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# Eugenics, Rejuvenation, and Bulgakov's Journey into the Heart of Dogness

Yvonne Howell

The important man plunged his hands dressed in slippery gloves into jars, pulled out brains, a stubborn man, a persistent one, searching for something all the time, cutting, examining, squinting, and singing "Toward the sacred banks of the Nile . . ."

—final sentence from *Heart of a Dog*

On 24 May 2005 the science section of the *New York Times* ran an article on Cornell University's collection of pickled human brains, the remainder of a once 600-brain repository.<sup>1</sup> At the end of the nineteenth century, anatomists cut into these brains, hoping to unlock the secret of why one brain produces a genius, another produces you or me, and yet another produces a criminal. Comparing the anatomy of different brains led to nothing, and over time the collections of brains housed by scientific organizations in Philadelphia, Tokyo, Paris, and Moscow mostly disappeared. The basic question, of course, has not disappeared: we still do not know how the brain—a vast collection of neurons—produces the mind, the unique phenomenon of human consciousness. Although our knowledge of the physical and cognitive processes that take place in the brain is exponentially more complex than it was in Mikhail Bulgakov's time, the link between the physical brain and our irreducible humanity (which is represented as "heart" in *Heart of a Dog*) is as elusive as ever.

In this article, I propose a new reading of *Heart of a Dog*, one that takes seriously Professor Preobrazhenskii's claim that his real interest is "eu-

I am grateful to David Brandenberger for his stimulating comments on an earlier version, and for many conversations thereafter. Tim Sergay responded with cogent critiques and witty suggestions to every query I sent his way. I also want to thank Diane Koenker, Jane Hedges, and the two anonymous reviewers for their astute and thoughtful readings.

Mikhail Bulgakov wrote the original manuscript of *Sobach'e serdtshe* from January to March 1925 and submitted it to the journal *Nedra* for publication. No less than L. B. Kamenev eventually torpedoed its prospects for publication, denouncing the novella as "an acerbic broadside about the present age." J. A. E. Curtis, *Manuscripts Don't Burn: Mikhail Bulgakov. A Life in Letters and Diaries* (London, 1991), 75. The history of the manuscript's subsequent confiscation (from Bulgakov's apartment on 7 May 1926) and posthumous recovery has been discussed in detail elsewhere. See Curtis, *Manuscripts Don't Burn*; Edythe C. Haber, *Mikhail Bulgakov: The Early Years* (Cambridge, Mass., 1998); and Lesley Milne, *Mikhail Bulgakov, a Critical Biography* (Cambridge, Mass., 1990). The first Russian-language edition of *Heart of a Dog* was published in Germany in 1968 (*Grani*, no. 9, 3–85), but it was not published in the Soviet Union until 1987 (*Znamia*, no. 6, 76–135). Since 1987 it has been continually in print. Marietta Chudakova's masterful "Arkhiv M. A. Bulgakova" (1976; held in Gosudarstvennaia biblioteka im. Lenina, *Zapiski otdela rukopisei*, no. 37) managed to invoke Bulgakov's banned work indirectly, referring to it in a discussion of Soviet press coverage of rejuvenation in the 1920s. The epigraph and all quotations in this article are taken from Mikhail Bulgakov, *Heart of a Dog*, trans. Mirra Ginsburg (New York, 1968).

1. Peter Edidin, "In Search of Answers from the Great Brains of Cornell," *New York Times*, 24 May 2005, Section F.

genics, the improvement of the human species.”<sup>2</sup> The Professor's eugenics project is not limited to a cosmetic, physical improvement of human subjects; it anticipates urging humankind toward a higher stage of intellectual and spiritual development as well. Therefore, when he mistakenly transforms a dog into a man instead of a more intelligent dog, he considers the experiment an abject failure because the new man “no longer has a dog's heart, but a human one, and the vilest one you could find.”<sup>3</sup> This does not deter the Professor from further research; on the contrary, at the end of the book he is still searching for the mysterious mechanism that connects the secrets of the brain to the secrets of the heart. The science that makes rejuvenation procedures and genetic engineering possible is no longer as fictional as it was in Bulgakov's time, thus, an analysis that highlights the novel's exploration of how science, politics, and ideology interact is long overdue. I propose that the novel's enduring significance lies not in its overworked interpretation as an anti-Soviet satire or as a warning against scientific hubris.<sup>4</sup> Rather, it remains a brilliant exploration of the conundrum of where nature meets nurture in efforts to enhance humankind.

### Soviet Eugenics

The rise and fall of the Russian eugenics movement in the 1920s forms the social and intellectual backdrop for Bulgakov's story about the creation of a New Soviet Man. Many of Russia's most prominent early twentieth-century biologists—the real-life peers of Bulgakov's fictional protagonist—had a great deal of faith in the power of biology to transform our understanding of human nature and, with it, our blueprints for social progress. In their eugenic aspirations, these scientists participated in some of the same kind of radically utopian thinking as prerevolutionary

2. Bulgakov, *Heart of a Dog*, 104.

3. *Ibid.*, 105.

4. I am indebted to the many previous critical studies of Bulgakov's novella for their various insights. I do not agree with the two lines of thought that dominate existing interpretations of *Heart of a Dog*, however. Cold War-inspired critics did not dwell on the novella's scientific theme, obscured as it was by the presence of subversive political satire, which they were eager to find in a piece of banned Soviet literature. Most other critics have cast Preobrazhenskii as a mad scientist in the Frankenstein tradition, one who unleashes forces he himself cannot control. See, for example, Ellendea Proffer, *Bulgakov: Life and Work* (Ann Arbor, 1984); A. C. Wright, *Mikhail Bulgakov: Life and Interpretations* (Toronto, 1978); and Diana Burgin, “Bulgakov's Early Tragedy of the Scientist-Creator: An Interpretation of *Heart of a Dog*,” *Slavic and East European Journal* 22, no. 4 (1978): 494–508. While there is ample evidence for the importance of political satire and the condemnation of scientific hubris in the novella, taken together the two approaches yield unsatisfactory contradictions. If one sees in the novel a thundering anti-Soviet tirade, then Preobrazhenskii, as the most forceful and articulate voice of this tirade, must be viewed in a positive light. To cast him as a sinister scientist is difficult when it is clear that Bulgakov has enormous sympathy for his formidable protagonist, whose views on society, political reform, and Soviet housing committees he largely shares. On the other hand, if one views with horror the elitist Professor's dangerous dabbling in sex gland grafts and trans-speciation, then Bulgakov's intent to create an anti-Soviet broadside is called into question.

philosophical proponents of human regeneration and resurrection.<sup>5</sup> The focus here will remain on the 1920s, the time in which Bulgakov wrote his two satirical science novels (*Heart of a Dog* and *Fatal Eggs*). Not incidentally, it was also the historical moment in which Bolshevik policymakers and Soviet scientists tried to find a common ground for creating the New Soviet Man.

