



Enthymema XXXIII 2023

## Eugenics and Reproductive Technologies in Primo Levi's Science Fiction: The Importance of the British Interwar Debate

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**Abstract** – This article examines Levi's treatment of eugenics in "I sintetici" and "Proccacciatori d'affari" from *Vizio di forma*. The study builds upon Francesco Cassata's analysis, which established that Levi held complex and conflicting views on the topic. These views mirrored his strong belief in avoiding limitations on scientific research while also revealing his ethical concerns. To further understand this predicament, the study reads Levi's stories against the debate on eugenics that took place in England in the 1920s-1930. This debate engaged scientists and writers who significantly influenced Levi beyond this subject, including the Huxley brothers and Bertrand Russell. In this intellectual milieu, science fiction emerged as a favoured genre for exploring the intricate facets of eugenics and its ethical ramifications. By undertaking a comparative analysis between these antecedents and *Vizio di forma*, this study investigates how and why Levi turned to science fiction to articulate his conflicting thoughts on eugenics.

**Keywords** – Primo Levi; J.B.S. Haldane; Bertrand Russell; Eugenics; Ectogenesis; Huxley Brothers.

Lima, Eleonora. "Eugenics and Reproductive Technologies in Primo Levi's Science Fiction: The Importance of the British Interwar Debate." *Enthymema*, n. XXXIII, *La fantascienza di Primo Levi*, a cura di Eleonora Lima, Michele Maiolani e Marco Malvestio, 2023, pp. 73-90.

<http://dx.doi.org/10.54103/2037-2426/19961>

<https://riviste.unimi.it/index.php/enthymema>

ISSN 2037-2426



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# Eugenics and Reproductive Technologies in Primo Levi's Science Fiction: The Importance of the British Interwar Debate

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## 1. Introduction

In his pivotal book on Primo Levi's science fiction, Francesco Cassata discusses the intricate and complex reflection undertaken by the author in *Vizjo di forma* (1971). Cassata highlights eugenics as one of the most challenging subjects tackled in some of the stories (Cassata, *Fantascienza?* 196-219). According to Cassata's interpretation, this second exploration of the science fiction genre by Levi emerged from a particular socio-political and cultural environment – precisely, the rise of scientific environmentalism between the late 1960s and the early 1970s (146). The attention devoted to environmental concerns and the early call to action to avert ecological disaster make these stories highly relevant in the present moment. The posthuman perspective or, better yet, a non-anthropocentric viewpoint considering animality (Benvegnù) and biological hybridity (Pianzola; Porro); the rejection of a Western-centric outlook that neglects the cultural and environmental specificities of populations needing emancipation – evident in the stories set in Recuenco (Levi, *Opere vol. I* 689-701) and “Verso occidente” (Levi, *Opere vol. I* 578-587); the attention to informational aspects of the planetary crisis in stories like “A fin di bene” and “In fronte scritto” (Levi, *Opere vol. I* 636-646 and 725-732): all these aspects facilitate contemporary readers in aligning with Levi's stance. Although relatively minoritarian upon the initial publication of *Vizjo di forma*, Levi's perspective now resonates with the prevailing environmental awareness.

Nonetheless, the same cannot be said for Levi's intricate and nuanced position on eugenics and reproductive technologies, which remains eerie today, much like it did in the 1970s. Crucially, concepts such as genetic manipulation and the resultant social control that such practices could enable seem at odds with the familiar portrayal of Levi as a witness to inhumane concentration camp experiments, and consequently, as an author dedicated to exposing the dangers of distorted scientific use. For example, a story like “Angelica farfalla” (Levi, *Opere vol. I* 434) from the collection *Storie naturali* aligns perfectly with these expectations (Micali 198-199), depicting the harrowing experiment involving human-bird hybrids carried out by a Nazi German scientist during World War II. Conversely, a text like “I sintetici” from *Vizjo di forma* (Levi, *Opere vol. I* 588-599), which envisions a generation of lab-grown individuals as humanity's sole means of survival, appears to deviate from the ethical principles expected of Levi, given his personal history and literary work.

Once again, it is Cassata who elucidates the reasons behind Levi's fascination with eugenics and reproductive technologies. This fascination did not translate into unconditional support, nor did it prompt the author to dismiss their potential benefits. Primarily, Levi perceived these technologies as useful tools to address the issue of overpopulation, one of the key drivers of the ecological crisis (Cassata, *Fantascienza?* 156). Cassata demonstrates that Levi consistently placed faith in scientists and technicians over politicians in confronting global challenges. However, Levi remained mindful of the moral implications, entrusting the ethical

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responsibility to scientists. A second reason for the author's open stance on eugenics and reproductive technologies emerges: while excluding experiments with clearly harmful applications, such as nerve gas synthesis, Levi did not support curtailing scientific research due to apprehensions about negative applications. If *Vizjo di forma* embodied an «expression of a possible ethical solution to the [ecological] crisis, completely entrusted to the role of the “technicians”» (Cassata, *Fantascienza?* 156), eugenics becomes a partial, albeit ethically complex, solution to the issue Levi addressed in his stories.

The objective of this study is to further expand upon Cassata's analysis of the theme of eugenics and reproductive technologies by recognising Levi's engagement with the intense debates on these matters during the 1920s-1930s in the Anglophone world, particularly England (Farrall; Mazumdar). These decades immediately followed Charles Darwin's theory of evolution and Francis Galton's genetics studies, leading to considerations on eugenics, a term coined by Galton in 1883 (Galton 25). The discussions on the ethical and scientific facets of eugenics during the interwar period famously inspired Aldous Huxley's dystopian novel *Brave New World* (1931). Huxley's novel significantly influenced Levi's science fiction output, as affirmed by critics (Antonello 104; Belpoliti 489; Thompson 233 and 283-284) and by the author himself (Levi, “Aldous Huxley” in *Opere vol. II* 637-640). However, Huxley's novel was not the only instance of science fiction influenced by the contemporary discourse on eugenics and reproductive technologies. Instead, the scientific dialogue intersected with various literary texts and fictional narratives that did not merely use scientific discoveries as a launching point for speculative tales, but rather expanded upon and complemented academic literature (Ball, *Unnatural* 165-189; Squier). Notably, many of the participants were either scientists – as seen in the case of geneticist John Burdon Sanderson Haldane (Adams) and evolutionary biologist Julian Huxley – or had close ties to scientific circles (Clayton), as exemplified by Aldous Huxley, who drew from his brother's research (Deese) and the insights of logician Bertrand Russell (Ball, “In Retrospective” 338).

Evidence from texts or criticism supports the notion that Levi was acquainted with numerous British intellectuals who engaged in discussions on the scientific and ethical implications of eugenics and reproductive technologies. This is evident in the case of the Huxley brothers and Bertrand Russell, who are often directly cited by Levi.<sup>1</sup> However, for other scientists and science fiction writers of that era, this study posits a connection to Levi's stories based on shared themes, narrative devices, and a reasonable assumption that the author could not have ignored renowned scientists such as J. B. S. Haldane.

