A disease-free world: the hygienic utopia in Jules Verne, Camille Flammarion, and William Morris

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Modern Western societies have a complex relationship with hygiene. Since the publication of David Strachan's 1989 article, the 'hygiene hypothesis' has been taken up by both scientists and society at large as the basis for the idea that Western households are too clean.¹ Strachan's research has been further developed by immunologists such as Graham Rook, whose 'old friends' theory suggests that beneficial microbes have been eliminated through time, contributing towards today's inflammatory disorders.² Warnings of increasing antimicrobial resistance also seem to justify the belief that dirt is good for us.³ But definitive answers to these questions are yet to be found, and the idea that 'somehow people should be less clean' is unhelpful, as shown by the high numbers of gastric ailments still caused every year by lack of handwashing.⁴ The debate surrounding links between cleanliness, dirt, and health continues. This chapter intervenes in the debate by focusing on literary engagements with the topic and thereby challenges the narrative of a straightforward move from dirt to cleanliness by demonstrating a much more complex relationship between filth, hygiene, and modern selfhood.

Strachan's hygiene hypothesis seemed to undermine, indeed reverse, accepted wisdom regarding dirt and its nefarious qualities, which had been the broad consensus since germ theory was widely accepted. A connection between disease and filth, especially human waste, had, of course, been drawn by humans for centuries: Egyptian physicians, for

instance, believed that disease was caused by the absorption of putrefying faeces,⁵ and as asserted by Micaela Sullivan-Fowler, 'perhaps no other part of the body has played a longer or larger part in disease origin than the intestines and its most visible, odorous by-product, feces'.⁶ Although human excrement had been valued for its positive qualities in certain periods, Western culture broadly witnessed a shift away from the valorisation of faecal matter from the 1500s.⁷ Indeed, studies explicitly focused on excrement have mostly concentrated on early modern periods of English literature, when attitudes towards filth were strongly mediated by religious concerns and moral distinctions.⁸ It was in the nineteenth century, however, that the fixation with dirt and its links with ill health came into prominence, as the growth of cities led to unprecedented levels of overcrowding and subsequent sanitary problems, particularly in relation to human waste.

Many explanations have been proposed for the increasing human revulsion towards excrement in modern Western society. Sociologist Paul Rozin has suggested that disgust is based on links with digestion, drawing on Darwin's position on disgust as a form of food rejection.⁹ Others have posited a combination of biological and sociological factors. According to David Inglis, for instance, our attitudes towards excrement are based on both medico-scientific knowledge and moral factors.¹⁰ Anthropologist Mary Douglas's classic study of dirt and hygiene also focuses on the social dimension, arguing that the phenomena considered as dirty are those which disrupt the moral or social order of society: 'dirt is essentially disorder'.¹¹ Such a line of thought plays an important role in the formulation of modern selfhood in the nineteenth century, and since the turn of the millennium, a wealth of reflection has emerged, particularly within Victorian studies, on the interconnected topics of dirt, filth, waste, and human response to these phenomena, disgust.¹²

Early nineteenth-century hygienist debates on the spread of disease targeted excrement particularly within working-class quarters, as has been noted by historians such as Christopher Hamlin and William Cohen.¹³ The centrality of excrement within the broader development of modern societies, especially through attempts to control and excise the substance, is also outlined by Dominique Laporte and Alain Corbin, as well as by David Barnes in his study of the century's *Great Stinks*.¹⁴ Studies highlight the last quarter of the nineteenth century, in

particular, as a key moment for discussions of excrement and its links with disease,¹⁵ as the realisation that disease spread through microbial transmission, especially human contact, intensified the fear of dirt and led to an increased obsession with cleanliness.¹⁶

The topic is all but absent within French studies, however, as far as the study of literature is concerned. Laporte's *Histoire de la merde* (1978), and to a lesser extent Corbin's *Le Miasme et la jonquille* (1986), are historical studies which do not focus on literary texts.¹⁷ Scholarship on the complex nexus between dirt and hygiene and on their role in shaping modern selfhood is so far overwhelmingly historical in focus, and much of this scholarship traces a broad move from dirt to cleanliness, linked with the shift from primitivism to civilisation. This chapter, however, takes issue with the 'narrative of progress and deodorization' away from the dirty, malodorous body, and the unqualified benefits of such a development, through an investigation of specifically literary reflections on the consequences of dirt removal for human identity.¹⁸

This chapter analyses attitudes towards dirt and bodily waste in nineteenth-century British and French science fiction novels as a means of understanding perceptions of disease and hygiene in the early period of bacteriology. One of its aims is to consider what this tells us about the modern individual's relationship with the body, especially the ways in which the ambivalence of this relationship is distinctively explored through literary texts. To do this, I examine three utopian novels from the last decades of the century, when the emphasis on extreme cleanliness was at its height:¹⁹ Jules Verne's *Cinq cents millions de la Bégum* (1880), Camille Flammarion's *Uranie* (1889), and William Morris's *News from Nowhere* (1890). Morris's novel is now widely recognised as an important contribution to English social and political thought, but has rarely been studied in relation to health and disease. The two French novels have also received little critical attention in relation to this topic, particularly Flammarion's *Uranie*, which has not been the focus of any sustained analysis. Through their visions of alternative societies, however, these three texts provide valuable insights into views on disease and hygiene in the 1880s and 1890s, the legacies of which continue to this day.

The decision to focus on French and British novels from this period is driven by the fact that the two largest cities in Europe, and its 'foremost urban and cultural centres' in the nineteenth century, were

London and Paris.²⁰ These two cities were regarded as the epicentres of modernity in the sense of a social and medico-scientific phenomenon involving the emergence of Western bourgeois identity and values. The chapter focuses on issues of 'hygiene', a term which comes from the French *hygiène* and is derived from the ancient Greek goddess of health, Hygeia. Hygiene became a shorthand term for the Greek natural science of preserving and extending life,²¹ and the use of the word to refer to 'that department of knowledge or practice which relates to the maintenance of health'²² continued into the nineteenth century. I use the term in this way when speaking of 'public hygiene', which was largely concerned with practices for preserving health. By the late nineteenth century, however, the triumphs of the sanitary reform movement made hygiene synonymous with 'cleanliness', and by the end of the century, hygiene held 'a considerably narrower meaning than [it] had held historically, reflective of the overriding significance cleanliness had acquired over the course of the nineteenth century.'²³ On the whole, this chapter uses the term 'hygiene' on its own in this narrower sense of purity or cleanliness, the meaning acquired by the end of the nineteenth century and still used today.

I will place the analysis in the context of new scientific understandings of bacteria that began to develop in the late nineteenth century. It was during this century that filth, and particularly human excrement, came to dominate discussions of health and disease: as waste removal became a major issue with the unprecedented growth of cities, diseases that were spread through contamination with excrement (such as typhus, typhoid fever, and cholera) became prevalent, and the volume of urban filth and efforts to remove it 'surpassed its previous dimensions.'²⁴ Within this context, France and Britain were leading nations in public hygiene, the founding of which has been noted by historians and sociologists as a significant factor in the emergence of modern Western societies.²⁵ The establishment of public hygiene as a distinct scientific discipline began in France in the 1820s with the formation of the first dedicated journal, the *Annales d'hygiène publique et de médecine légale*, in 1829, and the pioneering work of individuals calling themselves hygienists, especially Louis-René Villermé and Alexandre Parent-Duchâtelet.²⁶ In terms of practical public health measures, Britain soon took the lead, and by the second half of the century the British were largely regarded as the front runners in public health reform. On the level of

theory and research, however, France continued to make major contributions to the field, and it was in France that the germ theory of disease was born in the last decades of the century with Pasteur's research on microorganisms.