Although there is little evidence to suggest that Vladimir Lenin was at all interested in the emerging science of genetics before the revolution, once the revolution had been accomplished, it became immediately clear to most Bolshevik leaders that resolving the nature-nurture debate was an issue of some urgency. Andrei Siniavskii later described the situation succinctly: “The Revolutionary flag read: ‘everything anew.’ But to create the ‘new man,’ a single revolutionary leap forward was not enough.”<sup>6</sup> The architects of the revolution were confronted with the problem of constructing this new man, one who would be psychologically, physically, and culturally at home in the radically different society envisioned by communism. In *Literature and Revolution*, Lev Trotskii wondered whether “the proletariat has enough time to create a ‘proletarian’ culture?”<sup>7</sup> Trotskii was not alone in his doubts about how the new man might be created in a single generation if culture, science, and psychological habits are transmitted over many generations. Clearly, the challenge of creating new men and women out of existing human material—out of a population, moreover, that, according to Marxist dictates, had been enslaved for centuries—remained on the table throughout the 1920s.

At first, it seemed that beneficial changes in the biological composition of a given society, in tandem with needed social reform, could lead to the rapid advancement of humankind. Russia’s leading biologists realized that a link—however tentative and abstract—might be made between genetics, which involved fundamental research on the inheritance patterns of fruit fly populations, plant varieties, and poultry breeds, and “eugenics,” which implied a promise that biology would produce practical applications that would improve the overall health of society. Ideally, biology could be shown to pull in the same direction as Bolshevism. The popular press seemed to have agreed: in the early 1920s, lay readers could choose from a plethora of books and journal articles explaining our evolutionary origins, the biological bases of behavior, the effect of hormones on personality, and other biosocial ideas.<sup>8</sup> The journal of the Russian Eugenics

5. The essays in Irina Paperno and Joan Delaney Grossman, eds., *Creating Life: The Aesthetic Utopia of Russian Modernism* (Stanford, 1994) foreground the uniquely Russian modernist impulse to literally transform artistic, mystical, and religious ideals into real life. Philosophers like Nikolai Fedorov and Vladimir Solov’ev called for projects that would make metaphors about “eternal life” and “universal love” into scientific and social realities.

6. Andrei Siniavskii, *Soviet Civilization: A Cultural History* (New York, 1957), 114.

7. Leon [Lev] Trotsky, *Literature and Revolution* (New York, 1957), 184.

8. See Mark Adams, “The Soviet Nature-Nurture Debate,” in Loren Graham, ed., *Science and the Soviet Social Order* (Cambridge, Mass., 1990). Adams cites letters from the Petrograd publisher M. V. Sabashnikov to Iu. A. Filipchenko, in which Sabashnikov inquires about “books with a materialist approach to man and nature that he felt would appeal to political authorities” (98). Eric Naiman also emphasizes the vitality of the public discourse

Society published articles with the following titles, any of which would fit into the intellectual universe of Bulgakov's Professor Preobrazhenskii: "On the Methods of Physically Improving Posterity," "Birthrate Pattern of the Moscow Intelligentsia," "About the Connection between Character and Evolution."<sup>9</sup>

The founding fathers of the Russian eugenics movement were biologists of the prerevolutionary generation, trained in Europe and dedicated to fundamental research in Mendelian and population genetics. They offered no concrete suggestions on how to apply the existing knowledge of genetics (still far from complete) to effect changes in the population; they simply advocated more research. In the long run, though, their eugenic perspective was visionary: in the future, biology would unlock the keys to perfecting human nature and human society. One of the founders of the Russian Eugenics Society, Nikolai Konstantinovich Kol'tsov, articulated the appeal of the eugenic vision to a modernizing, secularist society. In a lead article for the society's inaugural journal bearing the title "Uluchsheniie chelovecheskoi porody" (Improving the human race), he points out that every progressive revolution in human history has been motivated by the ideal of improving and enhancing humankind, from the cult of beauty that inspired the civilization of ancient Greece, to the highest ideals of Christianity, which, after two thousand years "are still not attainable."<sup>10</sup> He places biology at the vanguard of a new stage in our cultural evolution, as the source of knowledge that will finally bring the goal of improving human life within our reach. Preobrazhenskii's eugenic rhetoric in *Heart of a Dog* mimics the article's title, when he tells Bormental', "I was concerned with something else altogether—eugenics, the improvement of the human species!" (*Ia zabotilsia o sovsem drugom, ob evgenike, ob uluchshenii chelovecheskoi porody*).<sup>11</sup>

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connecting biomedical and social topics in the 1920s. A good example is the discussion carried out in the popular press about the endocrine system, which some authors "used . . . to explore the real meaning of the term 'soul' . . . or as proof that God did not exist." Eric Naiman, *Sex in Public: The Incarnation of Early Soviet Ideology* (Princeton, 1997), 143. This kind of biosocial discourse was effectively cut off in the 1930s and did not return to the Soviet press again until the 1970s, when a few journals began to publish censored versions of essays on sociobiology by V. R. Dol'nik, V. P. Efroimson, and others.

9. See articles by V. P. Osipov, "K voprosu o merakh fizicheskogo ozdorovleniia potomstva," *Russkii evgenicheskii zhurnal* 3, no. 1 (1925): 37–45; A.V. Gorbunov, "Rozhaemost' moskovskoi intelligentsii po dannym ankety russkogo evgenicheskogo obshchestva," *Russkii evgenicheskii zhurnal* 6, no. 1 (1928): 3–53; and Ia. Ia. Roginskii, "Ucheniie o kharaktere i evoliutsii," *Russkii evgenicheskii zhurnal* 6, no. 2 (1928): 65–106.

10. N. K. Kol'tsov, "Uluchsheniie chelovecheskoi porody," *Russkii evgenicheskii zhurnal* 1, no. 1 (1922): 1.

11. I have not been able to determine whether Bulgakov had specifically read Kol'tsov's programmatically titled article. Given Bulgakov's decision to use the popular topic of rejuvenation surgery to motivate his plot, it is even more likely that he would have seen Kol'tsov's edited volume *Omolozheniie* (Moscow, 1923). As a former medical student, and as the relative of several doctors, Bulgakov knew scientists of Kol'tsov's generation socially and translated his acquaintance with their milieu into the deeply felt portrayal of Preobrazhenskii. Thus, in Preobrazhenskii-the-scientist we find the quirks of a very three-dimensional man (one who addresses a political tirade to "the hapless cardboard duck which hung upside down from the sideboard," 36). These quirks convincingly inhabit the

Ultimately, though, Bolshevik policymakers in positions of power needed more concrete measures. By the time it became clear that “idealistic” eugenics had no immediate solutions to the country’s social and health problems, the demise of the Soviet eugenics movement was already imminent.<sup>12</sup> After all, most of its founders and active researchers were primarily interested in the fundamental problems of chromosomal inheritance and population genetics, problems that defined new disciplines in the throes of discovery, but were far from producing applied results. The Russian eugenicists were political liberals harboring only a grudging willingness to come to a mutually beneficial accommodation with the new regime. Increasingly, they were viewed as dangerous technocrats, elitists with bourgeois sympathies, theoreticians with more interest in fruit flies than in improving the proletariat. Still, before the complete demise of the eugenics movement, a younger cohort of Marxist eugenicists attempted to reformulate the possibilities of biosocial improvement with neo-Lamarckian logic. Their logic went as follows: if at least some hereditary traits can be acquired under conducive environmental conditions, then ameliorating changes in the social structure will prompt the appearance of desirable traits, which will then be passed down to the next generation. This idea, popularized by the Viennese biologist Paul Kammerer, was influential among Marxist philosophers who tried to reconcile eugenics with socialism in the mid-1920s. Kammerer argued that Mendelian genetics left us beholden to the past, whereas Lamarckism would allow us to take control of our own future.<sup>13</sup> As we shall see, this idea comes into play in Bulgakov’s portrayal of Bormental’, whose optimism about the implications of the Professor’s experiment is fueled by his teleological notion of evolutionary progress.

