

## *MATHEMATICS IN MUSIL*

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### *I. Introduction*

In a recent review in *The New Yorker*, John Updike writes of “the scarcely scalable volcanic cones which time and lessening literacy have made of Joyce, Musil, Mann, and even Kafka.”<sup>1</sup> It is true that Musil has been dealt with harshly during the past few decades. Interest in Robert Musil seems to have peaked in the nineteen-seventies, and in this sense, the following essay arrives some decades too late.

Musil, I will argue, is a philosopher’s novelist, and perhaps that explains his vast readership. In this essay, I will pay special attention to the extremely important role that mathematics, mathematical objects, and mathematizing have in Musil’s major works of prose. One of the most important writers of fiction after the Enlightenment, Robert Musil is almost unique in having extolled mathematics, precision, and the methods and conclusions of the natural sciences as a cure for the intellectual and especially emotional ills of the contemporary soul. Others in Musil’s milieu, notably Karl Kraus, advocated precision in language as a moral matter. Kraus, however, exemplified this perfect language without describing it, as did Musil. Nevertheless, in Musil’s novels and essays, philosophers get more than they want. Most philosophers view novels as a form of entertainment, or perhaps at best as exalted high art, but certainly not as a proper mode of philosophizing. But for Musil, novels were the ideal form of philosophizing.<sup>2</sup> And despite the association of his name with scientific philosophy and the Vienna Circle, Musil’s account of mathematical objects is nothing like the positivistic one; in fact, one can categorize him as anti-empiricist in several important ways.

Robert Musil, the legendary Austrian writer of fiction and several essays, was born in 1880 and died in exile in Switzerland in 1942. He is best known for the novelette *The Confusions of the Fledgling Törless*, and the very long novel *The Man without Qualities*, which, because of its length and unfinished state at the time of the author’s death, it is something of a German *Remembrance of Things Past*. *Törless* had a second life as one of the first films of Volker Schlöndorff (*Der junge Törless*, 1964) and thus as a progenitor of the German New Wave Cinema. In addition to the writers of fiction Updike cites, Musil is also often associated with fellow Austrian Broch and the Germans Döblin and Hesse; nevertheless, the comparison of Musil to

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any of these writers remains a contentious issue. Unlike other novelists, such as Thomas Mann, Musil was not known outside the German speaking world, even to literary professionals, until well after his death.<sup>3</sup> In 1990, with the publication of the fine and aptly titled *Precision and Soul*, Musil the essayist gained some recognition in the English-speaking world, long after general interest in Musil had peaked. His reputation as an essayist in the German- and English-speaking worlds has lagged far behind those of Karl Kraus or Walter Benjamin, to name an incongruous pair.

Musil was born in Klagenfurt, Carinthia; the male members of his family pursued military, medical, and, especially, engineering professions.<sup>4</sup> His father was a professor of engineering in Brno – the family was originally Czech, as the name suggests – and Musil himself was sent to military schools in his Gymnasium years. He subsequently studied engineering. Breaking with family tradition and wishes, he departed for Berlin, where he studied philosophy and psychology at the university and completed a doctoral dissertation on epistemology and Mach in 1908.<sup>5</sup> Before World War I, he had already ventured into writing fiction and edited *Die neue Rundschau* in Berlin. After the war, he remained in Vienna mostly and published the first volume of *The Man without Qualities* in 1930 to some acclaim, especially in Germany. He maintained a serious interest in science and scientific philosophy, and he was a member of a salon circle associated with Richard von Mises in Berlin; he had some contact with the Vienna Circle, mainly Neurath, and by association, with Wittgenstein. Although he suffered to some extent from agoraphobia, Musil frequented the famous coffee houses and was especially well acquainted with the dramatist Hofmannsthal. The young Wittgenstein lived, for a briefly overlapping period in the early nineteen-twenties, in the same building as Musil, on Rasumofskygasse in Vienna's Third District, but in a different section of the building with a different staircase.<sup>6</sup> There is no record of any personal interaction, but it is likely that they passed each other on the street, and Musil must surely have noticed the construction in 1926-1928 of what we know as the outrageously conspicuous Wittgenstein Haus only a block away. In any case, Musil had by 1933, if not earlier, become aware of Wittgenstein's *Tractatus*.<sup>7</sup>

Incongruous as it might seem, philosophers with any taste at all for fiction could be tempted to view Musil as the literary face of the Vienna Circle. One might correctly surmise that Musil was a knowledgeable and sympathetic proponent of a largely Viennese type of "scientific philosophy." The rubric "scientific philosophy" can, in my view, be extended to include Mach, early Wittgenstein, the Vienna Circle, and even the symbolic, mathematics-style logic of Frege and his heirs.<sup>8</sup> Musil's 1908 dissertation on Mach gives weight to this suggestion. The opening sentences of the dissertation express the view that philosophy cannot possibly address crucial questions without attending to theories in science, especially basic notions of mathematical physics, and without considering the impact of methodological and epistemological issues of the sort Mach had pioneered. He also believed that science would have to take into account "philosophical" topics – even if the origins of these topics ultimately derive from the work of scientists thinking about science. And, at least in the early part of the century, the professional lives of Einstein and Bohr (and perhaps Dirac as well) are a vindication of Musil's thesis

that philosophy must impact physics. What we call Anglo-American or “analytic” philosophy, brought to England and North America by German-speaking refugees and also surviving to some extent in Austria and Germany), confirms his thesis that the exact sciences can profitably impact philosophy.