Up until the second half of the nineteenth century the causes of infection remained in dispute,²⁷ and it was in the 1860s and 1870s that experimental work to link germs and diseases began to show marked signs of success.²⁸ The main contributions to the debate were made by Louis Pasteur and Robert Koch, who linked particular microorganisms to specific diseases. Up to this point, miasma theory had provided the predominant explanation of disease – the belief that disease developed through the spontaneous generation of harmful elements from putrefying matter – and a whole range of potential sources of disease had been identified, such as dampness, bad soil, and bad air.²⁹ Bacteriology, however, now posited that disease was the outcome of contagion by germs, specifically the transmission of germs through water-based means and through human contact.³⁰ The repugnance towards dirt was already present in miasma theory, with the fear towards bad smells emanating, in particular, from human excrement as a potential cause of disease. This fear now intensified into a more specific anxiety, since the seemingly clean could be harbouring a host of invisible microbes. Further, although the cause and nature of disease was now better understood, cures through antimicrobial drugs would not be discovered until the first half of the twentieth century, and thus the implications of early bacteriology on a practical level was a focus on prevention and a heightened preoccupation with cleanliness.³¹

One of the texts that most obviously exemplifies the obsession with hygiene in the late nineteenth century is Jules Verne's *Cinq cents millions de la Béguin* (1880). In this text, a French Napoleonic soldier settles in India and marries the widow (the begum) of a wealthy rajah. When he and the widow die, the fortune is divided between the two remaining heirs: Dr Sarrasin, a French hygienist, and Dr Schultz, professor of chemistry at Jena University. Both decide to use the money to set up their ideal city; the benevolent Sarrasin creates 'France-Ville', a society engineered to promote health and longevity in Oregon, USA, whereas the despotic Schultz forms Stahlstadt, a hierarchical city which produces firearms and aims to destroy or conquer all other communities. Those few critics who refer to Verne's novel highlight the contrast

between the utopian France-Ville and the dystopian Stahlstadt and its 'evil scientist' creator.³² Nadia Minerva has perceptively suggested that the portrayal of Stahlstadt is in fact more compelling than that of France-Ville.³³ Indeed, Verne himself wrote in a letter that he preferred Stahlstadt.³⁴ But this is precisely what makes France-Ville, an apparently ideal city of hygiene, such an arresting case.

Peter Schulman argues that docteur Sarrasin in *Bégum* is 'propelled by fear of microbial contamination' in his preoccupation with health and hygiene,³⁵ while historian Georges Vigarello refers to Verne's text as 'the first Utopia dominated by the war against the microbe'.³⁶ However, there are no references to microbes in *Bégum*, and neither Schulman nor Vigarello go any further in examining the medical context of the novel or in explaining what leads them to make these inferences. The term 'microbe' was first coined (in both French and English) when Verne was writing his novel, in 1878. *Bégum* refers instead to 'germs', a word that had long been used to denote the 'seed' of contagion.³⁷ Advocates of the new germ theory of disease in the 1870s adopted the term to refer to microscopic organisms capable of causing human or animal disease. The 'germ theory of disease' came into common use in medical literature around 1870 as a scientific shorthand for propositions associated with the work of Pasteur, Koch, Tyndall, and others.³⁸ *Bégum* does include a direct reference to Benjamin Richardson's *Hygeia*, an address delivered by the renowned public health activist in 1876. Richardson's understanding of disease was largely based on the earlier theory which posited that disease agents were chemical ferments produced by decaying filth, and could generate spontaneously.³⁹ Richardson's sanitarian ideal was based on the view that miasma emanating from filth, particularly from human excrement, caused disease. It would therefore seem that Verne's text draws on earlier, pre-bacteriological understandings of disease.

However, bacteriology and miasmatic theory initially existed in tandem until at least the beginning of the twentieth century, and in some senses the new science simply replaced the already existing emphasis on excrement in miasma theory.⁴⁰ The prominent French physician, Fonssagrives, for example, refers in his *La Maison. Étude d'hygiène et de bien-être* (1871), to 'putrid' or 'fetid' emanations and 'mephitic through putrid matter'⁴¹ whilst also noting the work of Tyndall and the idea that 'many contagious illnesses or epidemics are

due to the movement and dissemination of living germs.’⁴² Initially, bacteriological theories were woven into earlier conceptions of filth, and strengthened and justified aspects of miasmatism.

We now know that when he was writing *Bégum*, Verne was reworking a manuscript by Paschal Grousset and it seems that it was Grousset who initially drew on Richardson. The manuscript by Grousset has not survived but we have Verne’s letters outlining his response to the work, where he notes his intention of making quite considerable changes. Verne specialists, however, consider the novel as a thoroughly Vernian text⁴³ and it is known that Verne himself was exceptionally well read in contemporary science.⁴⁴ When writing the novel in the late 1870s he specifically showed strong respect for Pasteur, placing him alongside writer Victor Hugo as one of the greatest Frenchmen of the nineteenth century for his contributions to science.⁴⁵

Verne was writing *Bégum* before Pasteur’s theory was widely accepted and understood by the general public. Nevertheless, the new bacteriological view of disease was beginning to be introduced to both medical and popular audiences,⁴⁶ and Verne would certainly have been aware of the developments in the understanding of disease and the gradual adaptation of earlier sanitarian principles in the service of germ theory. The language used for hygiene and infection in *Bégum* presents a combination of miasma theory and the newer understanding of germs: carpets and wallpaper are referred to as ‘veritable nests of miasma’, and the government’s main task is said to be ‘cleaning, ceaseless cleaning, destroying and annihilating the miasma that constantly emanate from human agglomerations as soon as they are formed.’⁴⁷ But with regards to offensive materials such as carpets and wallpaper, ‘not a single morbid germ can conceal itself’ within them.⁴⁸ The laundrettes in the city feature ‘disinfection rooms’, and illnesses are said to be due to contagion transmitted either through air (adhering to earlier miasmatic theory) or through food – a more recent finding of bacteriology.⁴⁹ Rather than demonstrating a preoccupation with microbes, *Bégum* presents a transition moment between the earlier sanitarian model and the newer principles of bacteriology.

Moreover, in *Bégum*, Verne is less interested in disseminating new knowledge of disease and bacteriology than with exploring the implications of extreme hygiene for society. France-Ville, ‘the city of Wellbeing’,⁵⁰ is entirely devoted to hygiene: a journalist notes that ‘we would

never be done if we tried to enumerate the hygienic perfections which the founders of the new city have put into place,⁵¹ and asserts that 'the question of individual and collective cleanliness is the central preoccupation of the founders of France-Ville'.⁵² Its creator, Sarrasin, repeatedly highlights his desire to build a city 'based on rigorously scientific data'⁵³ in the name of Humanity and of Progress.⁵⁴ The city has no theft or murders, very few illnesses, and no epidemics. Whereas the annual mortality rate in affluent European cities is said to be at least 3%, in France-Ville the average is 1.5%.⁵⁵ All the inhabitants lead healthy, regular, hardworking lives in an egalitarian community run by a committee which rejects 'the tiring and insipid uniformity' of other cities.⁵⁶ *Bégum* thus seems to depict the perfect balance between public hygiene and individual freedom.