By 1930, the “Great Break” in cultural policy associated with Stalinism had set a new course in the biological sciences as well. “Bourgeois” genetic science was officially disavowed, and eugenics was condemned as a pernicious intellectual import from the west. Bolshevik ideologues had settled on an interpretation of Marxism-Leninism that would lead ultimately to a strictly “nurturist” view of human nature. This view, which holds that human nature is purely a social product, by implication infinitely malleable and beyond biological constraints, is the one that was subsequently enforced in the Soviet Union up until its collapse in 1991.<sup>14</sup> Until the inau-

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two-dimensional figure of Preobrazhenskii-the-wizard who plays a more symbolic role in the novel.

12. An invaluable overview of the rise and fall of the Soviet eugenics movement can be found in Mark Adams, “Eugenics as Social Medicine in Revolutionary Russia,” in Susan Gross Solomon and John F. Hutchinson, eds., *Health and Society in Revolutionary Russia* (Bloomington, 1990). In recent years, Russian historians have used opened archives to produce a fuller account of the nexus between genetic science and social issues in the early Soviet years. See, for instance, a forthcoming cultural history of the Soviet eugenics movement by Vasilii Babkov (Moscow, manuscript in preparation).

13. Paul Kammerer, *The Inheritance of Acquired Characteristics* (New York, 1924).

14. Note that this view is still hotly defended in some circles. In Russia, as late as 1992, Nikolai Dubinin’s *Istoriia i tragediia sovetskoi genetiki* (Moscow, 1992) singles out the biosocial theories of V. P. Efroimson, M. E. Lobashev, B. L. Astaurov, and P. F. Pokitskii for hostile attack. By taking the work of these geneticists out of context, Dubinin implies that their

guration of Stalin's first Five-Year Plan, however, different parties were actively elaborating both the "nature" and the "nurture" explanations of human behavior. The coexistence, for a time, of both explanatory paradigms complicated early Bolshevik efforts to understand how to go about creating the New Soviet Man. Thus, *Heart of a Dog* is Bulgakov's response to one of the most exciting, intellectually stimulating, and politically complicated issues of his day: He devises a plot that centers around a eugenic experiment; he places his main protagonists at different points of the contemporary spectrum of biosocial thought, and he deploys four narrative points of view, each of which embodies voices that were important in the nature-nurture dialogue of his time.

### **A Menippean Satire of Nature and Nature**

In *Heart of a Dog*, a brilliant Moscow biologist, Filip Filippovich Preobrazhenskii, lives and works in a spacious seven-room apartment. He employs a cook (Dar'ia Petrovna) and a housekeeper (Zina) and is accompanied in his professional endeavors by his scientific disciple and devoted assistant, Dr. Bormental'. Preobrazhenskii has thus far been able to retain his "excessive" square footage because he is a world-renowned specialist in rejuvenative surgery and counts among his patients some of the most important and influential members of New Economic Policy (NEP) society.<sup>15</sup> In the winter of 1924, the Professor lures a stray mutt ("Sharik") off the Moscow streets and uses him in an unprecedented operation. The Professor transplants the pituitary and the testes of a recently deceased man into the dog, and soon the dog is fully humanized. He walks, talks, looks, and thinks like a man. Unfortunately, he is an appalling human being, who displays just about every vice that might particularly offend his patron. Much of the novel's humor derives from the clash between the Professor's cultivated, erudite demeanor and the new man's brash and crude barbarity. There is a darker undertone to the odd couple comedy that ensues when a scientific genius has to live with his own botched experiment, however. The time is 1925, well into the postrevolutionary de-

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belief in biological contributions to certain ethical and psychological phenomena is equivalent to "anti-humanist eugenics . . . the basis of racist, fascist ideology" (324).

15. With NEP (1921–1928) Lenin hoped to jump-start the country's devastated economy by temporarily allowing some private economic activity. Entrepreneurs in certain market sectors were able to flourish, and it is this class of nouveaux riches that Bulgakov pokes fun at in the depiction of Preobrazhenskii's clients. Interest in rejuvenating organ transplants was hardly native or unique to Russia in the 1920s, however. The most famous and notoriously successful purveyor of sexual rejuvenation in the United States was "Doctor" John Brinkley. Brinkley ran a lucrative business transplanting the sex glands of Toggenburg goats into an unending stream of male clients who were convinced by Brinkley's claims that the procedure would cure impotence and reinvigorate the whole endocrine system. At his peak in the 1930s, Brinkley was a fabulously wealthy man whose political connections reached to the White House. See also Arnold Kahn, "Recovering Lost Youth: The Controversial and Colorful Beginnings of Hormone Replacement Therapy in Aging," *Journal of Gerontology: Biological Sciences* 60A, no. 2 (2005): 142–47; and Erica R. Freeman, David A. Bloom, and Edward J. McGuire, "A Brief History of Testosterone," *Journal of Urology* 165, no. 2 (February 2001): 371–73.

cade, and tolerance for the remnants of the old bourgeoisie is waning. The man-dog is crafty enough to figure out how he can use the politicized atmosphere of the times to denounce his benefactor and free himself from the rules the latter imposes. As the situation worsens, Bormental' abandons his original faith in the dog's reformation and threatens to murder Sharikov. Preobrazhenskii rejects this option and instead performs a reverse surgery, which turns the man back into a dog, and a fairly loveable mutt at that.

The events of the novel take place in the space of a few weeks, from mid-December 1924 to late January 1925. The setting is precisely defined as Prechistenka and Obukhov Streets in Moscow; fantastic events intrude into this recognizable neighborhood, however, and the dates correspond symbolically to dates of religious significance in the Russian Orthodox calendar. The mayhem that ensues when Sharik-the-dog turns into Sharikov-the-human provides a broad platform for the novel's satirical targets and sets the stage for a more serious and ambiguous exploration of the philosophical questions that dogged (bad pun!) the Bolshevik project of creating a New Soviet Man. Thus, *Heart of a Dog* exhibits in miniature form all the generic attributes of a Menippean satire that Bulgakov would also employ in his later masterpiece, *The Master and Margarita*.