Consequently, this study analyses Levi's 1970s-1980s science fiction narratives on eugenics and reproductive technologies against these historical influences. Specifically, the texts considered belong to *Vizjo di forma* and include “I sintetici,” “Procacciatori d'affari,” and “Lumini rossi” (Levi, *Opere vol. I* 588-599; 609-625; 626-629), alongside other pieces published in the newspaper *La Stampa* (Levi, *Opere vol. II* 859-993) around the time of the second edition of *Vizjo di forma*. These texts share with *Vizjo di forma* a predilection for science fiction and a focus on environmental concerns.

<sup>1</sup> Levi professed his admiration for the British novelist in the short essay titled “Aldous Huxley” published in *L'altrui mestiere* (*Opere vol. II* 637-640). Here Levi defined *Brave New World* the best among all the literary utopias and dystopias, even when compared to Plato's *Republic* and Orwell's *1984*. Levi's tribute to Bertrand Russell is to be found in *La ricerca delle radici*, in which he anthologised Russell's *The Conquest of Happiness* (1930), published under the title “Perché non siamo felici” (*Opere vol. II* 1484-1490). As per Julian Huxley, Levi mentioned him in the 1986 article “Bionda ossigenata” (*Opere vol. II* 979) and, more importantly, as reconstructed by Cassata, he took inspiration from Huxley's research for his stories “Angelica Farfalla” and “Versamina” (Cassata, *Fantascienza?* 116-127). However, beyond these punctual references, it would be unthinkable that Levi did not know the work of the British geneticist.

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This comparative approach may appear unconventional as it seemingly bypasses more immediate sources of inspiration, which might have originated from within Italian culture. Italy witnessed spirited debates on eugenics between the World Wars (Cerro, *L'eugenetica italiana*; Mantovani; Pogliano) and in the 1950s-60s (Cassata, *Molti, sani, forti*), giving rise to an 'Italian way of eugenics' that engaged the international scientific community (Cassata, "Rigenerare la razza"; Cerro, "«Una umanità più squisita e migliore»"). Similarly, in the realm of Italian science fiction, numerous works and authors could have influenced Levi, such as the pioneering novel *L'anno 3000: sogno* (1897) by Paolo Mantegazza (Comberiat) and *Belmore* (1957) by Corrado Alvaro (Arciero). Nevertheless, connecting Levi's treatment of eugenics and reproductive technologies to the English interwar debate is not driven by idiosyncratic xenophilia or an attempt to negate other sources of inspiration. Rather, establishing this connection allows for a two-fold objective. First, it clarifies Levi's intricate curiosity about eugenics without forcing a simplistic and unambiguous interpretation of these texts. When discussing Levi's affinity with British science fiction, *Brave New World* is frequently cited. Yet, there's a risk of assuming that Levi firmly aligned with the novel's unequivocal stance against eugenics, an alignment that did not wholly mirror Huxley's viewpoint (Deese). Examining texts beyond *Brave New World*, yet still within the same cultural background, provides a framework for understanding Levi's nuanced and challenging position within a broader dialogue that involved artists and thinkers admired by Levi himself.

Second, this comparative approach facilitates an exploration of Levi's reasons for selecting science fiction as the ideal genre for engaging with subjects like eugenics and reproductive technologies. These topics intrigued him as both a scientist and a writer. In the 1920s-30s, British scientists and literary figures approached similar themes as 'centaurs' – individuals straddling the domains of science and literature – using science fiction to investigate and question the ethical and societal ramifications of eugenics. The distinctive cross-pollination within the scientific and literary production of that particular milieu, including intellectuals connected to the Bloomsbury group and the Cambridge Heretics Society, mirrors Levi's own approach and serves as a significant reference point. However, as the ensuing analysis demonstrates, while following the footsteps of other scientists doubling as science fiction writers, Levi carved out his distinctive path. He employed fiction not to distance himself from the complex topic of eugenics, but rather to humanize it and evoke empathy. Levi's foray into science fiction showcases an idiosyncratic and oblique approach, offering a unique interpretation of the genre and prompting readers to reflect on the role and limits of science.

## 2. Eugenics and reproductive technologies: the debate during the interwar period in England

While the task of reconstructing in detail the scientific and cultural debate surrounding eugenics and reproductive technologies in the interwar period in England falls beyond the scope of this study, it is nonetheless important to summarise the main ideas and positions shaping the discussion that later influenced Levi. In 1923, the scientific discourse regarding the potential enhancement of the human race through selective breeding of individuals with desirable traits, and the prevention of reproduction in those with undesirable ones, captured the attention of non-specialist audiences. This came about due to the renowned speech by biologist and geneticist J. B. S. Haldane, entitled *Daedalus; or, Science and the Future* (1923). Initially conceived as a public lecture for the Cambridge Heretics Society (Subramanian 145-146), the pamphlet later marked the beginning of the well-known book series *To-day and To-morrow*. This series encompassed over a hundred speculative essays, many concerning sexual politics and eugenics, published in London between 1923 and 1931 (Saunders). Haldane's essay achieved significant

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acclaim among both scientists and the general public – even Einstein had a copy in his library (Rubin 73) – and it significantly influenced a generation of science fiction writers. Among them, perhaps the most notable is Aldous Huxley, who directly drew the concept of ectogenesis, referring to the growth of fetuses outside the maternal womb, from Haldane's *Daedalus* (Firchow 306-307). Although ectogenesis and eugenics were not the sole subjects tackled by Haldane, they undoubtedly represented the most remarkable prognostications within the essay. Much like Levi, as we shall see, Haldane asserted that these reproductive and breeding technologies alone could address demographic-related challenges and prevent the overall decline of humans' genetic heritage.

Haldane's optimistic perspective on genetic manipulation, while not entirely neglectful of ethical consequences, did not gain unanimous support. This was evident in the case of mathematician and philosopher Bertrand Russell, who, a mere six months later, issued his counter-argument in the same *To-day and To-morrow* series, entitled *Icarus; or The Future of Science* (1924). In this essay, Russell was primarily concerned not with refuting Haldane's predictions, but rather with the ethical ramifications of techno-scientific discoveries. In his view, these discoveries were inevitably prone to be exploited for dubious political objectives (Rubin). Particularly, Russell contended that eugenics held the potential to furnish tools for racial discrimination and social control, as humans' appetite for power and inclination towards competition were likely to prevail.