For a novelist and essayist to have expressed these views in 1908 strikes the contemporary philosophical mind as intriguing to say the least. One expects to find disciplined, scientifically-educated “philosophical” novels that avoid the usual paeans to love, feeling, and a-rational ethical and political conflict. A novel for Quine, so to speak. Even if fiction must ultimately be about non-existent entities (at least Musil did not write poetry, surely a sign of good analytic-philosophical taste), one still has reason to hope that Musil’s essays contain a wise, succinct exposition and defense of scientific philosophy, maybe even an original philosophical theory. One imagines a German-speaking Bertrand Russell, much more disciplined of course, and without such a fierce need for funds and popular influence.

It is certainly true that Musil did not adapt his style and subject matter to appeal to popular taste. But this virtue led to grinding poverty and personal tragedy, especially during his years of exile in Switzerland. He ended in the hopeless professional situation of having his writings banned for ninety percent of its potential readers, but without the international cachet of a name such as Mann or Broch. Writing in German for an educated audience, but one which at the time was scattered and reduced in numbers, affected writers of the German-speaking diaspora differently, but few were hit harder than Musil and Zweig.<sup>9</sup>

Musil has nevertheless deeply failed to accommodate the myth that has been erected around him, for several reasons. First, he is philosophically elusive. His fictional characters do not go about declaiming his or any precise philosophical views – they are too “real” for that,<sup>10</sup> and his irony ubiquitous; similarly, his essays are extremely digressive and lack all hint of systematic philosophical exposition or argumentation.<sup>11</sup> In style at least, he remains firmly a man of letters – without degenerating into the mere *Feuilleton* writer as criticized by Kraus. A craftsman-like art alone guides his fiction and essays, not organized truths and arguments. Second, he does not disparage or outcast as nonsensical the aesthetic, ethical, religious, and especially emotional components of human life as the Logical Positivists so famously proposed doing. In this respect he is closer to the Wittgenstein of the *Tractatus*. But perhaps quite unlike Wittgenstein, Musil proposed analyzing feelings and desires<sup>12</sup> in a liberal way, with recourse to science and literature, even in the analysis of a mass murderer’s motives. Musil was more philosophical psychologist than mystical philosopher. Third, the methods and “mystical” objects of mathematics function in a very important, partly allegorical way in his writing. Mathematics serves for Musil a perfect model of human thought, with no suggestion of tautology or the lack of substance associated with positivistic, analytic, or formalist accounts of mathematics and its objects. Understanding mathematical reasoning and its objects is critical to understanding Musil, since mathematical issues lead us most directly to what we can regard as his philosophical theory.

## II. Musil as Man of Letters

With regard to the predominantly “literary” character of Musil, it has often been said that Ulrich, the mathematician-hero of *The Man without Qualities*, is Musil’s mouthpiece. I am extremely wary of this assumption. Although Ulrich’s utterances do overlap considerably with Musil’s own views, Ulrich is to some extent intentionally portrayed as a naif. It is uncertain where Musil ends and Ulrich begins: what represents the admirable efforts of a scrupulous and detached mathematician and what represents bumbling or merely emotionally detached behavior. While Musil clearly considered a mathematical type of approach a valuable instrument in our understanding of the whole phenomenal world, I am sure he did not see this as an easy and straightforward procedure and wanted to stress the difficulties. Not all applications of “mathematics” – perhaps not even many – are plausible, and some are purely comical. The comic, the ironic, and the serious and philosophical are rarely seen in pure and isolated form in Musil: his is an art designed to obstruct and sabotage stupid critics. The teenage Törless is of course a still more unlikely and at best partial spokesman for Musil himself.<sup>13</sup>

With Musil’s essays, too, we are frustrated in our search for a “philosophy,” although for different reasons. There is no question of who is speaking in his essays; there are no distinct voices and less irony. Indeed, we find titles that are more than faintly philosophical: “The Religious Spirit, Modernism, and Metaphysics,” “The Mathematical Man,” “Commentary on Metapsychics,” and “Mind and Experience” as translated in *Precision and Soul* as well as essays such as “Analysis and Synthesis,” “Form and Content,” and various essays suggestive of aesthetic and ethical themes in the collection of *Essays und Reden (Gesammelte Schriften 8)*. In “The Religious Spirit, Modernism, and Metaphysics,” we encounter instead of philosophical theorizing a kind of perceptive philosophical joke that sounds faintly like Woody Allen<sup>14</sup>:

But however one goes about it, as soon as one goes beyond the boundaries science has drawn for itself, not much knowledge will be achieved; and all metaphysical systems are bad because they apply their reason in the wrong way [...]: proving the reality of the hereafter instead of (for a more demanding taste) first trying to make such a thing “possible.” In this fashion the various metaphysics build bridges, but to a tiresome place. In Kantian terms: all metaphysics are transcendental, and the transcendent remains pure boredom.

(*Precision and Soul*, p. 24; modified translation by RRD)

To an extent, Musil predates the Vienna Circle’s attempt to do “without” metaphysics, but with a wisecrack. The essay “The Mathematical Man” is somewhat less mocking as we will see shortly.