However, as Peter Schulman notes, France-Ville is 'somewhat frightful'.⁵⁷ The ambiguous nature of France-Ville is suggested through its unequal status in the text: only a very few pages are devoted exclusively to descriptions of France-Ville whereas Stahlstadt is the focus of several chapters. Further, the city of hygiene is presented indirectly: as a prospective project in Sarrasin's speech to the medical conference, in an article in a German review, and through other brief glimpses. Nadia Minerva suggests that this might be because 'perfection cannot be represented without falling into the stereotypes of a well-worn genre'.⁵⁸ But the refusal to offer direct descriptions of France-Ville might also be due to its problematic nature. Whereas the novel appears to offer a model city, the absence of dirt and disease entails the absence of passion, excitement, and independence of thought.

The regularity of the inhabitants' lifestyle or 'scientific regime' is repressive.⁵⁹ A set of ten rules, for example, is laid out for all households, including specific regulations for their construction: the walls will be made of 'tubular bricks conforming to the patented model',⁶⁰ a model that is 'perfectly regular in form, weight and density, and pierced lengthways by a series of cylindrical and parallel holes'.⁶¹ More specifically with regards to hygiene, certain materials are forbidden due to their threat to human health, and the streets and pavements are to be kept as clean as the tiles in a Dutch court: an extremely high standard.⁶² Food markets are kept under strict surveillance by trained experts through 'sanitarian policing'⁶³ and the city is made up entirely of streets lined up 'at right angles, at equal distances, of uniform width, planted with

trees and designated by ordering numbers.⁶⁴ Dirt is immediately removed: a stain on a child's clothes, for example, is considered 'an absolute disgrace'.⁶⁵ All excrement is swiftly expelled from the city.⁶⁶

The effect of this rigorous hygienic regime on the inhabitants is telling. The city has reached 'the highest degree of prosperity' in material and intellectual terms,⁶⁷ but when it comes to the citizens' psychological condition, it is the absence of emotion that is striking. During the peak crisis of the book, when the population is at risk of extermination, they remain perfectly composed, 'above all disorderly emotion of alarm or anger'.⁶⁸ They are steady, calm and silent, and, troublingly, 'in thrall'⁶⁹ to Sarrasin's words. The hygienic lifestyle leaves them incapable of experiencing strong emotions or of exhibiting independence of thought. Underneath the portrayal of this 'model city'⁷⁰ of health and well-being, then, is a covert criticism of extreme hygiene.

In this sense, *Bégum* can be read as an example of the 'utopian after-life' as defined by Daniel Sipe. Scholars have argued that the yearning for utopia disappears from literature in France after the Enlightenment and is expressed instead through social experiments and technological projects.⁷¹ Sipe, however, points to the 'utopian afterlife' as a literary form which both takes up and rejects aspects of the literary and scientific utopia.⁷² J. J. Grandville's *Un autre monde* (1844), for example, which mockingly fictionalises Charles Fourier's utopian system, embarks on a utopian adventure whilst undertaking 'a critique of the manner in which utopian designers like Fourier intend to bring it about'.⁷³ *Bégum* draws on the literary tradition of utopian writing though its creation of a model city and the exploration of this space through a foreigner's gaze, that of a young Alsatian worker. It is also utopian in the socio-scientific sense in that its North American setting echoes the social experiments of Robert Owen or Étienne Cabet. However, whilst the novel does not offer the explicit critique that Grandville's text does, it rejects the utopian tradition by failing to demonstrate wider social happiness in France-Ville, by refusing to offer precise descriptions of the city, and through its distressing portrayal of a life 'regulated by science'.⁷⁴

Camille Flammarion's *Uranie* (1889) goes one step further both in its setting and in its take on hygiene. Flammarion published several successful popular science books in the second half of the century, and he is perhaps best known for his defence of intelligent life on other

planets. But Flammarion also wrote philosophical dialogues and fiction, and in *Uranie* he combines his interest in astronomical explanation with reflections on hygiene and the body. As one of the leading popularisers of science in the second half of the nineteenth century, Flammarion would have been familiar with the evolving understanding of disease. *Uranie* was written in the 1880s, by which point new understandings of infection were more widely disseminated beyond scientists and physicians.⁷⁵ It is important that the first disease convincingly linked to a specific microorganism (in a paper of 1876 by Koch) was anthrax, as this disease had hardy spores, which could survive even though the bacteria might have been killed. The resistant nature of anthrax had a particular effect on the preventative strategies developed against disease in the name of germ theory: it was widely believed that all pathogenic microorganisms were tenacious and needed to be addressed in aggressive terms, leading to a heightened emphasis on the removal of dirt.⁷⁶ Although filth had long been linked with disease and was central to miasmatic theory, the idea that everyday substances such as food, clothing, and even body parts might be teeming with pathogenic and highly resilient organisms, added a new urgency to the battle against dirt.

In the only commentary I have found on *Uranie*, Everett Bleiler criticises the work's lack of cohesion.⁷⁷ I would argue, however, that its three main sections are unified through a consistent attempt to transcend earthly reality. In the first section, for example, the narrator is taken on a journey to other planets inhabited by a range of creatures superior to human beings. On one planet he sees creatures that are translucent, androgynous, and blessed with superior intellectual and moral qualities. On another, he comes across individuals that have been reborn as superior beings through a process of 'transmigration'.⁷⁸ There is a yearning for the ideal in Section II also, as 'Uranie', a symbol for astronomy, is said to lead to infinity.⁷⁹ Throughout the text there is an attempt to move beyond material, earth-bound existence.

The most significant section from a hygienist standpoint is the final one, 'Ciel et Terre' (Earth and Sky), where the first-person narrator wakes up to find himself on Mars. Two aliens explain to him that life on Earth is 'a total failure'⁸⁰ due to humanity's reliance on the body. Tracing our planet's downfall to the moment when the first mollusc developed a stomach, the Martians criticise our practice of killing and consuming other creatures and explicitly identify 'the first digestive

tube' as the cause of our baseness.⁸¹ Human bodies are 'repugnant', 'base', and 'monstrous',⁸² whereas the Martians nourish themselves simply through breathing and have never digested food: 'we do not eat, we have never eaten and we will never eat.'⁸³ They consider it impossible for human beings ('ignoble organisms') to have thoughts that are 'healthy, pure, elevated, ... clean.'⁸⁴ Cleanliness is thus identified as the basis for moral and intellectual superiority, achieved through detachment from the body. On Mars, for instance, there has never been religious intolerance, martyrs, torturers, war, or murder, and the Martians live in peace, liberated from all material needs and constantly engaged in intellectual activity.

Uranie combines fiction (utopia, fantasy, love story), popular astronomy, religion, and psychic research, fulfilling the generic diversity and multiplicity which Sipe insists characterises the utopian afterlife.⁸⁵ In its exploration of space, the text calls to mind the writings of Bergerac (*L'Autre monde: ou les états et empires de la lune*, 1657), Voltaire (*Micro-mégas*, 1752), and Verne (*De la terre à la lune*, 1865), and it draws on the tradition of literary utopianism by using the framework of a fictional account to consider an imagined world. Yet, like *Bégum*, *Uranie* also rejects the utopian tradition, as the novel offers little sense of any coherent form of society. Moreover, although the narrator is disappointed to find himself back on Earth and seems to idealise what he has seen on Mars, the portrayal of life on the other planet is ambiguous.