Aldous Huxley, too, shared these apprehensions. In *Brave New World*, he depicted a dystopian society where eugenics was one among several strategies, including social Fordism, surveillance, and mind control, that the government employed to ensure total compliance from its citizens. Nevertheless, it would be inaccurate to assume that Huxley's standpoint equated to an outright rejection of eugenics and reproductive technologies. Similar to many other intellectuals of his circle, Huxley held nuanced views shaped by his brother's research in evolutionary theory, eugenics, and social planning (Weindling). Recognizing this complexity is essential to understanding the intricate nature of the debate during that era. In 1927, five years prior to publishing *Brave New World*, Aldous Huxley authored the essay "Notes on Eugenics: The Battle Between Inferior and Superior People for the Possession of the Earth." In this piece, he analysed the potential effects of eugenics on society (Matz 133). Unlike Russell, Huxley's concern did not revolve around ethics – «I am not concerned to argue for or against eugenic reform» (Huxley, "Notes on Eugenics" 68), Huxley wrote – but rather focused on socio-political implications. Huxley questioned whether, in the face of a significant decline in the genetic makeup of the global population, intervention to enhance genetic qualities would be preferable to letting nature take its course. This dilemma, however, was not merely an ethical one; it was profoundly political. Huxley pondered a scenario where «superior people», a category he considered himself part of, could be overshadowed by the 'unwashed mass' of inferior individuals. In such a situation, eugenics might offer a solution. Yet, should the «inferior people» cease to exist, society would become uncontrollable: «if [...] in a perfectly eugenized state, every individual is capable of playing the superior part, who will consent or be content to do the dirty work and obey?» (Huxley, "Notes on Eugenics" 68), Huxley queried his readers. When considering *Brave New World* alongside this essay, the depiction of individuals genetically tailored to fulfil specific social roles cannot be easily interpreted as a critique solely of the dehumanising consequences of reproductive technologies. Rather, it constitutes a facet of a more extensive reflection that neither entirely rejected nor wholly embraced the concept of eugenics.

Similarly, numerous feminist writers and activists during that period found themselves both intrigued and repelled by the opportunities presented to women through eugenics and reproductive technologies (Bigman; Lake). On the one hand, innovations like ectogenesis offered the prospect of liberating women from the burdens of maternity, thereby leading to complete

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equality with men. Additionally, as reproduction would become a regulated matter overseen by the government, it would entail the complete separation of love and reproductive duties. This proposition held particular allure as it allowed women to envision alternative roles beyond the confines of traditional family structures. On the other hand, the notion of being divested of their maternal roles and replaced by mechanical incubators stirred suspicion. The potential of eugenics and reproductive technologies to strip women of their generative and nurturing abilities was a concerning aspect. Eugenics appeared to offer women pathways to empowerment alongside the potential for subjugation. This tension found expression in texts such as Charlotte Haldane's science fiction novel *Man's World* (1926), Dora Russell's essay *Hypatia: Or Woman and Knowledge* (1925), and Vera Brittain's essay *Halcyon: or The Future of Monogamy* (1929), the latter two of which were published in the aforementioned *To-day and To-morrow* series. As expected, the contributions of women to the eugenics debate evoked a range of often highly dramatic reactions from men. These reactions lamented the supposed demise of the family structure, traditional masculinity, and husbands' rights to sexual relations (Squier 73-76). Such sentiments are evident in Anthony Ludovici's pamphlet *Lysistrata: or, Woman's Future and Future Woman* (1925), also part of the same series, whose title resonates with those of Haldane and Russell. Similar positions can also be found in the section dedicated to the future of women in the book *The World in 2030 A.D.* (1930) by Lord Birkenhead, who is today primarily remembered as one of Winston Churchill's closest confidants.

In sum, the debate surrounding eugenics and reproductive technologies during the interwar period in England was intricate and multifaceted. While some regarded these technologies as avenues for enhancing the human race, others harboured deep concerns about their potential for misuse and dehumanisation. This discourse was evident not solely within scientific research but also in literature, which explored the ethical and societal ramifications of these technologies. A steadfast faith in science, the centrality of ethical concerns, an examination of the political and social consequences, an attention to gender politics, and above all, a desire to critically examine the issues surrounding eugenics and reproductive technologies: these are the elements that Levi inherited from this period. Consequently, a thorough analysis of his science fiction narratives is essential to understanding how and why he interwove these sources into his own fictional narratives.

### 3. Levi's "I sintetici" and Haldane's *Daedalus*: a transhumanist dream?

Among Levi's stories dealing with eugenics, it is "I sintetici", collected in *Vizio di forma*, that engages more directly with the topic and incorporates all the primary tropes of science fiction narratives addressing this theme. The text, like many belonging to the same subgenre, envisions a not-so-distant future in which a generation of babies is conceived in test tubes and cultivated in a laboratory to breed a superior race. This leads to conflicts between naturally conceived and 'synthetic' people, as the former group fears being overpowered and replaced by the newcomers, who have an unfair advantage thanks to eugenic selection. Given Levi's admiration for Aldous Huxley, it is not difficult to imagine that the English writer might have served as an inspiration for this story. Indeed, the famous opening pages of *Brave New World* describe a world akin to that of "I sintetici". Additionally, from his very first novel, *Crome Yellow* (1921), Huxley contemplated a future in which eugenics and ectogenesis reshape human reproduction. In *Crome Yellow*, the scenario is depicted with enthusiasm by the character of Mr Scogan, whose cynical pragmatism renders him an overt caricature of Bertrand Russell (Firchow 304). Mr Scogan predicts that «an impersonal generation will take the place of Nature's hideous system. In vast state incubators, rows upon rows of gravid bottles will supply the world with the population it requires» (23).

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This is precisely what Levi imagined in “I sintetici”. However, unlike in Huxley's novel, the story does not present the advent of ‘bottle babies’ as a dire prospect; instead, akin to Mr Scogan's wishes, it is depicted as a welcomed solution to humanity's numerous shortcomings. In Levi's story, Mario, the synthetic boy, proudly expounds to his bewildered schoolmates the superior moral traits inherent in his kind:

comanderemo noi, e allora non ci saranno più guerre. Sì, perché non combatteremo fra noi come capita adesso, e nessuno potrà assalirci perché saremo i più forti. E non ci saranno differenze: noi non faremo più differenze, bianchi, negri, cinesi, saranno tutti uguali, anche i Pellerossa, quelli che restano. Distruggeremo tutte le bombe atomiche e i missili [...] e con l'uranio che ne ricaveremo ci sarà energia gratis in tutto il mondo: e anche da mangiare gratis per tutti, anche in India, così nessuno morirà più di fame. (Levi, *Opere vol. I* 597-598)