## III. Scientifically Analyzing Emotions through Literature

Musil is perhaps best seen as a neo-Enlightenment figure, who viewed rationality, especially as guided by mathematics and the natural sciences, as salvation from the

worst ills that had befallen humanity. Almost to a unique extent since Goethe, the literary man Musil stands alone in this praise of rationality and also in his knowledge and embrace of contemporary scientific thinking. Few of his commentators and admirers in the twentieth century, and especially in the last decades, have shown clear signs of sharing this vision and Musil's own appreciation and knowledge of the exact sciences – especially mathematics.<sup>15</sup> Appreciation of him has focused instead on his style (especially his irony and distance); on his place in European, Viennese, and German-speaking cultural history; and on his effort to give rich psychological portrayals of his characters. However, his very idea of psychology and how to practise it, and indeed of the makeup of what he persisted in calling the *soul* (*Seele*), far outstrip most conventional conceptions of psychology, which are still overshadowed in the contemporary literary world by the figure of Freud. Musil is not to be read as one would read Kafka or Schnitzler; for one thing, he contemptuously rejected psychoanalysis.

Musil's overall attitude to this investigation is nicely summarized in the quotation that inspired Pike's and Luft's volume of translations, *Precision and Soul*:

We do not have too much intellect and too little soul, but too little precision in matters of the soul.

This remark is strikingly out of step with the prevailing view, in both the world at large and in the arts and humanities, that modern life has displaced feeling, intuition, and depth with cold calculation and thereby impoverished life, or even that the exclusive cultivation of rationality naturally results in a Fascist monster. This is based upon a fashionable opposition of rationality on the one hand and our emotional and conative lives on the other. The twofold nature of humankind was already a theme in Romantic thought, but Freud's dramatization of the "irrationality" of our deepest impulses – whatever we may ultimately think of the merit of his theories – has pushed these ideas still deeper into our collective consciousness. A Musilian vision that avoids this false – deeply and perniciously false – opposition is contrarian and of vital importance.

We might first contemplate the "standard" model of human life and action in contemporary analytic philosophy. It holds that our actions and world-view spring from two sources: our beliefs on the one hand, and our desires and emotions on the other. Belief formation and revision, as cognitive science calls it, are held to have their ideal in rational mechanisms that are describable by various forms of rules in logic. However, our desires and emotions arise from who-knows-where, as a kind of arbitrary given: arising from instinct and bodily compulsion, perhaps, acculturation, whim, and so on.

According to my reading of Musil's model of human life, mental life has desires and emotions that are almost entirely intentional, triggered by beliefs from the realm of reason, and directed toward cognitive objects that are shared with our beliefs.<sup>16</sup> Furthermore there is a normativity, various dimensions of what I call an orthotic quality (a "correctness"), that is as active in our emotional life as it is for beliefs. For one thing we can have, or lack, clarity in our emotional objects no less than in the object of our beliefs; likewise, a case can be made that some emotions are appropriate or well-founded in much the same way that beliefs are justified.

These two claims<sup>17</sup> “rationalize” desire and emotion. Second, as contemporary philosophers of science since Kuhn and Feyerabend have controversially sought to demonstrate, what count as good, even wise, scientific beliefs and inferences may have a-rational components that defy strict or complete algorithms. I would add that beliefs, precisely like desires and emotions, invariably involve feelings that vary widely in both quality and intensity. Even to pursue a life in science, one needs a motivation – an attraction, fascination, or passion about the science’s objects. Together, these maneuvers have the effect of giving emotion and desire some form of “logic,” and of injecting feeling and a complex evaluative procedure into belief (and related doxastic states such as hope and myth).

Musil believed in the kinship and intertwined complexity of beliefs, logic, sensations, desires, and emotions as atomic feelings; the characters in his fiction are a working out of these theories and a “combinatorial” portrayal of how we should see human beings. My primary evidence is a remarkable document, “Profile of a Program,” originally dating from 1912 (it exists in two versions and was heavily annotated, perhaps at much later dates). It begins with these remarks:

The Soul is a complex interpenetration of feeling and intellect<sup>18</sup> [...] The element of growth in this pairing lies in the intellect. To talk about depth, [...] greatness, or charm of feeling is misleading; notice from what primitive relationships these metaphors are still borrowed. It is intellect that brings these quarter-tone gradations upwards into feeling. (pp. 10-11; modified translation by RRD)

I interpret these remarks as follows. First, our conceptualizations of feelings and their differentiable texture are entirely derived from their relationships as understood through the intellect. We do not have simple names or simple thoughts for simple feelings. In contemporary and infinitely misleading parlance, the life of our feelings is “constructed.” If we admit sensations as a type of feeling in this wide sense, we have the beginnings of a view that is not likely to agree with the fundamental sense-data and protocol sentences of later logical positivism. Second, I would also like to see this as inching toward the “Austrian” view of the intentionality of all mental life: even or especially our emotions and desires are directed toward complex thought-objects.<sup>19</sup>

For the purpose of tying together my second and third themes, the literary analysis of feelings together with mathematics as model, I quote a later passage from Musil’s “Profile of a Program”:

Mathematical daring, dissolving souls into their elements and unlimited permutation of these elements; here everything is related to everything else and can be built up from these elements. But this construction demonstrates not “this is what it is made of,” but “this is how its pieces fit together. (p. 13)

Here we see a cautious “phenomenalist” atomism, and in his fiction we see the combinatorics of this theory in action. Musil’s case for the application of exactness (*Exaktheit*) – methodical care and precision in matters of the soul – reaches its climax in Part I, Chapter 61 of *The Man without Qualities*, namely in Ulrich’s idea of the “Utopia of Exactness.” But even here, the exaggerated rhetoric (“utopia”)

sounds a note of irony and distances Musil himself from what may be the flawed excesses of Ulrich's particular application of the method.