The Martians live an apparently ideal existence free from pain and all physical needs. The text repeatedly notes the immaterial nature of their existence: they live 'for the spirit and through the spirit' and 'material forces play only a secondary role' in their lives.⁸⁶ Bodily waste is not mentioned at all, presumably since, if the Martians do not eat, neither do they defecate. Excrement only appears in the earlier sections in the text. It is said, for example, that, without the awareness of the soul, the earth's entire history would be doomed to nothingness and become 'a disappointing absurdity, more miserable and more senseless than the excrement of an earthworm.'⁸⁷ A later tale involves the discovery of a corpse in a pile of manure. Excrement is thus posited as a worthless by-product or is associated with death.

Beyond the elimination of excrement from their lives, the Martians are also explicitly free from decay or disease: 'the heavy burdens of the earth and the suffering of pain are completely unknown. Everything [on

Mars] is more heavenly, more ethereal, more immaterial.⁸⁸ But the release from the body comes at a price. The Martians' nervous systems are so advanced that they are compared with electrical appliances,⁸⁹ and their most sensual impressions are experienced 'more by the soul rather than by the body'.⁹⁰ They live without passion: their liberation from 'the crudeness of earthly needs'⁹¹ means not only that they do not eat, but that they are also asexual. Conception takes place through a method similar to that of flowers. They feel no erotic pleasure, and all sensations are experienced on an intellectual level only. The novel presents a passionless existence.

Despite the constant denial of materiality in *Uranie*, however, the narrator does notice some physical activity being carried out on Mars by machines 'operated by perfected animal races, whose intelligence is similar to that of humans on earth'.⁹² No more is said of the status or well-being of these creatures. Although they are referred to as animals, the comparison with human intelligence leads us as readers to make uncomfortable connections with them. This sinister reference to exploited entities in *Uranie* can be compared with the explicit subjugation of individuals in Verne's *Béguin*. Chinese workers are essential to the construction of France-Ville, for example, with 'an army of twenty thousand Chinese coolies' toiling under the direction of 'five hundred European supervisors and engineers'.⁹³ When the city is threatened by an attack from Schultz, it is these labourers who mobilise to protect it: 'armies of coolies moved the ground, dug trenches, raised ramparts and fortifications at all appropriate points'.⁹⁴ The list of verbs stresses the active contribution made by the workers. But, having supplied their labour, the 'coolies' are no longer welcome in the city: they can only access their earnings by promising not to return. This discriminatory policy is presented by the narrator as 'an indispensable precaution for getting rid of a yellow population, which would certainly have had an adverse effect on the character and genius of the new city'.⁹⁵ The workers are discarded to ensure the economic, ethnic, and intellectual stability of France-Ville. Hygiene is thus presented as a multilayered phenomenon in Verne's text, not only physical and mental, but also racial.

Laura Otis has shown that the germ theory of disease was crucially intertwined in the late nineteenth century with concepts of invasion and colonialism, especially in France and Britain: 'if one believes that

invisible germs, spread by human contact, can make one sick, one becomes more and more anxious about penetration and about any connection with other people – the same anxieties inspired by imperialism.⁹⁶ These comments are particularly pertinent to the context of *Bégum* and *Uranie*, written after France's bitter defeat in the Franco-Prussian war and at a point when France was acutely aware of its ailing position on the world stage, with falling birth rates, and a range of serious pathologies plaguing the nation.⁹⁷ Docteur Sarrasin in *Bégum*, for example, reads an article at the beginning of the novel, entitled 'Why are all Frenchmen suffering from varying degrees of hereditary degeneration?'⁹⁸ There is therefore a dark side to the relentless emphasis on health and strength in these texts which can be linked with France's contemporary desire for racial and national purity.

The portrayals of ideal hygienic societies in Verne and Flammarion and the unsettling consequences of dirt removal can be compared with William Morris's *News from Nowhere* (1890), a novel which Virginia Smith reads as 'a full account of [the] wonderful hygienic world to come'.⁹⁹ The new world in Morris's text is set in a fictional London of the future, removed of filth, and offering a vision of pastoral, ecological, and hygienic harmony. Society has been cleansed of literal dirt – industrial soot, grime, and urban squalor – and filthy lucre, crime, and disease are also absent. Morris's work focuses mainly on social organisation, and this is the main angle from which the text has been analysed by critics. Unlike Verne and Flammarion, who famously engaged with the new scientific developments of the day, Morris is primarily known for his contributions to socialist theory, aesthetics, and his ecological consciousness. There are no explicit references to germs or bacteria in the novel. Rather, it is on a more indirect level that the preoccupation with cleanliness and purity surfaces here.

There is a strong emphasis, for instance, on health, vigour, and longevity in Morris's text. The women that the narrator meets are 'well-knit of body, and thoroughly healthy-looking and strong' and he observes that beauty is now 'not so fleeting as it was in the days when we were burdened heavily by self-inflicted diseases'.¹⁰⁰ The fact that the diseases of earlier times were self-inflicted shows that they can be removed through effort of will. Indeed, almost all diseases have been eradicated from the new society, including the scourge which posed one of the

greatest threats to nineteenth-century urban centres: cholera. The residents' youthfulness is highlighted in contrast with the nineteenth-century narrator's wizened appearance: he meets a lady who is forty-two, for example, but looks as though she were twenty.

In contrast with Flammarion's text and Verne's *Bégum*, Morris's *News from Nowhere* offers an apparently anxiety-free view of excrement. In Verne's and Flammarion's works, human waste is mentioned only to be denied. In *Bégum*, for example, the 'products of the sewers'¹⁰¹ are immediately expelled and transported to the countryside, and in *Uranie*, the lack of digestion makes excrement non-existent; indeed, the Martians place strong emphasis on the digestive system as the epitome of human baseness. Although in *Bégum* human waste seems to be used as fertiliser, this is only briefly mentioned, whereas in *News from Nowhere*, England is said to be 'a garden where nothing is wasted' and dung is explicitly highlighted as a source of fertility.¹⁰²

There is also a freedom and openness towards sexuality and the body in *News from Nowhere* that is absent in Verne's and Flammarion's novels. Morris's protagonist, William Guest, repeatedly responds to women on an erotic level, especially the central female figure, Ellen. Guest notices her scantily clad physique, for example, and comments on 'her face and hands and bare feet'.¹⁰³ His main interlocutor, Dick, also draws attention to women's physical attributes and the main object of these comments, Clara, responds by reddening with pleasure.¹⁰⁴ Morris's novel was in some ways a reaction against the highly regimented society presented in Edward Bellamy's *Looking Backward* (1888), and desire is a central and valorised force in *News from Nowhere*.¹⁰⁵

The novel's emphasis on personal relations is not surprising given Morris's privileging of love and desire in his thinking about the socialist future.¹⁰⁶ The stronger utopian dimension of *News from Nowhere*, compared with the two French novels, might also be explained by the sense of disillusionment in France towards the possibility of social renewal following the failure of the 1848 Revolution.¹⁰⁷ Morris's less troubled approach to the body can further be situated in the context of developments in public health reform, which were in a much more advanced state in Britain by the 1880s. The linking of homes with sewers and the prohibition of cesspits, for example, had been achieved in London by the late 1840s whereas this did not happen in Paris until the early twentieth century. Britain passed its first Public Health Act in 1848,

while France had to wait until 1902 for this to happen. Whatever the reasons, Morris's novel appears to offer one of the most viable visions of an alternative world, and the society in this text is often viewed as one of the most attractive literary utopias created.¹⁰⁸

Yet the society in *News from Nowhere* continues to be haunted by the spectre of disease. Idleness and crime are pathologised, with the latter seen as a 'spasmodic disease' cured by society's many 'nurse[s] or doctor[s]'.¹⁰⁹ David Pike also argues that, even though Morris shows London as a purified space, 'not everything can be made useful and beautiful' in this novel, as 'the dust of the new city of London is symbolically disposed of in another filthy and irredeemable institution, the Houses of Parliament'.¹¹⁰ Although the novel is offering political symbolism and not a hygienic blueprint, it is notable that whereas the value of manure is highlighted as a source of fruitfulness and fertility, there is no mention of what happens to the 'dust' placed in Westminster.

