the narrator: precision, cool rationality, and “the delight of knowing” (145). These are qualities that Zalma herself once respected and adopted, but in the scene prior to her death she appears incoherent and “inebriated” by madness, signaling how she has abandoned the role, and also the language, of the scientist (380). By stripping Zalma of her science, the novel contains her monstrosity and instability within an established paradigm that effaces her most dangerous qualities: her scientific ability and her genius. The novel ends in the chaos of the revolution Zalma has begun, but she can only passively observe it from her home, entirely removed from her positions of

power as scientist and anarchist leader. The novel instead subdues her within a conservative narrative wherein she is punished for her transgressions with madness, failure, and death. However, the novel does not merely link the woman scientist with the poisoner; it also illustrates how science's corrupt, atavistic past is indistinguishable from its future: both follow the same goals, practice the same occult experiments, and offer the same temptation to the ambitious and debased.

<28>Neither *Olga Romanoff* nor *Zalma* are able to create a new space for these characters, and thus these women of science remain monstrous figures who threaten societal hierarchies and therefore must be destroyed—not only in death, but also in the elimination of their authority over knowledge, science, and men. What stands between Olga and Zalma's acknowledgement by society as scientists is a long history of negative representations of scientific women that pervaded throughout nineteenth-century fiction and culture, from the evil witches of fairy tale to the female poisoners of sensation fiction. Both novels indicate that it is in fact society and the scientific community that are trapped by their adherence to historical paradigms, and neither the society of the 1890s nor of the twenty-first century can successfully surmount the influence of nineteenth-century historiography to acknowledge, comprehend, and accurately label the modern woman of science as a figure of authority. *Olga Romanoff* and *Zalma* distinguish themselves from other speculative narratives of the 1890s because they highlight the ways in which nineteenth-century society and scientific institutions marginalized women of science, be it through denial of degrees or outright exclusion from histories of science. In doing so, both novels call attention to the continued negative influence the dismissal of women's contributions to science had on both scientific practice and public perceptions of science in the late-nineteenth century—an influence that, as Griffith and Ellis speculated, would continue well into the future.

#### Endnotes

(1)See Moskowitz, *Strange* 182; Stableford, "Science Fiction" 23; Stableford, *Scientific Romance* 48, 45.[\(▲\)](#)

(2)For a more detailed history of the future war genre, see Stableford, "Science Fiction," 22-23.[\(▲\)](#)

(3)See Steven McLean's introduction to *Angel* (2012) and Steven Mollmann's recent article on the novel's depiction of future war technology. Sadly, neither critic extends their discussion to the sequel *Olga Romanoff*.[\(▲\)](#)

(4)According to Sam Moskowitz, Griffith allegedly changed the novel's title from *The Syren of the Skies* to *Olga Romanoff* because she "had captured the imagination of the reading public and had considerable sales appeal" (Introduction i). However, because initial reviewers oddly

make little reference to her, it is impossible to support Moskowitz's claims, apart from the change in title, that the female mad scientist was indeed what attracted readers to the novel.(^)

(5)While Olga is headstrong and ingenious, the two Aerial women in the novel are idealized Victorian women: patient, loyal and, while highly educated, they leave science and technology in the control of the Aerial men (97-99, 106). This contrast is more evident between Zalma, "the doctor's daughter, and a true woman of science," and the British anti-vivisectionists who find the male scientist's explanations incomprehensible, requesting that he "interpret it, please, to a common mind," thus revealing their deficient scientific education (Ellis 301, 305).(^)

(6)See Murphy 67-68; Swenson 3-4.(^)

(7)See Moran 143; Murphy 67-68; C. Willis 64-65.(^)

(8)In the novel, the Aerials are a distinct race that regard themselves as "the very chosen of the earth," superior in intellect, morality, and physical appearance (99).(^)

(9)Olga only interacts with one other female character in the novel, which is insufficient evidence to determine whether she might also have the same seductive influence over women. Alma recognises Olga's "almost perfect physical loveliness" as similar to "her own type," but the knowledge of Olga's crimes against humanity changes Alma's reaction from one of "wonder" to one of "unspeakable horror" (333). At Olga's approach, Alma "shrank back as though to avoid contact with some unclean thing" although Olga's voice, with its "wonderful music sent a chill to Alma's heart" (336). However, it is possible that without the knowledge of Olga's crimes Alma might find her beguiling as do other male characters, including, to his chagrin, Alan himself.(^)

(10)For discussions of the nineteenth-century characterization of Lucrezia Borgia as a poisoner, see Helfield 177-178; Pal-Lapinski 102-103.(^)

(11)*Zalma* depicts a sensationalized version of 1895 Britain in which the novel's female characters are jilted, kidnaped, sexually assaulted, abused, and neglected by men. Women in this society entirely lack political or social power, yet while the novel contains references to the Pioneer Club and social purity movement, it fails to mention the New Woman or the suffrage movement. A woman's lack of agency in this society instigates Zalma's quest for revenge, and the novel largely exonerates Zalma's madness because of the abuse she has suffered.(^)

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