#### IV. *The Fledgling Törless and Mathematics*

*The Confusions of the Fledgling Törless* is a coming-of-age novel, set in a stifling military school. It is the story of Törless initially taking part in, then rejecting, the exceptionally cruel torture of a weaker fellow student, Basini. One might say it is part Hesse, but also part Kafka: there are dark, mysterious forces at work. It is a haunting story of youth, complicity, brutal physical-sexual male dominance, and hapless adult educators. Its dominant theme is moral-emotional confusion that parallels Törless's conceptual confusion about, of all things,  $i$ : the square root of  $-1$ .

Although a very early work (from 1906, when Musil was 26), *Törless* is both precursor and miniature of the massive *Man without Qualities*. Törless himself is variously described as both over-sensitive and over-thoughtful. He is even described as "without character," as someone whose personality and views were products of his friends' influence and whatever he happened to be reading. As an only child, he suffers greatly at the initial separation from his parents in experiencing *Sehnsucht*. Musil describes Törless's feelings, poorly understood by his teachers, at length and with great precision. Törless is described as having a hole in his emotional personality. His "confusions" accumulate and intensify with respect to his relationships with his friends Beineberg and Reiting, with the victim Basini, as well as his own swirling sensations and feelings, and his awareness of the vaguest of sexual feelings. Precisely in the middle of the chronology of these confusions, and also intellectually mirroring them, is his confrontation with imaginary numbers. Törless expresses the difficulty this way: "Every number, whether positive or negative, when squared yields a positive number. Thus there cannot be any actual number that is the square root of something negative" (p. 70). Beineberg is patient but does not share Törless's quandary. Lacking Törless's "oversensitivity," Beineberg is completely untroubled; for him, that is just the way it is done. Beineberg says that there are, of course, no such actual numbers, and that is why they are called "imaginary." It is as if we set the table for a deceased person, knowing he will not actually arrive and eat. We just pretend – for whatever reasons – that there are such numbers. This has its own use and if one did not accede to this idealistic, virtual element, then there could not be mathematics! Törless gradually concedes the metaphysically unresolvable problem about imaginary numbers. But now a deeper mystery arises for him. How do most people come to accept this with so little trouble? Where does the power come from to hold on to such a figment of one's imagination so that one ends up right? How can people set aside the scruples of reason, the usual standards of reason that applied mathematics enshrines, with only the consolation that it "will work out" (p. 71)? This becomes a meditation on the inapplicability of the dully real and the usefulness of the merely imaginary.<sup>20</sup>

With trepidation, Törless makes an appointment with their young and accomplished mathematics teacher. The talented teacher is, however, far more impatient than Beineberg and is made nervous by Törless's difficulties. He describes

the reality that these imaginary numbers have as a “necessity of reason” (*Denknotwendigkeit*), but he is unwilling to demonstrate this necessity, instead saying that it is beyond Törless’s present ability to understand. In order to explain the problem, the teacher would have to spell out, in a strict (*streng*) and intellectually-disciplined (*wissenschaftlich*) way all the involved assumptions (*Voraussetzungen*). And to understand these, Törless would need to understand ten times more than he presently understands about mathematics. Furthermore, the instructor does not have the time to begin this enterprise and advises Törless that, for the moment, he must simply have “faith” (*Glauben*).

Törless sits silently and is unwilling to leave, awaiting further explanation. As a last resort, the instructor grabs a book of Kant’s on ethics and says that the problem is clearly explained in the book. When you try to reach the basis for understanding ethics, the teacher says, you encounter the “necessities of thinking.” Mathematics is likewise, and that is the proof of imaginary numbers! Törless is still not satisfied, grabs the book on Kant’s ethics, and starts to look through it. The instructor retreats, interjecting that the volume of Kant was not itself the required proof but only an example of the kind of proof that was needed. Törless subsequently buys this book and others that he has seen in the mathematician’s room. He tries to read them, but he cannot make sense of them and recalls the copies of Kant in his father’s office, which, like some relics in the Holy of Holies, were admired but only on special occasions actually touched. “One esteems [such books] only because one is glad that, thanks to their existence, one doesn’t actually have to worry any more about such things” (p. 75). Beineberg’s justification is pragmatic, the mathematician’s justification is both transcendental and, as a last resort, an appeal to authority. Musil scorns them all.