The fact that a schoolboy, cornered by his classmates who bully him for being different,<sup>2</sup> illustrates the benefits of eugenics, rather than a grandiloquent intellectual like Mr Scogan, is not a minor detail. The decision to narrate the story from the viewpoint of a child – a choice we will delve into further – enabled Levi to explore the benefits of eugenics without fully embracing it. Nevertheless, the severe condemnation of eugenics and the fear of a dystopian future implicit in Huxley's novels, both *Crome Yellow* and *Brave New World*, are absent in “I sintetici”. This prompts us to search for Levi's inspiration elsewhere: specifically, in Haldane's aforementioned pamphlet *Daedalus; or the Science of the Future*. While there is currently no direct evidence that Levi read it, it is highly unlikely that he was unaware of its content. Haldane's book achieved instant success, with over 15,000 copies sold in its first year, propelling its author to international fame (Subramanian 146). Furthermore, as previously mentioned, *Daedalus* played a pivotal role in shaping *Brave New World*'s discourse on eugenics – a book that Levi read and respected – and it was also the target of criticism in Russell's pamphlet *Icarus; or the Future of Science* (Adams 462), a philosopher whom Levi esteemed highly enough to include in his personal anthology *La ricerca delle radici* (Levi, *Opere vol. II* 1484-1490).<sup>3</sup>

The prophecy of a future where ectogenesis and genetic selection will largely supplant natural reproduction is presented in *Daedalus* within Haldane's assertion of biology and genetics' newfound supremacy over all other scientific domains. Haldane contended that the eponymous mythological figure best exemplified the heroic audacity that should guide all biologists, as Daedalus dared to venture into the heretical realm of «experimental genetics» (Haldane, *Daedalus* 47). This mythological character, indeed, crafted the wooden cow for Pasiphaë, enabling her to mate with a bull and give birth to the Minotaur – an interspecies tale akin to many in Levi's science fiction. «Had the housing and feeding of the Minotaur been less expensive, it is probable that Daedalus would have anticipated Mendel» (Haldane, *Daedalus* 47), Haldane wittily noted.

<sup>2</sup> It is curious how Lord Birkenhead, in his already mentioned book *The World in the Year 2030*, also predicted the life of a ‘synthetic’ schoolboy to be quite difficult and in imagining this the author sided with Mario's classmates in their repulsion towards such an unnatural companion: «By 2030 [...] the first ectogenetic child may already be mingling with its normally produced school-fellows-if any ‘decent’ school will accept so monstrous a pupil» (170-171).

<sup>3</sup> Moreover, Haldane's research was translated into Italian as early as 1949 in the volume edited by Tommaso Giglio *I problemi della scienza*. Also, as analysed in the last section of this article, a brief text by Haldane was published by *Civiltà delle macchine* in 1969, a magazine that Levi most likely read. Even Haldane's only science fiction story, “The Gold Makers”, was translated into Italian in 1965 and published along other stories belonging to the same genre and written by scientists – a publication that Levi might have considered with interest. It might very well be a coincidence, but the Italian translation of Haldane's story – “I fabbricanti d'oro” – reminds of Levi's own science fiction story “Il fabbricante di specchi”, collected in *Racconti e saggi* (Levi, *Opere vol. II* 894-897).

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Hence, by following the footsteps of the mythical scientist, Haldane prophesied the arrival of eugenics and ectogenesis as highly anticipated scientific advancements. Confronted with food scarcity and mental and physical illnesses, future humans have no option but to resort to genetic manipulation to ensure the selection of optimal traits in individuals and crops. Interestingly, Haldane did not present these forthcoming developments as mere predictions; rather, he portrayed them as documented realities. He envisioned obtaining an academic paper written one hundred and fifty years later by «a rather stupid undergraduate member» (Haldane, *Daedalus* 57) of the University of Cambridge. In this essay, the future student describes the major scientific achievements in biology and genetics since the 1950s, focusing especially on human ectogenesis that, according to the student, was successfully performed for the first time in 1951 (Haldane, *Daedalus* 63). Much like in “I sintetici,” Haldane’s fictional student extols eugenics for its role in creating a better world, as the artificial selection of human traits «have managed to prevent the transmission of a good deal of syphilis, insanity, and the like» (Haldane, *Daedalus* 57-58). Haldane’s approach of illustrating the potential applications of eugenics by quoting the words of a fictional and below-average student from the future bears resemblance to Levi’s narrative strategy. In “I sintetici,” the endorsement of eugenics comes from a troubled schoolboy who, alienated by his peers for being different, might have exaggerated his kind’s virtues to impress and win their respect. In the case of *Daedalus*, Haldane entrusted his argument to a mediocre student, therefore someone less than authoritative, yet not untrustworthy, and borrowed from science fiction in the context of an academic pamphlet.

Moreover, both texts employed irony as a means for their authors to create a degree of separation from the predictions they postulated. For Levi, as Cassata contends, irony is a recurring element in many stories within *Vizjo di forma*, wherein scientific discoveries and predictions, even when not entirely opposed by Levi, are often presented in a light-hearted tone (Cassata, *Fantascienza?* 196). The prospect of a future world salvaged from ecological catastrophe – stemming from overpopulation, pollution, and famine – thanks to a generation of synthetic beings, serves, in Cassata’s words, as an ironic and caustic commentary on humanity’s ethical lapse. Similarly, in *Daedalus*, Haldane frequently resorted to humorous exaggerations that tempered the unsettling nature of his predictions. For instance, he depicted the impact of eugenics on political campaigns in a highly comedic manner, a rhetorical strategy that likely aimed to soften a vision susceptible to accusations of naïveté: «I can foresee the election placards of 300 years hence, if such quaint political methods survive, which is perhaps improbable, “Vote for Smith and more musicians”, “Vote for O’Leary and more girls”, or perhaps finally “Vote for Macpherson and a prehensile tail for your great-grandchildren”» (Haldane, *Daedalus* 69). In both Haldane and Levi, irony and science fiction serve as the dual components enabling the introduction of unpopular predictions and the exploration of contentious theories, while simultaneously maintaining a safe distance from them. This wasn’t quite a case of Nicodemism, but rather evidence of their ethical considerations.

Nevertheless, a significant disparity exists in the narrative strategies employed by these two texts. Haldane, in terms of narrative technique, established a protective distance for his readers to engage with the prediction of ‘bottle babies’, accomplishing this in two ways. First, he relayed the words of a fictional future student, thereby transforming what might have been an informed prediction by a geneticist into a science fiction story employing the found manuscript narrative technique. Second, this communication from the future is not a personal account from the student’s perspective, but an academic paper, characterised by a matter-of-fact style centred on data and numbers.

Levi, on the other hand, chose to portray Mario in a humanizing light and concentrated on the boy’s fear of rejection and longing for companionship. Compared to other stories in *Vizjo di forma*, “I sintetici” presents a more introspective narrative, less ironic and assertive, inviting readers to sympathize with Mario instead of passing judgment on a society embracing eugenics.



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The lived experience and daily struggles of one of these ectogenic children form Levi's viewpoint on the topic. Furthermore, the parallel between Levi's own experience of facing discrimination as a Jewish boy attending school during Fascism and Mario's struggle elicits empathy for the protagonist.<sup>4</sup> Besides, Mario's difficulties stem not from his 'synthetic' nature but from the closed-mindedness of his classmates.