Menippean satire interpolates topical humor directed against contemporary social mores with significant philosophical or metaphysical themes. The Menippean satirist saturates his satirical-philosophical vision with erudite detail. In order to support and amplify the worldview presented in the work, its characters embody set stations and attitudes, rather than presenting well-rounded psychological portraits. To recognize *Heart of a Dog* as a form of Menippean satire is useful, insofar as it encourages us to consider the novel's main characters as representative types interacting in a kind of tragicomic symposium, where the question at stake is no less than the nature of human nature and the prospect of radical social transformation. The novella's three protagonists represent three different possible ways of understanding the biological potential of human beings. Sharik represents a consistently "biologizing" view of human nature that holds out little hope for radical reconstruction through nurture; Bormental' represents a neo-Lamarckian view of biosocial forces that links progressive evolution to positive environmental changes; whereas Professor Preobrazhenskii represents a strictly genetic view of inheritance (evolutionary change is the result of random, unpredictable mutations), complicated by an overarching allegiance to the eugenic project of improving humankind through a more advanced knowledge of biology. All three viewpoints clash directly with the dogmatic environmentalism represented by the young communist activists who form the housing committee. By "environmentalism" I mean a strictly "nurturist" approach to shaping human behavior. In this view, human beings are essentially *tabulae rasae*, and it is our environment—family, peers, social training, physical surroundings—that scripts our values, inclinations, and behaviors. This reading intentionally sharpens the line between representative viewpoints in order to arrive at a better understanding of the whole (which ultimately eludes neat divisions).



### **The Dog: Biology Is Destiny**

To show one way in which Bulgakov brings this point of view to bear on his theme, we need look no further than the stray dog's monologue in the first and second chapters. When Bulgakov adopts the dog's perspective for extended passages of the narration, he does not limit himself to what the dog might know. Instead, for comic effect, he endows his canine character with rather sophisticated medical knowledge ("I can easily contract pneumonia . . ."), sharp class consciousness (he distinguishes between cooks for the gentry and "those nobodies from the Soviet of Normal Diet"), and surprising worldliness (the dog remarks that Frenchmen eat everything with red wine). Therefore, it is all the more striking that the dog has one quirk of perception that is entirely consistent with his species identity. Presumably, the difference between animal and human consciousness lies in the degree to which the latter breaks free of innate programming and instinctual patterns to develop a free personality that transcends biology. The dog Sharik, however, assumes simple innateness in human character and motivation, perverting class consciousness into biological determinism on the basis of breeding. In Sharik's opening monologue, the behavior of human beings is so closely correlated to their outward appearance, that character itself is explained as just another expression of physical type. When a cook throws scalding water at the stray dog, the dog understands this cruelty as an inevitable expression of the cook's physical type: "What harm did I do him? . . . The greedy brute! Take a look at that mug of his sometimes—it's wider than it is long. A crook with a brass jowl."<sup>16</sup> That the dog sees character and behavior as essentially another expression of innate biological endowment is repeated and explicitly reinforced a few pages later, when Sharik spots the Professor. "A gentleman. Do you think I judge by the coat? Nonsense. Many proletarians are also wearing coats nowadays. . . . No, it is the eyes I'm talking about. When you look at the eyes, you can't mistake a man."<sup>17</sup> In Sharik's view, at least, the Professor would be a gentleman even without his coat; his breeding shows through in his eyes.

It is not until the epilogue, after a clandestine surgery that converts Sharikov into a dog again, that Bulgakov returns to Sharik the narrative style and point of view he possessed in the opening monologue. Now Sharik suffers from occasional headaches, but he explicitly dismisses the clearly local, environmental cause: "True, they've slashed up my whole head for some reason, but it'll heal before my wedding. It's not worth mentioning."<sup>18</sup> Instead, he attributes his malady to his genes: "I'm absolutely convinced there was something shady in my ancestry. There must have been a Newfoundland. She was a whore, my grandmother, may she rest in the Heavenly Kingdom."<sup>19</sup> In short, the dog's voice is consistently (not to mention humorously) biologizing. If animal behavior is determined by instinctual patterns that are, by definition, hereditary, then

16. Bulgakov, *Heart of a Dog*, 1.

17. *Ibid.*, 5.

18. *Ibid.*, 122.

19. *Ibid.*

from a dog's point of view, human behavior is also ultimately an unfolding of innate propensities, which are inherited in more or less the same way as eye color and height.

### **Housing Committee: Social (Re)construction**

At the opposite extreme from the notion that “biology determines destiny” is the notion that environment does. Bulgakov could still make fun of this approach and its results in *Heart of a Dog*, because the trajectory of Soviet environmentalism had not yet reached its conclusion in a political correctness enforced by punishment. The scenes in which the Professor is tormented by the housing committee and appalled by the rapidly Bolshevized Sharikov ridicule the notion that human beings can be reformed by their environment alone. For example, the housing committee is made up of what appear to be four young men. The unisex, utilitarian simplicity of their clothes and manners presumably reflects the egalitarian consciousness represented by the victorious proletariat. They insist on being called “comrades” instead of “gentlemen,” but their request that the Professor do his part in promoting social equality by giving up his rooms is rendered in convoluted, half-assimilated bureaucratese: “We’ve come to you after a general meeting of the tenants of this house which went into the question of consolidating the tenancy of the apartments.”<sup>20</sup> Clearly, Bulgakov shares his protagonist’s sense of irony and distaste when confronted with the products of the new society’s cultural imprinting. He also presents a challenge to the belief that a qualitatively “new man” can be created by changing the environment of the “old man.” The Professor perceives that people have indeed changed within the new cultural environment—but only for the worse. He also perceives the areas of human behavior and personality that are still influenced by biology and seemingly immune to cultural remolding. When confronted by the housing committee, he demands to know whether the “peach-complexioned one” is a man or a woman. “Blushing violently,” she admits to being a woman.<sup>21</sup> When one of her male colleagues also turns a vivid red “for some unknown reason” during this interchange, one implication is that gender—and sexual attraction between the genders—cannot be erased by environmental dictate; rather, it is part of human nature.

### **Bormental’: Evolution in a Positive Direction**

There are, of course, many facets to Charles Darwin’s theory of evolution, not all of them equally compatible with early twentieth-century yearnings for social utopia. Bormental’ is a Baltic German whose father was an examining magistrate in Vilno. Thus, he shares with his mentor politically disadvantageous class origins, an appreciation of fine cognac, and a rational, secular belief in science as the key to ameliorating the human condition. There are also significant differences between the two. Bormental’ is

20. *Ibid.*, 25.

21. *Ibid.*, 24.

a generation younger than his mentor, who was already 52 years old at the time of the revolution.<sup>22</sup> Bormental' was doubtless just beginning his career as a scientist when his well-appointed father presumably fell from grace at the time of the Bolshevik takeover. Like many of his generation, he may have initially resisted the policies of the new regime, especially out of loyalty to his prerevolutionary intellectual mentors. Yet, Bormental' is ready to object that the Professor "take[s] too dark a view of things"<sup>23</sup> in his vehement rejection of everything the Bolsheviks have done. When the Professor demands to know why "the proletarian [cannot] leave his galoshes downstairs instead of tracking up the marble,"<sup>24</sup> Bormental' displays his sympathetic awareness of class inequities by reminding his mentor that the proletarian does not even own any galoshes. It is not hard to see how Bormental' can combine a rational faith in science with a "fellow traveler's" willingness to work within the parameters of the new regime, which, after all, shared with its scientists a secular, rationalist belief in science and technology as the panacea for problems facing the new society. In the end, Bormental' will stand by his uncompromising scientist-mentor, but his initial reaction to the dog's transformation is colored by his desire to see biology and the ideals of Bolshevism coincide.