A casual reading of the story of Törless might suggest that Musil is drawing a parallel between the metaphysical status of objects of mathematics and those of theology, and advocating a similar attitude of faith in both. Mathematics might then cast an indirectly positive light on religion – or religion a suspicious light on mathematics. Musil denies this affinity, however (although he tempts us with its presentation). It is Beineberg, not Törless, who first recognizes the parallel between religion and the mathematician’s account of the proper attitude toward imaginary numbers. Törless is earlier described as having a near total contempt for religion and traditional piety.<sup>21</sup> In the academy’s inquisition concerning Basini’s torture that closes the book, Törless declares that the only thing similar to his confused attitude toward Basini and his complicity in the torture of the latter, is his attitude to the imaginary numbers. He is naturally asked to explain this strange connection. He explains by appealing to his thoughts about what is awe-inspiring and unimaginable (“Ungeheuerliches [...] nicht Vorstellbares,” p. 130f), and the need to grapple with issues for which our thought is inadequate, and which require quite another, inner certainty than is provided by thinking (p. 131). The academy’s faculty-jury, prompted by the priest-theologian’s understanding of this language, provides an escape route for Törless, namely that he was motivated in the Basini affair by a misguided religiosity. Törless emphatically denies this.

V. *The Mathematical Man (Der mathematische Mensch, 1913)*

One widely quoted remark of Musil's is that after reading overwrought contemporary German literature, one should solve some problems in integral calculus in order to regain one's balance. Musil has had the misfortune, probably more now than in his own time, of having few readers and critics who are mathematically educated and share his mathematical sympathies. My survey of the secondary literature reveals that, remarkably, several major works do not mention the topic of mathematics, most at best closely paraphrase Musil's remarks, and some feel the need to explain in footnotes what would have been obvious to the reader whom Musil had in mind.<sup>22</sup> Musil has by and large received the attention only of students of German and comparative literature.<sup>23</sup>

"The Mathematical Man" is a remarkable popular essay. Even its title is remarkable. Although Hermann Broch concerned himself extensively with philosophical topics in his last years,<sup>24</sup> his "mathematical man," the mathematician of his essay "Methodisch konstruiert" (published first in 1917 and reprinted as the second in his collection of stories, *The Guiltless: Novel in 11 Short Stories*)<sup>25</sup> is a pathetic figure by comparison. While Musil's essay is indeed penetrating, it is also subtle and elusive; it characteristically avoids giving the curious reader the desired glib portrayal of mathematics.

Musil mainly sees mathematics as a "triumph of intellectual organization" that allows one to perform operations quickly and correctly that would otherwise be error-prone and take days (this seems to be a twist on Mach's theme of the "economy of research"). Musil bristles at the suggestion that some of the branches of pure mathematics have as yet no application and are therefore worthless: he sees mathematics as an enormous savings account that we have wisely stored in the bank. Mathematics is "incomparable. For our entire civilization has arisen with its assistance; we know no other way; the needs it serves are completely satisfied by it, and its aimless abundance is of the uncriticizable kind of irreducible facts" (Pike and Luft, pp. 40-41). According to Musil, most of us, even engineers and physicists, know little about mathematics nor do we appreciate it. For the professional mathematician, however, it has many rooms and its "windows do not open to the outside, but into adjoining rooms." For the professional mathematician it is a matter of a "total surrender and a passionate devotion." Mathematics was brought to "the most beautiful state of existence," but the mathematicians themselves discovered that it was without foundations, and that this foundationlessness could not be corrected (Musil possibly has in mind the discovery of non-Euclidean geometries and especially the difficulties in giving calculus a basis through analysis and eventually set theory, or Russell's Paradox; his views echo Törless's misgivings and anticipate the final *coup de grâce* in Gödel's theorems). "But the machines work! [...] The mathematician endures this intellectual scandal in exemplary fashion, that is, with confidence and pride in the devilish riskiness of his intellect."

What appears to have been the rejection of Beineberg's casual mathematical pragmatism in *Törless* has here become a modest endorsement: "the machines work." Despite this later view, I do not think that Musil is suggesting that their

“working” alone justifies belief. Rather, as the context makes clear, their successful application should make us hesitate before impulsively sweeping imaginary numbers aside despite their foundationlessness. After the Second World War, the engineer in Musil realizes that this same mathematics that he admired plotted the trajectories of poison-gas shells. But as Phillip Payne notes about the relevant Part I Chapter 11 of *Man without Qualities*, “neither mathematician nor non-mathematician escapes unscathed [...] There, with even handed criticism, the narrator leaves the matter” (p. 151). The “humanist” criticism of mathematics and engineering as a typically amoral or even immorally detached form of thought steadily rose between the world wars and then especially after mathematics’ crucial involvement in the development of nuclear weapons. However, one might as well denounce writing and journalism – or pens and loudspeakers – for their misuse, an argument toward which Plato points perhaps. Musil probably could not have grasped such a point at all nor understood the appropriateness of Payne’s remark about “even-handedness.” Only exceptionally weak and mathematically ill-informed minds could regard mathematics and mathematical thinking – clear thinking itself – as harmful.