Moreover, in addition to the reference to Parliament as a dungheap, excrement is used in Morris's novel to refer back to nineteenth-century society as a place of dirt and depravity – 'these people, whether they found the dung sweet or not, certainly lived in it' – and America is also described as 'a stinking dust-heap'.¹¹¹ In both examples, faeces are used to denigrate societies distanced from the speaker in space or time, exposing more unease towards bodily waste in Morris's text than at first seems apparent. Therefore, although both *Bégum* and *News from Nowhere* gesture towards a valorisation of excrement in the form of manure, at the same time, all three novels display a continuing level of anxiety towards the body and especially bodily waste.¹¹²

Some psychoanalytic theorists have argued that excrement disturbs us because it stands for a hostile residue of the past: Norman Brown, for example, argues that excrement represents the past in that it is 'the dead life of the body'.¹¹³ Such interpretations of faeces as residues of the past are especially relevant to *News from Nowhere*, which engages so essentially with the question of time. Natalka Freeland has argued that the novel refuses the genealogical continuity and historical determination of realist narrative in favour of temporal 'rupture' which enables a new evaluation of waste as a bounteous resource to be reused.¹¹⁴ A similar argument regarding the novel's release from conventional narrative is put forward by Patrick Parrinder, who asserts that the novel 'show[s] Morris subsuming and rejecting the tradition of Victorian fiction and

historiography.¹¹⁵ Of more interest to this chapter is the link between the rejection of the past and the rejection of human waste.

Some thinkers suggest that the revulsion towards faeces as a remnant of the past is in fact a fear of death, as excrement highlights our bodily nature and reminds us of our own mortality. Such theories are put forward, for example, by Freud and more recent theoreticians of disgust, such as Paul Rozin.¹¹⁶ But Colin McGinn points out that some forms of death, such as skeletons or frozen bodies, do not elicit the same degree of disgust as others. He therefore suggests that the greatest cause of disgust is in fact 'the interpenetration of life and death.'¹¹⁷ The thinker who articulates this position most powerfully is Aurel Kolnai in his phenomenological study *On Disgust* (originally published in German in 1929). Kolnai argues that what causes disgust is the persistence of life in death: our inability to keep the two seemingly separate categories apart causes us distress, such as in a rotting corpse teeming with maggots.¹¹⁸ This 'death-in-life theory' is clearly expressed in excrement: our digestive system is founded on death since it involves the consumption and excretion of other living things (animal, plants) and produces an inert object (faeces), but it is also this process that sustains life.¹¹⁹

In Morris's novel, the inhabitants notably know nothing of the past and are horrified by references to social history.¹²⁰ Clara, for example, refers with scorn to 'the dreadful times of the past' in contrast with 'our modern life', and feels a distinct unease towards the idea of 'talking of past miseries' – 'I don't like this: something or another troubles me.'¹²¹ This refusal to confront the past suggests a deep psychological disturbance, and the erasure of history in this text can be linked with the novel's negative understanding of the dunghheap. It is just at the point when old Hammond starts discussing the state of America as 'a stinking dust-heap', for instance, that Dick and Clara re-enter and Clara firmly breaks in with the retort: 'no more questions now before dinner.'¹²² Shortly afterwards, Dick's comment on the stories of the past brings a cloud over her face.¹²³ Although *News from Nowhere* offers a more positive approach to the body than *Bégum* or *Uranie*, and even seems to valorise waste (with the 'dustman', for example, highly valued in society¹²⁴), the denial of the past and use of excremental imagery to vilify others reveals underlying anxieties towards the body and its ephemerality.

Furthermore, an indirect upshot of our disgust towards life-in-death is a potential rejection of passion and desire. Psychoanalytic thinking is well known for connecting anal products with sexual pleasure,¹²⁵ but Freud also more broadly links disgust with the archaic libido.¹²⁶ Other thinkers have also developed an affirmative position on the disgusting as an erotic, energising force.¹²⁷ With specific reference to nineteenth-century France, for instance, historian Jonathan Strauss suggests that the fear of illness and dirt is, on a deep and dissimulated level, 'the attempt to manage a recurrent and unspeakable erotic desire'.¹²⁸ If hygienic concern regarding dirt and disease is permeated with a form of desire, then the suppression or elimination of dirt entails a rejection of this desire, as seen in Verne's and Flammarion's texts. France-Ville's inhabitants in Verne's *Bégum* show an alarming lack of emotion or passion, and Flammarion's *Uranie* demonstrates the passionless and sexless existence that results from extreme hygiene. Morris's novel, by contrast, is permeated by the erotic and seems to advocate the value of desire and sexuality.

There is little emotional depth to the characters in *News from Nowhere*, however; while the novel includes lengthy discussions on questions of political and social organisation, scant analysis is offered of the inhabitants' inner lives, undermining the sense that the emotional and libidinal dimensions of life are valorised in the community. Moreover, as argued by Norman Kelvin, by removing many of the legal and social constraints placed on love in the nineteenth century, Morris's society of Nowhere 'manages' the erotic and thus 'extinguishes' its power.¹²⁹ By ensuring that all inhabitants are healthy and attractive such that 'every Jack may have his Jill',¹³⁰ society makes fights over beautiful mates unnecessary. There is therefore a link between the management of desire in *News from Nowhere* and physical attractiveness, as the novel's focus on health, vigour, and longevity is a means of diminishing erotic desire's potentially dangerous and disruptive influence.

The attenuation of the erotic is also revealed in Guest's relationship with Ellen. In many analyses of desire in this novel there is a degree of slippage in the use of the term, as critics move from erotic desire to 'socialist desire' or 'utopian desire' – a much broader force, which might more accurately be defined as aspiration or ambition.¹³¹ Such slippage is, however, faithful to the novel itself in that Guest's feelings for Ellen

also shift into a tamer wish for solidarity and friendship. By the end, they become 'good friends' and Guest's erotic longings go unfulfilled.¹³² He learns instead to appreciate Ellen's beauty as part of the wider attractiveness and happiness of the new society. This shift from the erotic and the personal to the social and the general is a further example of the way in which the society of Nowhere controls and neutralises the power of the erotic.

Like Verne and Flammarion, Morris creates a hygienic, disease-free society just at the moment when such a world was emerging as a possibility with the discovery of microbes as the cause of disease, and on one level, *News from Nowhere* does offer a 'glowing vision of an actualized utopia.'¹³³ At the same time, however, the novel reveals some of the more disturbing implications of moving away from dirt and the body.