Bormental's scientific journal represents a distinct change of narrative perspective. His case history begins with an objective record of dry scientific observations: "Laboratory dog. Approximately two years old. Breed—mongrel. Name—Sharik. Fur—thin, shaggy, grayish brown, mottled."<sup>25</sup> With each subsequent entry, however, the events that Bormental' records become more and more difficult to fit within the existing framework of scientific knowledge. Bormental' ignores the warning signs inherent in his own disjointed prose, which Bulgakov represents visually as a hysterical mess. Parts are in pencil, some phrases are triple underlined, others are in violet ink, and certain entries are stained with inkblots. Each inkblot graphically denotes the point at which Bormental' retreats from the metaphysical implications of his own dawning realizations. After all, in Bormental's conscious mind, the experiment is a stunning success. Preobrazhenskii's experiment proves that through science, mankind has the power to rush up the evolutionary ladder, even skipping a few rungs. What has been achieved by grafting the pituitary and testes onto the dog is, in Bormental's triple-underlined phrase, "complete humanization."<sup>26</sup> If science has found the key to transforming a dog into a man, surely it can use similar methods to transform a lesser man into a greater one.

To be sure, the new man retains certain canine features. Sharikov has a visceral dislike of cats and the appalling habit of snapping at fleas with his teeth. His short stature, sloping brow, and bad posture (as if still yearning to walk on all fours) can also be attributed to his canine heredity; in fact, Bormental' assumes this is the case. He includes in his scientific notes

22. *Ibid.*, 104.

23. *Ibid.*, 34.

24. *Ibid.*, 35.

25. *Ibid.*, 56.

26. *Ibid.*, 60.

a sketch of the dog's paw gradually lengthening into a man's foot and notes with scientific pleasure that the dog is losing most of his hair and retaining only "thin and silky" strands on his head. From Bormental's point of view, the dog's appearance is proof of the progressive direction of evolution (from dog to man). Bormental' seems to be influenced by this line of thought: man is the blood relative of the dog, as Il'ia Mechnikov so memorably suggested in his 1909 speech honoring the fiftieth anniversary of Darwin's *On the Origin of Species*.<sup>27</sup> We are all part of one magnificent chain of evolution. What was latent in the dog at a lower evolutionary level (for instance, the power of speech) has been "released" by the successful operation.<sup>28</sup> Bormental's scientific optimism reaches its apogee in his response to the dog's rapid assimilation of human speech. "The grafted pituitary has opened a speech center in the canine brain, and the words have burst out in a stream. In my view, what we see is a resuscitated and expanded brain, and not a newly created one. Oh, the marvelous confirmation of the theory of evolution! Oh, the greatest chain of evolution from dog to the chemist Mendeleev!"<sup>29</sup> The problem is that Sharikov, as a particular example of the miraculous leap from animal to man, opens his mouth initially and primarily to spew out obscenities. The reader laughs, the Professor is appalled, and Bormental' is caught between the scientific thrill of hearing language emerge from this new species and horror at the kind of language that emerges.

It should come as no surprise that the miracle of language and the enigma of where it comes from should take on such importance in the further characterization of Sharikov.<sup>30</sup> The question of the origin of lan-

27. Note that Mechnikov's portrait hangs on the wall of the Professor's waiting room until the unruly Sharik smashes it in a rampage that precedes his operation. Mechnikov's study of comparative pathology helped put the older notion of a "great chain of being" onto firmer scientific footing. In 1908, Mechnikov won the Nobel Prize for work that showed that the immune defenses in higher organisms show traces of their evolutionary origins in more primitive animals. Evidence that higher organisms retain structural features of the lower organisms could be interpreted philosophically as a validation of the "unbroken chain of evolution" that leads from animal to man. Indeed, in his 1909 speech Mechnikov emphasized that the study of comparative pathology had shown us that "man is a blood relative of the animal world." See Alexander Vucinich, *Darwin in Russian Thought* (Berkeley, 1988), 281.

28. In this view, no fundamental, mysterious divide uniquely separates *Homo sapiens* from the rest of the animal world. This concept is also explored (and rejected) in Osip Mandel'shtam's poem of the same period "Lamarck." In the knowledge of good and evil, Mandel'shtam implies, we are unique and have stepped off the evolutionary scale.

29. Bulgakov, *Heart of a Dog*, 63.

30. The theories of Bulgakov's near contemporary, the Soviet linguist Nikolai Iakovlevich Marr (1864–1934) might have influenced the direction of Bulgakov's satire as much as the delicious temptation of translating the Pygmalion story, with its valorization of elitist values, to the inverted world of a socialist cultural revolution. Already prior to the revolution, Marr had arrived at his idea that all human languages can be traced back to a single universal proto-tongue. After the revolution, he found an easy compatibility between his original sociolinguistic leanings and Marxist doctrine. He proposed that language mirrors class consciousness, like any other superstructure. He went so far as to suggest that the languages of the economic underclass—whether French, German, Russian, or Chinese—should have more in common with each other than with the corresponding upper-class language spoken by the elite of each language group. In short, Marr suggested that if the economic base of a society changes—as it had most dramatically in Russia—

guage—specifically bad language—echoes the larger question already posed about what combination of biological and cultural programming determines the individual human being's behavior in society. One of the ways in which Russian intellectuals could interpret Darwinian evolution so that it retained a positive teleological direction was to invoke neo-Lamarckian ideas about the possibility of the biological inheritance of acquired characteristics. Sharikov has indeed “inherited” most of the characteristics his human “parent” had *acquired* during his lifetime as a balalaika-playing, hard-drinking, skirt-chasing newly urbanized peasant. Klim Chugunov, the deceased (in a drunken brawl) donor of the pituitary and testes used in the experiment, spoke mostly in obscenities. The transfer of Chugunov's substandard language to his laboratory prodigy complicates Bormental's attempts to reconcile directed evolution with social improvements. Bormental attributes Sharikov's spontaneous linguistic vulgarity to habits picked up in his previous life's environment: “During his canine existence, Sharik's brain accumulated a mass of concepts. All the words he used in the beginning were gutter words. He heard them and stored them in his brain.”<sup>31</sup> Here's the rub: if Sharikov has essentially inherited the nasty characteristics acquired in his former existence, then the promise of a progressive eugenics promoting the proletarian class is thrown into doubt.

It was precisely this kind of argument that brought about the demise of the neo-Lamarckian eugenics movement in the Soviet Union. In a 1925 pamphlet attacking Lamarckianism, Iurii Aleksandrovich Filipchenko, one of the founders of the Russian eugenics movement, turned the promise of a “proletarian” eugenics on its head: “If acquired characteristics are inherited, then, obviously, all representatives of the proletariat bear in themselves the traces of all the unfavorable influences which their fathers, grandfathers, and a long series of distant ancestors have suffered over many, many years.”<sup>32</sup> Along the same lines, one could argue that if the capacity for language is biological, how should one treat evidence of an innate linguistic backwardness in the very class one is trying to promote to

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then language will change, too. Bulgakov pokes fun at the problem that this theory—which reigned supreme in the 1920s—posed for the zealous proponents of socialist rebuilding. *Heart of a Dog* presents a world in which the Russian language seems to be strained to the breaking point: The Professor speaks with elevated correctness and constantly sings verses from Giuseppe Verdi's operas under his breath; the housing committee members speak in an incomprehensible new language of Soviet bureaucratese; and Sharikov continues to swear with gusto, even as he assimilates bureaucratic jargon to manipulate his advantage.