What follows is, in my view, the most important and beautiful passage in Musil’s essays. It is nothing less than the appropriate antidote to the twentieth century’s often anti-intellectual “humanism”:

After the Enlightenment the rest of us lost our courage. A minor failure was enough to turn us away from reason, and we allow every barren enthusiast to inveigh against the intentions of a d’Alembert or a Diderot as mere rationalism. We screech in favor of feeling over intellect and forget that – apart from exceptional cases – feeling is by itself utterly incomprehensible. In this way we have ruined our imaginative literature to such an extent that, whenever one reads two German novels in a row, one must solve an integral equation to balance out one’s diet [...] [The way of mathematicians] is a parable for the intellectual of the future. (p. 42; modified translation by RRD)

### *VI. Musil and Contemporary Philosophy*

To an extent, I believe I have tried to do what I earlier suggested was impossible: to extract from Musil’s fiction and non-fiction a “philosophy,” particularly a philosophy of mathematics that serves as a template for the rest of philosophical theorizing. Perhaps the best method of continuing this difficult task is the *via negativa*, discussing what Musil does *not* endorse, despite the rumors and false associations to the contrary. He is clearly neither a Machian positivist nor a full-fledged logical positivist. His dissertation on Mach is already more critical of an epistemology based purely on sense-experience than one would expect. He does not see sense-experience as a privileged feeling, as a type of human experience on which all other constructs are to be based. Likewise, he does not see the laboratories for the natural sciences as solely those places in which we record and organize sense experiences alone: the literary realm can also distinctively contribute to our

knowledge of humanity and the world by being a laboratory for all forms of human experience. This train of thought puts him at a point surprisingly distant from twentieth-century positivists. He leaves their sense-observation laboratories and roams the streets and minds of the cities. He observes souls, not the skin of bodies. The literary and the aesthetic, rather than being an often distracting nonsense-buzz, become instead necessary laboratory instruments for serious observation. Musil's motivation is "scientific" but by putting art at its center, his conclusion is almost an inversion of the verificationist theory of meaning.

Musil is also not a strident foundationalist. While he extols the now typical model of analysis of human experience into parts, he is unwilling to characterize these parts – as sense-data, for example. Similarly, he does not believe that such reductions demonstrate the importance of these "ultimate" elements. Instead, they show us about the relationships of the parts. In this respect he has more in common with the neutral monists than the later phenomenologists (who were perhaps idealists in some stage of denial). Also, given his "kaleidoscope" approach to the combinatorial analysis of the soul, there is reason to suspect that he did not believe that there was a single, uniquely correct analysis, but many different analyses that altogether cast light on explaining the phenomena of human understanding. Unlike the monistic analyzers such as Carnap, he is possibly suggestive of later pluralists such as Feyerabend.

Although Musil was a fierce critic of traditional religions, there is a kind of ghost object of the activity of having faith that remains with us. He remains a traditionalist in refusing to endorse the Nietzschean proposal that some of us are now so advanced that we have risen above the need for such attitudes. In mathematics at least, he was pragmatist enough to agree that there are propositions that cannot be justified – and perhaps are even implausible or contradictory. Because of our need for such propositions, in order to have beliefs at all, as well as because of the peculiar accident that "they work," we must in a sense accept them. He clearly saw this as a kind of ironic and grudging embrace of mysticism.<sup>26</sup> This is antithetical to the Vienna Circle and also rare in the wider movement of scientific philosophy. As I have portrayed Musil's views, they are more than a little similar to the views of Wittgenstein's *Tractatus* (although the publication dates of *Törless* and "The Mathematical Man" preclude any possible influence from Wittgenstein), but are also suggestive of the view of the very late Wittgenstein in *On Certainty*.

Although an outspoken defender of the Enlightenment, Musil must also be seen as a peculiar and troubled rationalist. First, there is the unempiricist, unpositivistic nature of the criterion for enlightened belief – namely, not just through the senses. Second, there is the view that some propositions lack justification in the usual, non-pragmatic sense. And finally, there is the more remarkable view that these propositions are difficult to accept or are even contradictory. They have a kind of necessity but are, in isolation, repugnant to reason. Musil is not a happy rationalist, but a frowning one.

Musil is obviously cognizant of the same developments in mathematics and logic as were the logical positivists. But his interpretation of them is quite different. Törless's taste for logic is precisely what eventually leads to his perplexity. Logic,

in a very broad sense, is not the more basic of the two disciplines. Instead, logic presents obstacles for the acceptance of mathematical propositions, which are more inspiring, more curious, and also more useful than logical truths.

Within the epistemological discussions of mathematical truths, the empiricist tradition had always had a difficulty with mathematics. Both the modal character (their necessity) and the acquisitional feel (how we think we came to accept them; why we accept them) appear quite distinct from those of empirical propositions. One just comes, usually in a flash that is little like sense observation, to recognize their abiding truth. The early empiricists, as well as their twentieth century kin, struggled to reconcile these metaphenomena. Their resolutions of this difficulty were various. Mathematical truths are definitionally true; these truths are built into our definitions of human-constructed mathematical concepts, although not self-evidently so. A variant of this view is that mathematical truths derive from metaphysically and epistemologically deeper truths of logic. Some had earlier argued that these formulations are the only consistent arrangements of these mathematical concepts, and this gives them their truth-like status.