This is a pivotal aspect that further links Levi's story with Haldane's pamphlet. Haldane's refusal to condemn eugenics and ectogenesis is rooted in his belief that science should not conform to common ethical and moral principles of society. Instead, it is science and technology that, through their ongoing discoveries, shape people's morality, with individuals required to catch up with progress. To illustrate this, Haldane used the example of milking cows, a practice that should be regarded as indecent, as the milk «which should have been an intimate and almost sacramental bond between mother and child, is elicited by the deft fingers of a milk maid, and drunk, cooked, or even allowed to rot into cheese» (Haldane, *Daedalus* 45). It suffices considering drinking any other animals' secretion, Haldane added, to understand how indecent our relationship with cows is.<sup>5</sup> Eugenics and ectogenesis, like milking cows, require society to adapt gradually as the benefits of these discoveries gain universal recognition.

In "I sintetici," it is the ethics of humanity that have not yet caught up with scientific advancements, not science itself being immoral. As Mario's teacher and the school headmaster reassure him, there is nothing wrong with him; in fact, he is destined to become a scientist, belonging to the only category that, according to Levi's perspective, holds the power and responsibility to address the world's problems. Even the adjective «synthetic», used by Mario's classmates as an insult, does not carry a negative connotation in Levi's view. He elaborated on this concept in an article titled "Bionda ossigenata," published in *La Stampa* in 1986 (Levi, *Opere vol. II* 978-981). Here, Levi criticised the emotional ambivalence of people towards adjectives such as 'ossigenata' and 'sintetico', valued qualities or defects depending on what they describe: «Il venditore vi dirà, con lo stesso entusiasmo professionale, che una vernice è buona perché sintetica, e che una fibra o un farmaco sono buoni perché naturali. Non credo che esista un aggettivo più biforcuto che "sintetico"» (Levi, *Opere vol. II* 979). Thus, Mario's synthetic nature doesn't warrant fear and suspicion. The issue lies with Mario's classmates' irrational and emotional response to scientific progress. As Haldane stated, their morality must adapt to the new reality. Unlike Haldane's optimistic outlook, in Levi's tale it's closed-minded humans who corrupt the new synthetic generation. When provoked by Renato, who spreads rumours about him, Mario adopts the same aggressive behaviour displayed by his 'natural' classmates. While asserting his superiority, Mario yells at Renato in front of the whole school and immediately regrets his actions. This aggressive display reveals a betrayal of the expectations placed on his kind to improve humanity through kindness and rationality. Before breaking into tears, Mario begs Renato in a strained voice, «Vai via, Renato: non ti posso vedere.

<sup>4</sup> It is Ian Thomson, Levi's biographer, who noticed the similarity between the author's own experience of being rejected and ostracised by classmates and the one's of the fictional character Mario: «Levi began to believe that he possessed repulsive traits, an imagined runtiness, and was easily upset by remarks of his 'Jewish' appearance. [...] in later years Levi dramatized his early shame in a science fantasy, "The Synthetic Ones"» (Thomson, *Primo Levi* 42). A story of rejection similar to the one of Mario is also in the story "Zinco" from *Il sistema periodico* (Levi, *Opere vol. I* 764-770). Here the author, who is attracted to his classmate, Rita, also a college student of chemistry, is nervous about a possible rejection due to him being Jewish, thus inherently different and perceived as "impure" due to the racial laws imposed by the Fascist government.

<sup>5</sup> Haldane's remarks on the morality of drinking milk might have inspired another of Levi's stories from *Viszjo di forma*, "Vilmy" (Levi, *Opere vol. I* 630-635), in which the sly pets seduce any human who dares drinking their milk, an indecent act that condemns every vilmy's lover to a life of shame.

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Ecco, mi hai fatto parlare, e io ho parlato, e adesso sono tornato come tutti: come te, come uno di voi» (Levi, *Opere vol. II* 599).

The ultimate downfall of the synthetic boy, influenced by his 'organic' classmates, reflects Levi's doubt in people's ability to show compassion and improve themselves, a sentiment he shared with Bertrand Russell, as the next section explores. However, Mario's utopian vision of a world liberated from suffering and injustice through scientific and technological discoveries shouldn't be dismissed solely as the perspective of a young boy seeking approval. "I sintetici" unmistakably carries a transhumanist message, albeit ironic and conditional, further connecting Haldane's and Levi's visions.

In 1927, Haldane published an essay titled "The Last Judgement," considered a sequel to *Daedalus* that delved deeper into the analysis of the potential benefits of eugenics, relying even more on science fiction (Adams). While *Daedalus* peered 150 years into the future, "The Last Judgement" dared to envision humanity's fate over the next 40,000,000 years. By this time, the Moon is on course to approach the Earth, annihilating life as we know it. Nevertheless, this isn't humanity's end: Haldane described extraterrestrial spectators witnessing this catastrophe, who surprisingly are not aliens but direct descendants of our species. This outcome arises from millennia of genetic adaptation – strongly guided by eugenics – that enables humanity to survive and adapt to another world. This essay, later inspiring Olaf Stapledon's renowned science fiction novel *Last and First Men* (1930) (Adams 469-470; Crossley 190-191), advocated the idea that although avoiding all negative consequences of scientific discoveries is impossible, only science can salvage humanity if individuals are courageous enough to change and adapt.

Although absent in "I sintetici," this transhumanist faith wasn't alien to Levi. He arrived at similar conclusions in the article "La luna e l'uomo" (Levi, *Opere vol. II* 926-928), published in *La Stampa* in December 1968, shortly before the Moon landing, while he was working on *Vizjo di forma*. The article opened with a quotation of the title of Huxley's novel *Brave New World*. While the expression is antiphrastic in the original, Levi intended it literally: «Il nostro mondo, sotto tanti aspetti sinistro, provvisorio, ammalato, tragico, ha anche quest'altro viso: è un "brave new world", un audace nuovo mondo, che non arretra davanti agli ostacoli, e non trova pace finché non li abbia aggirati o penetrati o travolti» (Levi, *Opere vol. II* 926). Levi's admiration wasn't directed solely at aerospace engineering, but primarily towards human evolution that allowed people to surpass the limitations of their bodies:

L'uomo, scimmia nuda, animale terrestre figlio di una lunghissima dinastia di esseri terrestri o marini, modellato in ogni suo organo da un ristretto ambiente che è la bassa atmosfera, se ne può staccare senza morire. [...] La sostanza umana (o meglio la sostanza animale), oltre ad essere adattabile evolutivisticamente, sulla scala dei milioni di anni e a spese dell'incalcolabile sacrificio delle varianti meno idonee, è adattabile oggi e qui, sulla scala dei giorni e delle ore [...]. (Levi, *Opere vol. II* 927-928)<sup>6</sup>

<sup>6</sup> Similar ideas are expressed in "Il fabbro di se stesso" (Levi, *Opere vol. I* 702-709), also part of *Vizjo di forma*. The story resembles Calvino's *Cosmicomiche* – and indeed Levi dedicated "Il fabbro di se stesso" to Calvino – as the protagonist and narrator is an entity who lived through all the stages of evolution, from fish to human, and it can therefore tell the story of life on earth as someone who experienced it first-hand. Evolution, in this story, is the result of individual effort and initiative, as the title indicates. However, this potentially transhumanist message is invalidated by the closing statement, in which the narrator illustrates his last invention, a flint arrow, that he uses to attack and dominate people: «sfondare la testa ad altri "io" che stanno fra i piedi, o corteggiano mia moglie, o anche soltanto sono più bianchi o più neri o più pelosi o meno pelosi di me, o parlano con accento diverso» (709). Such distrust in humans' ability to use technology for good is also in "I procacciatori d'affari" and in its model, Bertrand Russell's *Icarus*, as the next section analyses.