31. Bulgakov, *Heart of a Dog*, 64.

32. Quoted in Adams, “Eugenics as Social Medicine in Revolutionary Russia,” 213. Iu. A. Filipchenko (1882–1930) received his doctorate in zoology and comparative anatomy in 1917 and was soon promoted to professor of zoology at Petrograd University. Filipchenko was an indefatigable teacher, organizer, and promoter of genetic research in Petrograd. His view of eugenics—which he avidly promoted in the college curriculum and in popular books—was based on a strictly Mendelian understanding of how traits are inherited. Therefore, he understood eugenics as having to do with the promise of scientific research to improve human lives (what today we might call “medical genetics”), but he had no patience for any suggestion that hereditary traits can be acquired through the influence of the external environment.

the vanguard of national identity?<sup>33</sup> If, on the other hand, language is an entirely social phenomenon, something learned from one's parents and peers, why does the influence of a supremely proper linguistic milieu have no influence on Sharikov's speech habits? Finally, the problem of language proves to be a powerful illustration of the futility of applying existing eugenic solutions to create the New Soviet Man. The unfortunate choice of Chugunov illustrates why any class-based eugenics program designed to promote the proletariat will dissolve in a fatal paradox. Bad stock will most likely produce bad offspring, as in the case of Sharikov. Only good stock will (possibly) create desirable offspring, and nature herself takes care of ensuring a supply of "desirable offspring" on her own, without the intervening hand of science. As Bormental' attempts to comprehend Sharikov's recalcitrance, "who swore tenderly and melodiously, his tongue twisting over the obscenities,"<sup>34</sup> the reader is reminded of Liza Doolittle (Galatea) succumbing to Henry Higgins's (Pygmalion's) regime of speech improvement. Bulgakov's treatment of the Pygmalion theme is intentionally ambiguous. When Sharikov refuses to be "cultured" by either his bourgeois caretakers or his Bolshevik handlers, we are reassured by the tenacity of human nature, which finds a loophole for free will despite the best efforts of both scientists and social activists to engineer a more perfect world. It is Bulgakov's scientist hero, Preobrazhenskii, who most fully embodies this view of human nature.

### **Preobrazhenskii: The Biologist as Woland**

When the omniscient narrator takes over and describes the new man as others see him, the vector of evolution described by Bormental' is reversed. As we have seen, in Bormental's journal (chapter 5), Sharikov is represented as a lower species on his way to becoming a higher one. In the next chapter, Sharikov appears to us as a degenerate who is descending, rather than ascending, the putative ladder of evolution. When the Professor summons Sharikov to his office, he finds "a short man of unpleasant appearance . . . leaning against the door-jamb, one leg crossed over the other. The hair on his head was coarse and stood up like shrubs in a badly cleared field, and his face was covered with stubble. His forehead was strikingly low. The thick brush of hair began almost directly over the black tufts of his shaggy eyebrows."<sup>35</sup> In this view the finger of heredity is also present, but it is pointed at the theory of the "criminal type" popularized by the Italian psychiatrist Cesare Lombroso in the late nineteenth century. Lombroso studied the physical traits of criminals and declared that he had found certain innate atavisms that were common to most of

33. One view of linguistic origins is essentially biological, as evidenced in the implicit meaning encoded in our ideas about "native speakers" and the "mother tongue." T. P. Bonfiglio, unpublished manuscript. If the innateness of our capacity for language somehow extends to an "innate" aptitude for the language of our forbearers, then Sharikov has inherited his "native" capacity for Russian from Klim, and he presumably sucked in the sounds of *mat* along with his mother's milk (he was born a street mutt).

34. Bulgakov, *Heart of a Dog*, 99.

35. *Ibid.*, 68.

them. In the early twentieth century, Lombroso's idea was amplified by other theorists, who argued that the various unhealthy manifestations of modern civilization could actually cause evolution to reverse its course (which was falsely assumed to be progressive) and produce individuals with atavistic or degenerate features.<sup>36</sup> We soon learn that Bulgakov's scientist-protagonist rejects all teleological notions of evolution (whether progressive or degenerative). Preobrazhenskii's reputation as a wizard is predicated on the atmosphere of anxiety in which he operates, however. The demand for the Professor's rejuvenation surgeries can be seen as the inverse reflection of a general atmosphere of decadence and anxiety about decay. His wealthy patients are clearly unmoored from the previous era's class structure and moral certainties, and their quest for (sexual) youth renders them almost grotesquely animalistic. In general, metaphors of decadence, degeneration, and devolution dominate the descriptions of NEP-era excesses. Paradoxically, in Russia of the 1920s, metaphors of degeneration coexisted and sometimes coincided with the Bolshevik rhetoric of the newness, strength, and health of dawning socialist society.<sup>37</sup>

The utopian rhetoric of transfiguration that colors the tone of Preobrazhenskii's and Bormental's discussions—*improving the human race!*—conveys the powerful appeal eugenic solutions held for a society that had lived through devastating demographic upheavals. As the NEP era dawned at the beginning of the 1920s, years of war, famine, epidemics, and displacement caused by the revolution and civil war had taken a drastic toll on the population. Not only had the country lost a significant percentage of its population; in both urban and rural settings, the face (literally) of the population had changed. Accounts of the day are often framed by the discourse of degeneration and reverse evolution. Bulgakov's *Notes of a Country Doctor*, which he worked on throughout his first year as a writer in Moscow (1921) reflect a sense of biological crisis that belies any easy optimism about bringing enlightenment to the masses. In one story, the peasants' stubborn ignorance and their resistance to the doctor's efforts lead to the spread of degenerative diseases like syphilis. Other stories amplify the theme of biological and cultural inertia that will reappear in a single memorable line in *Heart of the Dog*, when Professor Preobrazhenskii exclaims "no one can succeed in this, and least of all a

36. For a full discussion of the intersections between Russian literary culture and early twentieth-century psychiatric theory in Russia, see Irina Sirotkina, *Diagnosing Literary Genius: A Cultural History of Psychiatry in Russia, 1880–1930* (Baltimore, 2002).

37. Bulgakov depicts the recipients of sex gland grafts as sexual maniacs indulging in grotesque excess (one old man relishes visions of being flocked by naked young women every night; a female patient in her fifties keeps up with her ardent young lover, etc.). Yet as Naiman points out in his chapter, "The Discourse of Castration," in *Sex in Public*, early Soviet interpretations of rejuvenation therapy were enthusiastic for reasons that were antithetical to Bulgakov's satirical portrayal. In the Soviet press, rejuvenation was tied to the sublimation of sexual energies, presumably into the healthy work of building socialism. So, for instance, a procedure that involved tying the vas deferens to prevent ejaculation was assumed to have a rejuvenating effect because it prevented vital secretions from being spent externally and redirected them internally to the benefit of the whole organism. Also, this procedure would obviously prevent the man from being the cause of (unwanted) pregnancy.

people who being generally behind Europeans by some 200 years are still not even sure of how to button up their own pants.”<sup>38</sup> The idea that society needed to be “improved” was so pervasive in the postrevolutionary decade that it seems to have left its mark on almost every discipline. Geneticists sought to unravel the mechanisms of heredity and the secrets of transmitting “good” qualities; physiologists turned their attention from drooling dogs to investigating higher mental function in humans; psychiatrists openly discussed the possibility of setting up “genius farms” to protect the fragile psyches of the most brilliant people. Even geochemists, led by Vladimir Vernadskii, developed the utopian concept of a “noosphere” that both elevates mankind’s responsibility for his environment and implicitly provides a blueprint for the future shape of a better humanity.