Empiricist theories of mathematical truths in fact have been dealt a series of blows in the last two centuries. Non-Euclidean geometries, spreading rapidly to algebra and even number theory, have taught us that there is no single consistent theory of such objects. The logical positivists rejected both empiricist and Kantian views of mathematics as synthetic *a priori*. This leaves only the position that mathematics – that is, every mathematical truth – is ultimately definitionally, analytically true.<sup>27</sup> Mathematical propositions are tautologies, if they are true. Logicism, the promising early twentieth-century view that deeper truths of logic metaphysically or epistemologically anchored mathematical truths, has died a more agonizing death. First, the intuitive logical truths of Frege and Cantor turned out to be more infested with contradiction than any decent mathematical theory ever had been. This led to more complicated and artificial efforts, that we now know as set theory, in order to obtain a unifying approach to mathematical truths. While the result – modern foundations of mathematics – is an artful and often helpful creation, few have noticed that the original desideratum of a metaphysical or epistemological obviousness and anchoring quality seems to have become forgotten. Furthermore, these foundations have arbitrary components, and Gödel turned on his Viennese colleagues to show that logical truth would never be able to anchor mathematical truth in the way they had hoped. Gödel himself abandoned this project of analytically anchoring mathematics through tautologies of logic and became an outright mathematical Platonist. He believed we have a peculiarly stable insight into mathematical truths, but that this is neither observational nor logico-definitional in origin and character.

Musil appreciated fully only the early stages of these developments, but it is interesting that he *never* was enamored of the wrong-headed view that mathematical truths are in some ways either definitionally true or disguised truths of logic. However, I do not think that Musil precisely took Gödel's route either. While our attitude toward deities is in some ways *like* our attitudes toward (fringe) mathematical objects, this is not to say that these numbers do exist.<sup>28</sup> Instead, I

propose that Musil's approach is one of justifying individual – especially slightly repugnant – mathematical truths through the systematic workability of the whole mathematical edifice. For various reasons I prefer to call this a “holistic theory” of mathematical truth rather than a “pragmatic theory.”<sup>29</sup> This is not to claim that these propositions are precisely *truths*, and perhaps not to say that we should precisely *believe* them. Whatever it is, Musil's conception is very distant from the views of Mach or the Vienna Circle.

### V. Conclusion

The ideal for thinking about both ourselves and the world that Musil puts before us is a kind of scientific humanism. His vision is in some ways an optimistic Enlightenment vision that reaches back to the eighteenth century rather than being part of nineteenth- or twentieth-century thinking. While Musil is surely a pessimist about the present states of our modern souls and about our present modes of analyzing souls – from psychotherapy to logical positivism – he is ambitious and optimistic about our ability to do so and the prospects for success. His proposal is manifestly not eliminativist or dismissive in, for example, seeking to dismiss all of our experience or to suggest that it is probably reducible to physical explanation. For sense perception and what it confirms as true is only one mode of human experience, and is not privileged. Modern reductivism and eliminativism have succeeded in diverting us from an effort to analyze and understand our psyches. Rather, they promise that eventually our psyches can be ultimately explained by physics, somehow. In contrast, Musil's approach is a “psychological realism,” taking the swirling and ill-understood myths, hopes, emotions, and desires – those features of inner life that novels above all other art forms explore – as the data for theorizing (it is axiomatic since Kant that we must first understand the perceiver, including the perceiver's motives and limitations, before we can understand the perceived). To this realm we are then to apply the distance and discipline that mathematics alone provides. We analyze our souls, we analyze relationships, and we construct plausible combinations of feelings. Novels are then the large-scale, “realistic” thought-experiments of this new mathematics of the soul.

I find it hard not to be smitten with this vision. It reconnects C.P. Snow's “two cultures.” It puts back together the Humpty Dumpty of our fractured humanist/scientist modes of thought. It demands the precision and discipline that one sees (only) in the sciences, especially in mathematics. There is no place for political posturing, for merely fuzzy feeling,<sup>30</sup> or glorifying our ignorance or accidental career choice (such as being ignorant of, having failed, or having a distaste for calculus). But likewise Musil's vision does not seek to ignore the obvious. It does not claim that the world is just the clean Moosbrugger-less world of protocol sentences or quarks.<sup>31</sup> It underscores that our feelings are “real”; they are as real or more real than subatomic particles or the square root of  $-1$ . But this is only a paraphrase of Musil himself:

The misfortune is that people who are concerned with such questions today [i.e., such as mysticism and the spirit] have little understanding of

the virtues of clear thinking [...]; while others, who would have such understanding, have for the most part no intimation that there is something here that has been grasped at a great depth but been lost again on the way back to the surface. [...] With us, artistic and scientific thinking do not yet come into contact with each other. The problems of a middle zone between the two remain unresolved.<sup>32</sup>

<sup>1</sup> April 3, 2000, p. 89; he contrasts these writers with the more approachable Proust.

<sup>2</sup> Thus like Wittgenstein, and unlike the Vienna Circle, Musil represents a break with the traditional style of expository writing – in an artistic direction.

<sup>3</sup> David S. Luft, “Introduction,” in Robert Musil, *Precision and Soul: Essays and Addresses*. Ed. and Trans. by Burton Pike and David S. Luft, Chicago: University of Chicago Press, 1990, p. xvi.

<sup>4</sup> My colleague at West Point, LTC Elliott Gruner, alerted me to the probability that our shared terms of employment had unconsciously prodded me into renewing my interest in Musil, a one-time officer, reportedly having a military bearing, and the author of the notorious *Törless*. Gruner reports considerable cadet interest in Musil at the time he attended West Point (though not a single work by Musil is in the library); he has used Musil’s books as texts for a course at the U.S. Air Force Academy on military academies in fiction.