Conclusion

This chapter has focused on utopian visions of alternative worlds as a way of considering the increasing attempts made in nineteenth-century society to overcome the dirty body. Such attempts are often regarded by scholars as central to the project of modernity. Helen Sullivan, for example, posits that 'the challenge of shaping dirt ... functions as a metaphor for the project of modernity.'¹³⁴ Scholars of history and sociology also point to increasing levels of disgust, and especially lowering tolerance of dirt and smell, as constitutive of the modern Western subject.¹³⁵ However, whilst the dissemination of germ theory from 1880s onwards certainly rendered fears of dirt and pollution particularly acute, a narrative of straightforward human advancement away from the lowly and animalistic towards an apparently sanitised, civilised Western society needs to be re-evaluated, as has been argued by Mark Jenner.¹³⁶ I would argue that looking at novels written in this period offers a starting point for this process.

As the texts examined here reveal, the outright rejection of dirt is problematic and at times paradoxical. Verne, Flammarion, and Morris all present positive images of a disease-free world and the benefits of a hygienic society. All three, however, also reveal the unintended consequences of extreme cleanliness and suggest that dirt cannot be straightforwardly removed. Bound up with the rejection of excrement, filth, and bodily processes is a rational rejection of disease, infirmity,

and infection, but also an indirect rejection of passion, diversity, and desire.

Notes

- 1 D. P. Strachan, 'Hay fever, hygiene, and household size', *British Medical Journal*, 299 (1989), 1259–60.
- 2 G. A. W. Rook, '99th Dahlem Conference on infection, inflammation and chronic inflammatory disorders: Darwinian medicine and the "hygiene" or "old friends" hypothesis', *Clinical and Experimental Immunology*, 160 (2010), 70–9.
- 3 For example, M. Blaser, *Missing Microbes: How Killing Bacteria Creates Modern Plagues* (London: Oneworld, 2015).
- 4 L. Brookes, 'The hygiene hypothesis – redefine, rename, or just clean it up?', *Medscape*, 6 April 2015, www.medscape.com/viewarticle/842500. Accessed 9 August 2017.
- 5 T. S. Chen and P. S. Y. Chen, 'Intestinal autointoxication: a medical leit-motif', *Journal of Clinical Gastroenterology*, 11 (1989), 434–41 (pp. 434–6).
- 6 M. Sullivan-Fowler, 'Doubtful theories, drastic therapies: autointoxication and faddism in the late nineteenth and early twentieth centuries', *Journal of the History of Medicine and Allied Sciences*, 50 (July 1995), 364–90 (p. 364).
- 7 S. Signe Morrison, *Excrement in the Late Middle Ages* (New York: Palgrave Macmillan, 2008), 133.
- 8 For example, S. Greenblatt, 'Filthy rites', *Daedalus*, 111:3 (Summer 1982), 1–16. See also R. Ganim and J. Persels (eds), *Fecal Matters in Early Modern Literature and Art: Studies in Scatology* (Aldershot: Ashgate, 2004); W. Stockton, *Playing Dirty: Sexuality and Waste in Early Modern Comedy* (Minneapolis/London: University of Minnesota Press, 2011); P. J. Smith, *Between Two Stools: Scatology and its Representations in English Literature, Chaucer to Swift* (Manchester: Manchester University Press, 2012).
- 9 Rozin et al., 'Disgust', in L. Feldman Barrett, M. Lewis, and J. M. Haviland-Jones (eds), *Handbook of Emotions* (New York/London: Guilford Press, 2000), 637–53 (pp. 637–8).
- 10 D. Inglis, *A Sociological History of Excretory Experience* (Lewiston: Edwin Mellen Press, 2000), 18.
- 11 M. Douglas, *Purity and Danger* (Routledge: London, 1966), 2.
- 12 For example, S. Strasser, *Waste and Want: A Social History of Trash* (New York: Metropolitan Books, 1999); E. O'Connor, *Raw Material: Producing Pathology in Victorian Culture* (London/Durham, NC: Duke University

- Press, 2000); W. Menninghaus, *Disgust: The Theory and History of a Strong Sensation*, trans. H. Eiland and J. Golb (New York: State University of New York Press, 2003); K. Forde (ed.), *Dirt: The Filthy Reality of Everyday Life* (London: Profile Books, 2011).
- 13 C. Hamlin, *Public Health and Social Justice*, 7–8; W. A. Cohen, 'Introduction: Locating Filth', in W. A. Cohen and R. Johnson (eds), *Filth: Dirt, Disgust, and Modern Life* (London: University of Minnesota Press, 2005), pp. vii–xxxvii (p. xviii).
 - 14 D. S. Barnes, *The Great Stink of Paris and the Nineteenth-Century Struggle Against Filth and Germs* (Baltimore, MD: Johns Hopkins University Press, 2006).
 - 15 For example, A. R. Aisenberg, who examines the prolonged debates surrounding the removal of human waste in Third Republic Paris. See *Contagion: Disease, Government, and the 'Social Question' in Nineteenth-Century France* (Stanford, CA: Stanford University Press, 1999), 105–112.
 - 16 For example, N. Tomes, *The Gospel of Germs: Men, Women, and the Microbe in American Life* (Cambridge, MA: Harvard University Press, 1998), 62–3, 66–7.
 - 17 Both texts have been translated into English: A. Corbin, *The Foul and the Fragrant: Odour and the Social Imagination* (London: Papermac, 1996); D. Laporte, *History of Shit* (Cambridge, MA: The MIT Press, 2002).
 - 18 M. S. R. Jenner, 'Civilization and Deodorization? Smell in Early Modern English Culture', in P. Burke, B. Harrison, and P. Slack (eds), *Civil Histories: Essays Presented to Sir Keith Thomas* (Oxford: Oxford University Press, 2000), 127–44 (p. 129). Such a narrative is exemplified in Sigmund Freud's *Civilization and its Discontents* [1930], trans. J. Strachey (New York: Norton, 1961), 93–4; 97; 99 n. 1. Freud's linking of increasing cleanliness with the development of human civilisation has been highly influential. Corbin's *The Foul and the Fragrant*, for example, broadly conforms to this narrative.
 - 19 G. Vigarello, *Concepts of Cleanliness: Changing Attitudes in France since the Middle Ages*, trans. J. Birrell (Cambridge: Cambridge University Press, 1988), 204.
 - 20 Cohen, 'Introduction: Locating Filth', ix.
 - 21 V. Smith, *Clean: A History of Personal Hygiene and Purity* (Oxford: Oxford University Press, 2007), 3.
 - 22 *Oxford English Dictionary*, s.v. 'hygiene'. www.oed.com/view/Entry/90139?redirectedFrom=hygiene#eid. Accessed 15 August 2017.
 - 23 J. C. Whorton, *Inner Hygiene: Constipation and the Pursuit of Health in Modern Society* (Oxford: Oxford University Press, 2000), 20.
 - 24 Cohen, 'Introduction: Locating Filth', ix.