In this context, Professor Preobrazhenskii emerges in a different light than when we see him as the literary caricature of the “mad scientist.” His evil doings shrouded in darkness as he pulls brains out of jars, he is illuminated by hellfire when he plunges ahead with the dog’s operation. These portentous scenes emerge from one layer of the work’s narrative structure, one in which fantastic imagery and science fictional motifs are dominant. Yet it can be argued that *Heart of a Dog* continually resists being relegated to the farcical and fantastical realm of allegory. Instead, the science fictional layer of the novel is coextensive with the very real world of scientific debates that occupied intellectuals, health officials, and policy-makers in NEP-era Moscow. Preobrazhenskii is an exaggerated portrait of his nonfictional contemporaries in the scientific world, for whom the research agenda of broadening our understanding of heredity and the philosophical goal of bettering humanity through science were not at all opposed. Some have suggested that the portrait of Preobrazhenskii was inspired by Bulgakov’s uncle, a leading gynecologist who lived in a six-room apartment on Obukhov Lane.<sup>39</sup> It seems equally plausible that his unusual name and patronymic were inspired by the ubiquitous Iu. A. Filipchenko, who published new books popularizing eugenics in each of the first four years after Bulgakov’s move to Moscow.<sup>40</sup>

In the climactic turning point of *Heart of a Dog*, Preobrazhenskii seizes upon the difference between rejuvenation and the goal of eugenics. Although the fiercely intelligent, visionary Preobrazhenskii is best understood in the context of the Russian eugenics movement, the specifics of the dog’s operation are based on early twentieth-century notions of hormonal rejuvenation. The Professor’s technical rationale for the dog’s operation is elliptic: he claims that once he had succeeded in “extract[ing] the sex hormone from the pituitary,” he wanted to “perform a little ex-

38. Bulgakov, *Heart of a Dog*, 37.

39. Several sources have noted that Bulgakov’s uncle, N. M. Pokrovskii, had also complained to the authorities that his living space was being reduced. See, for example, Milne, *Mikhail Bulgakov*, 62; Haber, *Mikhail Bulgakov*, 275.

40. Iu. A. Filipchenko, *Chto takoe evgenika* (Petrograd, 1921); Filipchenko, *Kak nasleduiutsia razlichnye osobennosti cheloveka* (Petrograd, 1921); Filipchenko, *Puti uluchsheniia chelovecheskogo roda: Evgenika* (Petrograd, 1924); and Filipchenko, *Frensis Gal'ton i Gregor Mendel'* (Moscow, 1925).



periment.”<sup>41</sup> The design of the Professor's medical experiment, and the reason it fails as a social experiment, does not make sense outside the context of early endocrinology and rejuvenation theories. At the beginning of the twentieth century, scientists began to speculate, on the basis of new experimental evidence, that chemical secretions, rather than nerve activity, might be responsible for most physiological activities. These internal chemical secretions could affect every cell in the body; indeed, their importance to all life functions was reflected in the neologism coined in 1905 to describe them: *hormone*, from the Greek word “arouse to activity.”<sup>42</sup> Bulgakov's scientist-hero believes he has located the seat of hormonal production and distribution in the pituitary. Therefore, when he operates on Sharik, he not only transplants the testes of a man into the dog's belly, he also replaces the dog's pituitary with a human one.<sup>43</sup> The second part of the operation—grafting the man's pituitary onto the dog's brain—represents an imaginative extrapolation of faddish ideas about the endocrine system's omnipotence. In the minds of Bulgakov's contemporaries, the power of the body's newly discovered chemical messengers (hormones) went far beyond matters of sexual prowess and rejuvenation. It appeared, as Eric Naiman has argued, that “the old belief in the ‘sovereignty of the brain’ had been displaced by new knowledge of hormones, the true ‘builders of the living body.’”<sup>44</sup> Preobrazhenskii's “little experiment” is based on the premise that the endocrine system, controlled by the pituitary, determines the entire “human aspect.”

The unprecedented operation goes beyond simple rejuvenation, which could be achieved by testicular tissue grafts alone.<sup>45</sup> Instead, Preobrazhenskii grafts onto the dog's brain the hormonal control tower that makes a human being look and act like a human. Indeed, in a matter of days the impact of the all-powerful chemical messengers is such that the

41. Bulgakov, *Heart of a Dog*, 104.

42. Freeman, Bloom, and McGuire, “A Brief History of Testosterone,” 372.

43. Note that the first stage of the dog's operation is modeled after existing rejuvenation techniques that were in vogue at the time. The rage for rejuvenation therapy was based on the findings of the French physiologist Charles Eduard Brown-Séquard, the Viennese surgeon Eugene Steinbach, and the Russian emigré (to France) Sergei Voronoff. Steinbach favored ligation of the vas deferens (tube tying); Brown-Séquard injected patients with a serum made from the seminal fluids of animals; and the Russian emigré Voronoff surgically grafted testicular tissue from monkeys into men. The latter procedure is close to the one depicted in *Heart of a Dog*. Although the surgical techniques pioneered by these men (and their many less scrupulous followers) were eventually discredited (for lack of long-term results), the early rejuvenation pioneers were operating on the sound principle that hormone levels decline as the organism ages, precipitating various signs of aging. To reverse aging, it seemed logical to replenish or replace the hormones.

44. Naiman, *Sex in Public*, 143.

45. The 1920s saw the first heyday of the use of hormone replacement therapies for purposes of rejuvenation. See Kahn, “Recovering Lost Youth,” and numerous recent articles that find instructive analogies between the history of rejuvenation surgery and the current wave of enthusiasm for hormone therapies: for example, Chandak Sengoopta, “Tales from the Vienna Labs: The Eugene Steinbach-Harry Benjamin Correspondence,” *Bulletin of the New York Academy of Medicine*, no. 2 (2000): 2–7; B. P. Setchell, “The Testis and Tissue Transplantation: Historical Aspects,” *Journal of Reproductive Immunology* 18, no. 1 (1990): 181–88.

dog acquires the appearance and the speech of a man. Bormental' exults at the discovery: "The [pituitary's] hormones may be described as the most important ones in the organism, they are the hormones of the human shape. . . . Professor Preobrazhenskii, you are a Creator!"<sup>46</sup> Early on, the Professor arrives at a different understanding of the operation. Ten days after the operation, he falls ill when he grasps the import of what he has done. He understands that, although Sharikov has not yet shed the last of his canine propensities, the human secretions emanating from the pituitary have done their work: Sharikov no longer has a dog's heart, but a human one. In a few more weeks, the Professor predicts, the human hormones will have fully saturated the former dog's brain, at which point it will have lost all its former canine aspects (including even the propensity to chase cats). The pituitary hormones determine not just the human shape but also the human heart (soul). In this science fictional twist, Bulgakov took his lead from several articles in the popular press, which suggested that the discovery of hormones could replace the intangible religious conception of "soul."<sup>47</sup>