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Perhaps due to the excitement of space missions, Levi felt that the loss of less suited variants and species during evolution was a fair trade, and welcomed this accelerated genetic selection propelled by recent technological and scientific advances. Furthermore, faced with such a remarkable accomplishment, ethical concerns seemed trivial, prompting Levi to conclude the article by stating, «se un'impresa può essere compiuta, essa, sia buona o cattiva, non può essere accantonata ma deve essere compiuta» (Levi, *Opere vol. II* 928).

Levi's words echoed Haldane's "The Last Judgment", as both not only professed faith in science but accepted any potential disruptions as long as they contributed to advancing scientific progress. Nevertheless, interpreting their stances as a complete lack of ethical concern would be far from accurate, especially in Levi's case. However, the transhumanist perspective and unwavering belief in safeguarding science from moral limitations underpinned the open-minded curiosity and fascination Levi and Haldane shared towards eugenics. Through the science fiction genre, they constructed conditional worlds to test predictions that would otherwise be dangerous to voice.

### 4. "Procacciatori d'affari": ethical implications

The second story from *Vizio di forma* that touches upon the theme of eugenics is "Procacciatori d'affari", which appears to counterbalance the predictions of "I sintetici". In "I sintetici", it is science, genetics and eugenics more specifically, that will save humans from self-disruption, a position supported by Levi himself. However, the character expressing these ideas is a school-boy bullied by his classmates, a circumstance that further weakens his assertion: not only Mario is not an expert or a scientist, but he is forced by the situation to oversell his superiority and the usefulness of all 'synthetic' people to the rest of humanity. On the other hand, the focus on the boy's feelings and internal struggle for self-acceptance invites the reader to empathise with him, with the effect of downplaying the potential ethical threat posed by eugenics.

With "Procacciatori d'affari", instead, Levi accomplished the opposite. The protagonist of the story, a not-yet-born soul who needs to decide on which planet to live their embodied life, has the power to save humanity thanks to their superior traits and the possibility to choose the context in which to be born. The protagonist rejects such privilege and the whole idea of an external intervention – and of eugenics – that would relieve humans from their responsibilities. In this story, Levi assumes the point of view of a character whose experience is nothing like the one of us humans and, thanks to this estrangement technique, he confronts the ethics of eluding moral duties thanks to eugenics' 'divine intervention'. Moreover, contrary to what happens in "I sintetici", this ethical concern is uttered by someone who is more than human and had been fully briefed about the world's problems by the "hard-sellers" of the title. However, S., the protagonist of "Procacciatori d'affari", unlike Mario, has no embodied, lived experience, and his understanding of human suffering is something that S. can only infer from the sellers' guidance material.

Comparing these two stories shows how inexact it would be to read "I sintetici" as the expression of Levi's optimistic support to eugenics, and "Procacciatori d'affari" as an ethical coda, in which the author challenged and mitigated his previously expressed positions on the matter. Similarly, to interpret Haldane's views in *Daedalus* and Russell's rebuttal in *Icarus* as two arguments, one pro and the other against eugenics would undervalue the depth of their analyses (Rubin). Nonetheless, as *Daedalus* can be considered an important source for "I sintetici", similarly "Procacciatori d'affari" shares some important aspects with Russell's pamphlet.

The main point of divergence between Haldane and Russell was not the effectiveness of eugenics in tackling issues such as the spread of physical and mental diseases, the consequent degeneration of human genetic background, and the control of the world population's growth. What Russell contested Haldane was his belief that science should shape ethics rather than the

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opposite, and that, while such situation will surely lead to a number of catastrophes, in the grand scheme of things the advantages will supersede the losses. Russell, instead, believed that science is always subjected to politics, and he did not trust politicians to be capable of – or rather willing to – using scientific discoveries for the betterment of humanity. This, rather than having to do with political corruption specifically, is because humans are essentially and irredeemably flawed. To make his point, Russell used the example of wolves and dogs. Wolves are guided by an insatiable hunger, and this is what keeps them alive, because their preys are scarce and far in between, so they need the constant push of hunger to persevere in the exhausting search for food. Dogs descended from wolves and inherited this trait from them. However, they no longer have a need for it, and this prompts them to overeat, which is bad for their health. Similarly, Russell explained, science has changed our living conditions but not our primal instincts, from which we cannot escape, so they have become a curse rather than a resource:

The sudden change produced by science has upset the balance between our instincts and our circumstances, but in directions not sufficiently noted. Over-eating is not a serious danger, but over-fighting is. The human instincts of power and rivalry, like the dog's wolfish appetite will need to be artificially curbed, if industrialism is to succeed. (Russell, *Icarus* 13)

Russell did not dispute the benefits of science but was concerned with the 'flaw of form' inherent to human beings who «are bundles of passions and instincts» (Russell, *Icarus* 12), a circumstance that made them prone to abuse science. This was most concerning when it came to discoveries like eugenics, as Russell speculated that while this practice could be used to eradicate diseases, politicians will most surely use it for social control, as governments might want to «breed a subservient population, convenient to rulers but incapable of initiative» (Russell, *Icarus* 52). This is exactly the scenario depicted in *Brave New World*, for which Huxley took great inspiration from Russell's *Icarus*, as well as from his more recent book *The Scientific Outlook* (1931) (Nicol 47-48). A second point raised in the pamphlet considered the relation between scientists and politicians and their respective areas of competence. For Russell believing that scientists are in charge is extremely naïve, because «that a reform inaugurated by men of science would be administered as men of science would wish, by men similar in outlook to those who have advocated it [...] are, of course, delusions; a reform, once achieved, is handed over to the average citizen» (Russell, *Icarus* 50-51).