- 25 Corbin, *The Foul and the Fragrant*, 232; Inglis, *A Sociological History*, 11.
- 26 A. E. La Berge, *Mission and Method: The Early Nineteenth-Century French Public Health Movement* (Cambridge: Cambridge University Press, 1992), 99.
- 27 Hamlin, *Public Health*, 7.
- 28 N. Tomes, *The Gospel of Germs: Men, Women, and the Microbe in American Life* (Cambridge, MA: Harvard University Press, 1998), 28, 32.
- 29 Hamlin, *Public Health*, 110, 124, 126.
- 30 Inglis, *A Sociological History*, 213.
- 31 See R. Dubos, *Louis Pasteur: Free Lance of Science* (New York: DaCapo, 1960), 270; Tomes, *The Gospel of Germs*, 6.
- 32 A. B. Evans, *Jules Verne Rediscovered: Didacticism and the Scientific Novel* (New York: Greenwood Press, 1988), 83. See also N. Minerva, *Jules Verne aux confins de l'utopie* (Paris: L'Harmattan, 2001), 95; Christian Chelebourg, *Jules Verne. L'Oeil et le ventre* (Paris: Minard, 1999), 22.
- 33 Minerva, *Jules Verne aux confins de l'utopie*, 105.
- 34 Letter, 8 September 1878 (Olivier Dumas et al. (eds), *Correspondance inédite de Jules Verne et de Pierre-Jules Hetzel*, 3 vols (Geneva: Slatkine, 1999–2003), vol. 2 (2001), 294–5).
- 35 P. Schulman, 'Jules Verne's Very Far West: America as testing ground in *Les 500 millions de la Bégum*', *Dalhousie French Studies*, 76 (Autumn 2006), 63–71 (p. 63).
- 36 Vigarello, *Concepts of Cleanliness*, 208.
- 37 D. S. Barnes, *The Great Stink*, 45; L. Murard and P. Zylberman (eds), *L'Hygiène dans la république: la santé publique en France, ou l'utopie contrariée (1870–1918)* (Paris: Fayard, 1996), 98.
- 38 Tomes, *The Gospel of Germs*, 33.
- 39 *Ibid.*, 27.
- 40 Barnes, for example, refers to a 'sanitary-bacteriological synthesis' (*The Great Stink*, 2). See also Murard and Zylberman, *L'Hygiène dans la république*, 89 and B. Latour, *The Pasteurization of France* (Cambridge: Cambridge University Press, 1988), 22.
- 41 J.-B. Fonssagrives, *La Maison. Étude d'hygiène et de bien-être* (Montpellier: de Gras, 1871), 174, 186, 187: 'les émanations putrides', 'les émanations fétides', 'le méphitisme par les matières putrides'.
- 42 *Ibid.*, 191: 'des germes animés qui existent dans l'atmosphère'; 'beaucoup de maladies contagieuses ou épidémiques [sont] dues au transport et à la dissémination de germes vivants'.
- 43 Y. Chevrel, 'Questions de méthodes et d'idéologies chez Verne et Zola. *Les Cinq cents millions de la Bégum et Travail*', in F. Raymond (ed.), *Jules*

- Verne 2. *L'Écriture vernienne* (Paris: Lettres Modernes, 1978), vol. 2, 69–96 (p. 73); Chelebourg, *Jules Verne*, 23.
- 44 Verne regularly read publications which reported on scientific discoveries such as *La Science illustrée*, *Le magasin pittoresque*, *Tour du monde*. See T. Unwin, *Jules Verne: Journeys in Writing* (Liverpool: Liverpool University Press, 2005), 56.
- 45 K. Allott, *Jules Verne* (London: Cresset Press, 1940), 145.
- 46 Barnes, *The Great Stink*, 24.
- 47 Verne, *Les Cinq cents millions de la Bégum* (Lyon: Editions Drôles de, 2013), 151, 153, 201: 'véritables nids à miasmes', 'nettoyer, nettoyer sans cesse, détruire et annuler aussitôt qu'ils sont formés les miasmes qui émanent constamment d'une agglomération humaine, telle est l'œuvre principale du gouvernement central'.
- 48 *Ibid.*, 151: 'Pas un germe morbide ne peut s'y mettre en embuscade'. Emphasis added.
- 49 *Ibid.*, 154, 156: '[les] blanchisseries ... [sont] pourvues de ... chambres désinfectantes'; 'neuf dixièmes des maladies sont dues à la contagion transmise par l'air ou les aliments'.
- 50 *Ibid.*, 39: 'la Cité du Bien-Être'.
- 51 *Ibid.*, 155: 'on ne finirait pas si l'on voulait énumérer tous les perfectionnements hygiéniques que les fondateurs de la ville nouvelle ont inaugurés'.
- 52 *Ibid.*, 153: 'La question de la propreté individuelle et collective est ... la préoccupation capitale des fondateurs de France-Ville'.
- 53 *Ibid.*, 37: 'une cité modelé sur des données rigoureusement scientifiques'. See also pp. 14, 35, 53.
- 54 *Ibid.*, 35: 'ce n'est pas à moi que ce capital appartient de droit, c'est à l'Humanité, c'est au Progrès!'.
- 55 *Ibid.*, 158.
- 56 *Ibid.*, 150: 'Le comité ... était plutôt l'adversaire de cette uniformité fatigante et insipide'.
- 57 Schulman, 'Jules Verne's *Very Far West*', 67. Schulman does not expand on this comment and focuses instead on Verne's criticism of American domination through capitalist exploitation.
- 58 Minerva, *Jules Verne aux confins de l'utopie*, 104.
- 59 Verne, *Bégum*, 158: 'un régime aussi scientifique'.
- 60 *Ibid.*, 150: 'les murs seront faits de briques tubulaires brevetées, conformes au modèle'.
- 61 *Ibid.*, 149: 'les maisons seraient faites ... de briques légères, parfaitement régulières de forme, de poids et de densité, transpercés dans le sens de leur longueur d'une série de trous cylindriques et parallèles'.
- 62 *Ibid.*, 151, 154.
- 63 *Ibid.*, 154: 'cette police sanitaire'.

- 64 *Ibid.*, 152: 'Les rues, croisées à angles droits, sont tracées à distances égales, de largeur uniformes, plantées d'arbres et désignées par des numéros d'ordre'.
- 65 *Ibid.*, 152: 'un déshonneur véritable'.
- 66 *Ibid.*, 154.
- 67 *Ibid.*, 65: 'France-Ville avait atteint le plus haut degré de prospérité, non seulement matérielle, mais intellectuelle'.
- 68 *Ibid.*, 173: 'chacun [était] au-dessus de toute émotion désordonnée d'alarme ou de colère'.
- 69 *Ibid.*, 173: 'subjugué'.
- 70 *Ibid.*, 144: 'cité modèle'.
- 71 See, for example, K. M. Roemer, 'Paradise Transformed: Varieties of Nineteenth-Century Utopias', in G. Claeys (ed.), *The Cambridge Companion to Utopian Literature* (Cambridge: Cambridge University Press, 2010), 79–106 (p. 79).
- 72 D. Sipe, *Text, Image, and the Problem with Perfection in Nineteenth-Century France: Utopia and its Afterlives* (Burlington, VT: Ashgate, 2013), 4.
- 73 *Ibid.*, 5.
- 74 Verne, *Béguin*, 131: 'une vie réglée selon la science'.
- 75 See Barnes, *The Great Stink*, 188.
- 76 Tomes, *The Gospel of Germs*, 37.
- 77 E. F. Bleiler, *Science Fiction: The Early Years* (Kent, OH: Kent State University Press, 1990), 248.
- 78 Camille Flammarion, *Uranie* (Paris: Librairie Spirite Francophone, 2011), 30.
- 79 *Ibid.*, 109: 'nous fait vivre dans l'infini'.
- 80 *Ibid.*, 175: 'votre planète est absolument manquée'.
- 81 *Ibid.*, 175–6: 'le premier tube digestif'.
- 82 *Ibid.*, 176, 178: '[des] corps grossiers et repoussants'; 'des monstres grossiers'.
- 83 *Ibid.*, 176: 'on ne mange pas, on n'a jamais mangé, on ne mangera jamais'.
- 84 *Ibid.*, 176: 'des organismes aussi grossiers'; 'des idées saines, pures, élevées, ... des idées propres'.
- 85 Sipe, *Text, Image*, 12.
- 86 Flammarion, *Uranie*, 180, 187: 'les habitants ne vivent que par l'esprit et pour l'esprit'; 'la force matérielle ne joue qu'un rôle secondaire'.
- 87 *Ibid.*, 92: 'une absurdité décevante, plus misérable et plus idiote que l'excrément d'un ver de terre'.
- 88 *Ibid.*, 192: 'On n'y connaît point les lourdes fardeaux terrestres ni les déchirements de la douleur. Tout y est plus aérien, plus éthéré, plus immatériel'.
- 89 *Ibid.*, 180: 'chacun de ces êtres ... semble un appareil électrique'.