The problem is that Sharikov has obviously "inherited" the specific human heart of his "parent" Chugunov. Preobrazhenskii realizes that he has only discovered the source of the "given human individual's" behavior, not the "human aspect in general."<sup>48</sup> Sharikov is simply Klim, resurrected. Bormental' suggests that had the dog received the pituitary of Spinoza, the outcome would have been different. This is true, but it does not satisfy Preobrazhenskii's eugenic goal, which is to improve humanity as a whole, not selectively enhance individual human beings.<sup>49</sup> The operation has demonstrated that a given individual can be transformed, but to what end? The transformation of a given individual into someone smarter, or younger, belongs in the Professor's mind to the trivial realm of

46. Bulgakov, *Heart of a Dog*, 63.

47. Naiman, *Sex in Public*, 143. More than one contemporary commentator suggested that the discovery of the endocrine system obviated the need for a religious concept of the "soul." See, for example, Ts. Perel'muter, *Nauka i religiia o zhizni chelovecheskogo tela* (n.p., 1927), and A. V. Nemilov, "Uznaem li my kogda-nibud' chto takoe 'dusha'?" *Chelovek i priroda*, no. 4 (1924). Naiman argues convincingly that this enthusiasm for endocrinology in the nonmedical press can be attributed in part to its status as a postrevolutionary scientific field. Furthermore, endocrinology was a science that could plausibly challenge religious explanations for the intangible aspects of human nature. In this way, the nascent field of endocrinology and the emerging field of genetics were alike: both had much to offer the scientific, secular Soviet regime, but the latter foundered on a politically motivated ideological campaign against "bourgeois biology" in the 1930s (Lysenkoism).

48. Bulgakov, *Heart of a Dog*, 104.

49. In this interpretation, Preobrazhenskii's position echoes that of Filipchenko (and most other Russian eugenicists). Filipchenko was adamantly opposed to the policy of selective sterilization practiced in the United States. Since there was no practical way to selectively breed for better people, and he considered it unethical to mandate sterilization, Filipchenko's eugenic platform remained largely theoretical. His 1925 article *Eugenetika v shkole* advocates "eugenic" instruction in high schools, which he defines as simply a series of courses teaching the basics of human reproduction and the principles of Mendelian genetics. In other words, eugenics begins by inculcating a sound knowledge of biology and sex education.

rejuvenation. Preobrazhenskii sees no need to artificially produce a “highly advanced human,” since any peasant woman can give birth to a Lomonosov, and nature regularly manages to produce geniuses by “stubbornly selecting them out of the mass of scum.”<sup>50</sup> In Preobrazhenskii's view, the human race will not be improved by piecemeal operations transforming one individual at a time. Nor, as we have seen, will it be improved by coercive social measures that alter the environment.

Through this ambiguous portrayal of Preobrazhenskii, we see Bulgakov anticipating the subtle and inconclusive truths that are more fully unfurled in *The Master and Margarita*. In that book, the elegant and erudite Satan (Woland) looks at humanity and pronounces: “People are thoughtless, but, then again, sometimes mercy enters their hearts . . . they are ordinary people . . . on the whole, they remind me of their predecessors,” while the gentle prophet Yeshua proclaims, seemingly against abundant evidence to the contrary, that all people are good.<sup>51</sup> In *Heart of a Dog*, the mystery of the human heart remains inviolable—neither biological breeding nor cultural inheritance and social conditioning are a guarantee of its quality. Therefore, Preobrazhenskii is not a mad scientist trying to reverse the vector of human evolution, nor is he a eugenicist who thinks he can breed better people. He is a eugenicist in the image of Woland—half-demon, half-priest—who, in his extreme elitism seems to will evil (through his impatience with all forms of human weakness and with the schemes to improve them) but eternally works good (raises the bar of the arts and sciences, creates new frontiers of knowledge).<sup>52</sup>

In a recent essay, the cognitive scientist Steven Pinker notes that the reception of scientific ideas in any given society can be enhanced or distorted by the “moral coloring of science” prevailing in a culture.<sup>53</sup> He reminds us of the obvious: the reception of new scientific ideas is likely to be positive in a cultural era that champions the idea of rational progress and views scientists as heroes who vanquish disease, hunger, and hardship. In a cultural milieu wary of scientific hubris and skeptical about the motives of grant-grubbing researchers, however, new scientific ideas may provoke anxiety, skepticism, and resistance. Pinker proposes the following explanation for waves of cultural hostility toward science: “Our neural circuits for morality are overly receptive to the trappings of purity, naturalness, and custom, and they are too easily impressed by gravitas, indignation,

50. Bulgakov, *Heart of a Dog*, 103.

51. Mikhail Bulgakov, *The Master and Margarita*, trans. Diana Lewis Burgin and Katherine Tiernan O'Connor (New York, 1996), 104.

52. Marxist philosophers and Bolshevik policymakers reached a different conclusion. By the early 1930s, the regime had firmly charted a course of official strict environmentalism. The Russian Eugenics Society was disbanded, the eugenics division of Kol'tsov's institute was abolished, chapters in both Soviet and translated western textbooks that treated the topic of human heredity were excised, and the word *eugenics* disappeared almost completely from Soviet discourse.

53. Steven Pinker, introduction, in Richard Dawkins and Tim Folger, eds., *The Best American Science and Nature Writing 2004* (Boston, 2004), xix.

conspicuous asceticism, and other advertisements of saintliness that may have scant correlation with actions that make people better off.”<sup>54</sup> In other words, the “actions that make people better off”—in this context, sophisticated scientific research—are least tolerated by ideologies motivated by metaphors of simplicity and purity, and best tolerated in societies enamored of complexity and abundance. We can speculate that the construction of the scientist as a positive hero is accompanied by a moral climate that validates material abundance, human dominion within nature, futuristic expectations of a better and more advanced stage of humanity. Fear of science and the construction of the “mad scientist” are accompanied, in this view, by a moral climate of asceticism, sexual as well as intellectual purity, and a backwards-looking utopian impulse that yearns for prelapsarian oneness with nature. Interestingly enough, the two “moral climates” proposed by Pinker were both present, and on a collision course, in the cultural moment that forms the backdrop of Bulgakov’s novel.

On the one hand, the NEP era has been viewed positively as a time of liberal cultural policies and great intellectual diversity; Bulgakov’s Moscow, in particular, has been portrayed as a scene of jazzy optimism with pockets of material opulence. On the other hand, NEP-era Russia was a time of unprecedented anxiety and uncertainty, as the constituents of a new social order (recently literate peasants, newly empowered workers, embattled “bourgeois” intellectuals) were suddenly called upon to (re)define the limits of their power and identity in a radically reconstituted society. In the rituals and rhetoric of the NEP culture Naiman has identified signs of a moral climate marked by asceticism, anxiety about excess, and a desire to reestablish ideological purity. We can conclude that in 1925, the jet stream of what had been a radically modernizing, forward-looking utopian climate collided with another front—what Naiman has described as “revolutionary anorexia.”<sup>55</sup> Both attitudes are represented in the portrayal of science, scientists, and society Bulgakov created in *Heart of a Dog*.

54. Ibid., xx.

55. Naiman, *Sex in Public*, chap. 6.