This second point, more than the fear of social control exerted by means of eugenics, must have resonated with Levi, who read and admired Russell's thought. In an article published in 1986, Levi polemically commented on the news of a doctor from the Neapolitan hospital Cardarelli who attempted in vitro fertilization and was able to predetermine the sex of the baby. Levi's concern, same as for Russell, was not about eugenics, but about the fact that genetics, when not under the control of scientists, could be corrupted to satisfy parents' petty desires:

È facile immaginare cosa capiterebbe se la squallida prodezza di Napoli venisse confermata, resa accessibile al grosso della popolazione, e prendesse piede nel costume: a seconda dei gusti o della moda, avremmo un eccesso di maschi o di femmine, aggiungendo un artificiale problema demografico ai molti problemi spontanei che già ci affliggono. (cited in Cassata, *Fantascienza?* 219)

A similar scenario is at the centre of another story from *Vizio di forma*, "In fronte scritto" (Levi, *Opere I* 725-732), in which a couple have their foreheads carved with a message advertising perfumes in exchange for money from the perfume company, and later give birth to a similarly branded baby. While this is not a case of eugenics per se, it is evident how Levi's fear that economic gains and egotistical needs might shape the science of genetic manipulations

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not in the way that researchers intended. However, it is in the article "Covare il cobra" (Levi, *Opere II* 990-993), also published in 1986, a year before the second edition of *Vizjo di forma*, that Levi addressed more in depth the dangerous applications of scientific discoveries and the moral responsibilities of scientists and politicians.<sup>7</sup> In this analysis, Levi did not deny that science must always advance without being limited by preoccupations about future potential misuses. However, he recognised, differently from what he previously asserted in the already mentioned article on space travels, that not every field of research should be pursued, but only the ones that scientists, in good conscience, deem mostly beneficial for humanity: «accetterai di studiare un nuovo medicamento, rifiuterai di formulare un gas nervino» (Levi, *Opere II* 993).

Focusing on Levi's and Russell's shared concern for the conflictual relation between science and politics, as well as between scientists and laypeople, is crucial to understand the author's reservations towards the scientific and transhumanist vision supported instead by Haldane and, in other texts, by Levi himself. This has to do with the inherent defect in dogs and in people, as Russell maintained, the flow of form «che vanifica uno od un altro aspetto della nostra civiltà o del nostro universo morale»,<sup>8</sup> as Levi put it. Therefore, science is an invaluable weapon but a fallible one due to the human, irrational context in which science operates. Eugenics and reproductive technologies, to fully save humanity, would need humans to be different (Antonello 99). This is the conclusion reached by "I sintetici" because, as already discussed, the story concludes with Mario, the synthetic boy, corrupted by the fully human Renato. Similarly, in "Procacciatori d'affari", Levi insinuated the doubt that science alone is not enough to save humanity. The story concludes with S. renouncing the privilege offered by the sellers – and by eugenics – and choosing to incarnate in a body and in a place randomly assigned, like any other human being. This decision appears to be guided by a sense of justice and solidarity, rather than by a lack of trust in the redeeming power of science. However, when reading this story in parallel with "I sintetici," it is clear how Levi was trying to make a point about the fact that science is not commensurable with human suffering, which cannot be fixed by any discovery.<sup>9</sup> Like in the story of Mario, his superior traits eugenically selected do not save him from pain and, in the end, he even fails to incite compassion and to redeem his fellow classmates.

To contextualise Levi's preoccupation for the existential impact of scientific discoveries, it is useful to set aside the analysis of "Procacciatori d'affari", and consider another text from *Vizjo di forma*, "Lumini rossi". The story deals with reproductive technologies and their impact on marital life. It imagines a birth control device that is implanted on the back of women's neck and consists of a control light turning red whenever they are fertile. Considering how Levi's preoccupation for the effects of overpopulation is central to *Vizjo di forma*, one would imagine such device to be described as a God-sent discovery. "Lumini rossi", instead, follows the point of view of a frustrated husband, for whom his wife's pulsating light is a depressing

<sup>7</sup> Levi opened the article "Covare il cobra" by reporting Pliny's account on Phalaris, tyrant of Agrigento, who commissioned to Perilaus the building of a brazen bull. This was a torture machine conceived to set on fire the person trapped inside. Because of the acoustics of the hollow statue, it converted the person's screams into the sound of a bull. Perilaus was the first victim of his own invention. Levi shared Pliny's condemnation of the mythical inventor, who should have refused to use his craft to create such a monstrous machine. For the purposes of this analysis, it is interesting to notice how Perilaus' use of technology and consequent destiny is opposite to the one of Daedalus, as described in Haldane's pamphlet and analysed in the previous section of this article.

<sup>8</sup> The quotation is from Maria Grazia Leopizzi, "Pause fantastiche di Primo Levi", which appeared on *Avanti* (6 July 1965); now in: Cassata, *Fantascienza?* 45.

<sup>9</sup> Similar considerations on the impossibility to eliminate any form of suffering and existential pain by means of scientific methods are in the story "Versamina" from *Storie Naturali* (Levi, *Opere vol. I* 467-476) and in "Verso occidente" from *Vizjo di forma* (Levi, *Opere vol. I* 578-589).

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view and not simply because it imposes abstinence on him, but because it introduces a mechanistic, rational, economic principle that castrates any spontaneous and tender gesture.

It is not possible to ascertain if Levi knew about the many novels and essays women activists wrote on the topic of reproductive technologies in the Anglophone world during the interwar period, some of which were already mentioned in this analysis. Among them, one especially comes to mind, as its views on eugenics are as complex and contradictory as the ones found in *Vizjo di forma*. This is Charlotte Haldane's science fiction novel *Man's World* (1926), in which the author, who was also J. B. S. Haldane's wife, imagined a dystopic world where motherhood is a vocational career and only the best-suited women are allowed to procreate, and where prenatal sex determination is a reality.<sup>10</sup> It is important to stress that Charlotte Haldane was not against the introduction of new reproductive technologies and genetic manipulation (Gamble). Tellingly, she fell in love with her future husband – at that time married to another woman, which caused quite a scandal in London society – through reading his *Daedalus*, which provided her with further inspiration for her novel. When reading his «fantastic but matter-of-fact account of the growing of a human foetus in the laboratory», she thought: «This is my man!» (Squire 131). Moreover, when Huxley published *Brave New World*, Charlotte Haldane penned a highly polemical book review in which she accused the novel of being a «parody of the scientific point of view» (C. Haldane, «Dr Huxley» 958) on eugenics, unable to do justice to the research done in the field. However, in *Man's World*, she explored the negative impact of reproductive technologies on the affective and psychological sphere of women, and she did so by introducing the character of an 'ectogeneticist' impersonating the point of view of her husband. Ectogenesis, the fictional scientist explains, will «provide the means to select on the most strictly accurate lines» so the «numbers of mothers chosen diminish year by year» (C. Haldane, *Man's World* 61), thus freeing women from the burden of childbearing. The few chosen mothers «who supply the race are the supreme female types humanity can produce» (C. Haldane, *Man's World* 61-62). Such a vision is met in the book with apprehension and suspicion from the mothers attending the ectogeneticist's speech: «“What!” said Leila, and the other women half laughed, half frowned at her words. “A sort of human termite queen? From whom the entire race shall be bred? Luckily that will not be for a few thousand years yet!”» (C. Haldane, *Man's World* 61).