- 90 *Ibid.*, 180: 'leurs impressions les plus sensuelles [sont] ressenties bien plus par leurs âmes que par leurs corps'.
- 91 *Ibid.*, 189: 'la grossièreté des besoins terrestres'.
- 92 *Ibid.*, 180: 'Tous les travaux matériels sont accomplis par des machines et dirigés par quelques races animales perfectionnées, dont l'intelligence est à peu près du même ordre que celle des humains de la Terre'.
- 93 Verne, *Bégum*, 146: 'une armée de vingt mille coolies chinois, sous la direction de cinq cents contremaîtres européens, était à l'œuvre'.
- 94 *Ibid.*, 187: 'des essais de coolies remuaient la terre, creusaient des fosses, élevaient des retranchements et des redoutes sur tous les points favorables'.
- 95 *Ibid.*, 147: 'une précaution indispensable pour se débarrasser d'une population jaune, qui n'aurait pas manqué de modifier d'une manière assez fâcheuse le type et le génie de la cité nouvelle'.
- 96 L. Otis, *Membranes: Metaphors of Invasion in Nineteenth-Century Literature, Science, and Politics* (Baltimore, MD/London: Johns Hopkins University Press, 1999), 5.
- 97 See R. Nye, *Crime, Madness and Politics in Modern France: The Medical Concept of National Decline* (Princeton, NJ: Princeton University Press, 1984), 330.
- 98 Verne, *Bégum*, 41: 'Pourquoi tous les Français sont-ils atteints à des degrés différents de dégénérescence héréditaire?'.
- 99 Smith, *Clean*, 5.
- 100 W. Morris, *News from Nowhere* (Oxford: Oxford University Press, 2009), 13, 50.
- 101 Verne, *Bégum*, 154: 'les produits des égouts'.
- 102 Morris, *News*, 62, 65.
- 103 *Ibid.*, 128.
- 104 *Ibid.*, 118.
- 105 N. Kelvin, 'The Erotic in *News from Nowhere* and *The Well at the World's End*', in C. Silver and J. R. Dunlap (eds), *Studies in the Late Romances of William Morris* (New York: William Morris Society, 1976), 97–114; J. Marsh, 'Concerning Love: *News from Nowhere* and Gender', in S. Coleman and P. O'Sullivan (eds), *William Morris & News from Nowhere: A Vision for our Time* (Bideford: Green Books, 1990), 107–27.
- 106 *Ibid.*
- 107 Sipe, *Text, Image*, 18.
- 108 Bleiler, *Science Fiction*, 524.
- 109 Morris, *News*, 72.
- 110 D. Pike, *Subterranean Cities: The World beneath Paris and London, 1800–1945* (Ithaca, NY: Cornell University Press, 2005), 204.

- 111 Morris, *News*, 85.
- 112 The recycling of excrement was popular in the mid-nineteenth century in both Britain and France. See, for example, N. Goddard, 'Nineteenth-century recycling: the Victorians and the agricultural utilisation of sewage', *History Today*, 31 (June 1981), 32–6; D. Simmons, 'Waste not, want not: excrement and economy in nineteenth-century France', *Representations*, 96 (Autumn 2006), 73–98. For an analysis of excremental recycling within the French novel, see Manon Mathias, 'Recycling excrement in Flaubert and Zola', *Forum for Modern Language Studies* (2017).
- 113 N. Brown, *Life against Death: The Psychoanalytic Meaning of History* (Middletown, CT: Wesleyan University Press, 1985), 295. See also J. Strauss, *Human Remains: Medicine, Death and Desire in Nineteenth-Century Paris* (New York: Fordham University Press, 2012), 151.
- 114 N. Freeland, 'The Dustbins of History: Waste Management in Late-Victorian Utopias', in Cohen and Johnson (eds), *Filth*, 225–49 (p. 231).
- 115 P. Parrinder, 'News from Nowhere, The Time Machine, and the break-up of classical realism', *Science Fiction Studies*, 3:3 (November 1976), 265–74 (p. 269).
- 116 See Brown, *Life against Death*, 294–5; Rozin, 'Disgust', 642.
- 117 C. McGinn, *The Meaning of Disgust* (Oxford: Oxford University Press, 2011), 90.
- 118 A. Kolnai, *On Disgust* (Chicago: Open Court, 2004).
- 119 McGinn, *Meaning of Disgust*, 102.
- 120 Morris, *News*, 26, 47.
- 121 *Ibid.*, 88, 87–8, 117.
- 122 *Ibid.*, 85, 86.
- 123 *Ibid.*, 87.
- 124 *Ibid.*, 18.
- 125 S. Freud, 'Character and Anal Erotism' [1908], in A. Richards (ed.), *On Sexuality: Three Essays on the Theory of Sexuality and Other Works* (London: Penguin, 1977), 205–15.
- 126 Menninghaus, *Disgust*, 400.
- 127 G. Bataille, *Visions of Excess: Selected Writings, 1927–1939*, trans. Allan Stoekl (Minnesota: University of Minnesota Press, 1985), 77; M. Bakhtin, *Rabelais and his World* (Cambridge, MA: MIT Press, 1968), 147–9.
- 128 Strauss, *Human Remains*, 14.
- 129 Kelvin, 'The Erotic in *News from Nowhere*', 103, 99.
- 130 Morris, *News*, 31.
- 131 Marsh, 'Concerning Love', 124–5. See also Krishan Kumar, 'News from Nowhere: the renewal of utopia', *History of Political Thought*, 14 (1993), 133–43 (p. 134).

- 132 Morris, *News*, 166, 170.
- 133 C. Hampton, 'The Feast's Beginning: *News from Nowhere* and the Utopian Tradition', in Coleman and O'Sullivan (eds), *William Morris & News from Nowhere*, 43–55 (p. 44).
- 134 H. I. Sullivan, 'Dirt theory and material ecocriticism', *Interdisciplinary Studies in Literature and Environment*, 19:3 (Summer 2012), 515–31 (p. 526).
- 135 Inglis, *A Sociological History*, 239, 290; D. Reid, *Paris Sewers and Sewermen: Realities and Representations* (Cambridge, MA: Harvard University Press, 1991), 2; D. Laporte, *History of Shit*, 119.
- 136 M. S. R. Jenner, 'Civilization and Deodorization', 136–8.