Like in the case of Haldane's *Daedalus*, the science fiction genre offered to Charlotte Haldane the freedom to explore positions that elsewhere she rejected without having to take a clear stance. A strenuous supporter of her husband's experiments on ectogenesis, she nonetheless feared the impact of such practice on women's experience of motherhood and their role in society more generally. Similarly, Levi, while convinced of the necessity to tackle the issue of overpopulation and not at all opposed to contraceptive methods, explored in “Lumini rossi” their potential negative impact on romantic relationships. The conditional mode that characterises the story of *Vizjo di forma* and the science fiction genre thus allowed him to inhabit a liminal space between two different positions, the scientific and the sceptical one.

Returning to the last quotation from Charlotte Haldane's *Man's World*, there is another element that allows us to draw a line from her analysis of eugenics to Levi's own reflection. In the passage, the reference to the termite queen is not accidental but a direct allusion to a popular essay by the American entomologist William Morton Wheeler titled “The Termitodoxa, or Biology and Society,” published in 1920 in the science magazine *The Scientific Monthly*. In the article, Wheeler illustrated the reproduction of termites by combining scientific prose and fiction. He reported having sent a letter to the queen of the West African termites to inquire

<sup>10</sup> Bigman, in her reading of Charlotte Haldane's novel, maintains that «*Man's World* is deeply contradictory, both critical of and caught up in eugenic ideology. Yet the novel's lament for the lost ability to mother, as well as its suggestion that science can be a form of resistance, makes it a more potent critique of male technocratic science than has been acknowledged» (Bigman 267).

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about the reproductive methods of her species, and later received a response from her husband, the king. Wheeler's article is a statement in support of eugenics which, according to the termite king, is the best solution to «the great problems of reproduction», something that humans, to the termite king's bewilderment, have not yet learned. Julian Huxley suggested the article to his brother, who used it as a source of inspiration for *Brave New World* (Sleigh).

Years later, Levi must have followed in Huxley's footsteps, as the story "Nozze della formica" (Levi, *Opere vol. II* 902-905), published in 1986 in *La Stampa*, is essentially a rewriting of Wheeler's text. The main difference is that in Levi's story, the queen of ants, and not the king of termites,<sup>11</sup> does the talking in an in-person interview with a female reporter, rather than by mail. Moreover, Levi, like in "Lumini rossi", was less enthusiastic than Wheeler about the reproductive model offered by the Hymenoptera family, as he was more concerned with the impact that a highly regimented reproductive system, however effective, might have on romantic and family life. Indeed, the queen in Levi's *intervista impossibile* ensures that only the best traits are inherited by the generations of ants to which she alone gives birth. However, this leads to a life in solitude because, for her, reproduction is a chore fully dissociated from love, since love is not economically viable. Therefore, "Nozze della formica" appears to combine Wheeler's plot and narrative structure, with Charlotte Haldane's anxiety towards a pyramidal model that does protect the survival of the species but also renders motherhood a prerogative of the chosen few.

This, indeed, is the preoccupation at the centre of "Procacciatori d'affari", as the protagonist S. refuses to take on a role similar to that of the queen ant. This is not simply due to ethical concerns about eugenics and the unfair advantage that it would provide. Instead, the protagonist's decision to join the same destiny as all the other inhabitants of the Earth stems from an idea of what it means to be human at odds with the transhumanist perspective. In the article "La luna e noi", Levi marvelled at the adaptive capacities and resilience of human physiology and imagined a future in which people would conquer space. In pursuit of this goal, no scientific experiment should be too dangerous, including eugenics. "Procacciatori d'affari" concludes with the same dream of creating a renewed, relentlessly self-improving humanity. In this case, however, not through genetic selection and manipulation, which S. considers an unethical shortcut, but through cultivating human solidarity and a sense of kinship among people: «Preferisco essere solo a fabbricare me stesso [...] se no, accetterò il destino di tutti. Il cammino dell'umanità inerme e cieca sarà il mio cammino» (Levi, *Opere vol. I* 625).

This is not essentially different from the transhumanist dream of Haldane, but the human ontology from which this vision stems recognises compassion as a more essential trait for the survival of humanity than physical fitness. Interestingly, Haldane expressed positions not too dissimilar to those of Levi's character in an essay published in *Civiltà delle macchine* in 1969. Coincidentally, Levi was writing *Vizio di forma* at the time. In the text, Haldane discussed the contribution that science could offer to solving the most pressing issues and concluded that it was because scientists and intellectuals had historically worked towards these solutions that most people had their physiological needs finally met. A logical step would thus be to breed a generation of thinkers who can further contribute to solving the remaining problems. However, Haldane rejected the option of raising a few Übermensch as a dangerous and undemocratic one. The most pressing task, in his opinion, was to «organizzare una società in cui non si venga privati della possibilità di essere se stessi, solo perché si è neri, perché si è poveri,

<sup>11</sup> Levi's choice to write about ants rather than termites is discussed by Belpoliti, who explains that the latter are insects often used to metaphorically describe life in the Lager: «il termitaio è, secondo un'immagine diffusa da Maeterlinck (*La vita delle termiti*), un luogo infernale, simile al mondo nuovo descritto da Huxley. Mentre le termiti costituiscono, anche per la loro natura distruttrice e demolitrice, l'aspetto negativo, le formiche rappresentano l'aspetto più solare del mondo degli insetti (isotteri contro imenotteri), per quanto l'atteggiamento di Levi verso questi insetti sociali sia ambivalente» (Belpoliti 390).

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perché si è donna, perché si viene uccisi a vent'anni in una guerra» (Haldane, “La manipolazione biologica” 54), to which he added: «Preferisco che un uomo venga privato della possibilità di diventare un Napoleone o un Hitler, piuttosto che milioni di giovani muoiano per offrirgli questa possibilità» (54). Like Levi's character, Haldane, the champion of eugenics and transhumanism, refused to support the idea that humans' excellence should be pursued at any cost. A leap in human evolution, no matter how big, is not worth the suffering of the most disfranchised categories. This was also the conclusion in “Procacciatori d'affari”. Naturally, the horrors of the Second World War must have prompted Haldane to rethink his positions. Another reason might be that, outside of the protective realm of science fiction, certain scenarios were too dangerous to even imagine.

To Haldane, as well as to the other British writers and scientists of the Interwar period interested in eugenics and reproductive technologies, science fiction offered a space to cultivate uncertainties and contradictions, not for convenience or lack of audacity, but because certain nuanced and complex speculations could only find their right expression through this literary genre. And this seems to be the lesson that Levi took and applied in his fictional treatment of eugenics in *Vizio di forma*.

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