<sup>5</sup> *Beitrag zur Beurteilung der Lehren Machs*, reprinted in 1980. Musil’s examining committee was composed of the well-known Stumpf (“sehr gut”), Riehl (“befriedigend”), Rubens in physics as *Nebenfach* (“sehr gut”), and Schwarz in mathematics (“befriedigend”); see Marie-Louise Roth, *Robert Musil: Ethik und Ästhetik. Zum theoretischen Werk des Dichters*. Munich: Paul List Verlag, pp. 346-347.

<sup>6</sup> Musil lived at 20, Wittgenstein at 24 Rasumofskygasse; Janik and Veigl err when they say Musil was “one stairway further”; it was two (Allan Janik and Hans Veigl, *Wittgenstein in Vienna: A Biographical Excursion through the City and its History*. Vienna: Springer, 1998, p. 184).

<sup>7</sup> Janik and Veigl, *Wittgenstein in Vienna*, p. 185.

<sup>8</sup> Musil himself includes the logico-mathematical tradition in a remark from 1912 that echoes the first sentences of his dissertation: “But all intellectual daring today lies in the natural sciences. We shall not learn from Goethe, Hebbel, or Hölderlin, but from Mach, Lorentz, Einstein, Minkowski, *from Couturat, Russell, Peano...*” (Musil, *Precision and Soul*, p. 13; my italics). Pike and Luft translate – here not precisely enough for my purposes – “exakte Wissenschaften” as “natural sciences”; however, “natural sciences” would exclude mathematized economics and maybe even mathematics itself.

<sup>9</sup> While not Jewish, Musil had left Berlin after a stay from 1931-33 largely because of distaste with political developments. Further printing of his books in Austria and Germany became impossible in 1938, presumably because of the Jewish owners of Musil’s last publisher, Bermann-Fischer (Wilfried Berghahn, *Robert Musil in Selbstzeugnissen und Bilddokumenten*. Reinbek bei Hamburg: Rowohlt, 1963, p. 128). He was encouraged to seek a lifting of the ban through special pleading to the Propaganda Ministry, but rejected this option and left Austria, ostensibly for health reasons, first traveling to Italy and then to Zurich and Geneva.

<sup>10</sup> In order to present a philosophy in a narrative life such as a novel, with actions and feelings as well as thoughts and utterances, one would have to have a philosophical view that was thoroughly integrated with human life. The philosophy has to be liveable and not merely utterable in order to join mental life – both cognitive and emotive – with outward action. Perhaps Socrates' life and philosophy would work but Wittgenstein's later life would have, for example, problems in both plot and narrative, so to speak. The pregnant silences are too numerous. A negative model of what I have in mind as a philosophical novel also involves much speechifying, such as one encounters in, say, Galt's speech in Rand's *Atlas Shrugged* (at least, however, hers is a philosophy of thought and action.) Likewise, one might say that Camus's Meursault is a plausible union of thought (at least pensiveness) and inaction as a kind of action. Kantian, Schopenhauerian, and more generally idealist novel-heroes are scarcely imaginable to me. Likewise I cannot imagine a Carnapian or a Quinean novel-hero, for how can we have a novelistic development when action and ethics, emotions, desires, and aesthetics are such sidestepped mysteries?

<sup>11</sup> See Luft, "Introduction" to Robert Musil, *Precision and Soul*: "he believed that most of the inherited fund of philosophical argument was locked into words and concepts that hardly touch the life and feelings of the average person in our civilization. He believed, indeed, that the proper philosophy of our time is to have no philosophy" (pp. xix-xx). I doubt if Musil was so concerned with the "average person" and I think one can argue that the available philosophies and terminology were the problem – philosophy as choosing from the smorgasboard of the history of philosophy – not philosophy itself.

<sup>12</sup> It is risky to summarize Wittgenstein's attitudes toward these conative realms, but the extremely lean aesthetic of the *Tractatus* and his architecture, and to a certain extent his known literary tastes, suggest a neo-Stoical effort to banish strong feelings of the sort we see in Romantic, late Romantic, and *fin-de-siècle* literature, not to "understand" them.

<sup>13</sup> Schlöndorff departs from Musil's mask of literary integrity by drastically changing Törless's final speech before the military academy's inquisition into a thinly-veiled criticism of the gullible and rudderless masses who followed the Nazis. This altered speech may be significant in postwar history as one of the first signs of serious, internal denazification in the FRG, but it is more editorial than art – a serious aesthetic flaw in the works of Schlöndorff and Grass, I believe. (I nevertheless do not think it is *impossible* to combine art with political expression, even serious German-Austrian postwar *meae culpae*.)

<sup>14</sup> See Woody Allen, "My Philosophy," in *Getting Even*. New York: Vintage Books, 1978, pp. 21-25.

<sup>15</sup> Ulrich's "he loved mathematics because of the kind of people who could not endure it" (I, 11; p. 37). For example, Roth's summary of the point of "The Mathematical Man" – which does not mention the details of imaginary numbers – is the banal "Ratio und Irratio berühren sich" (p. 84). Roth also cites the appearance of a volume *Mathematik und Dichtung* (1969) as proving Musil's prophesy (p. 367). I view it as an exception that proves this generalization still holds. See also Cay Hehner's *Erkenntnis und Freiheit* (Munich: Wilhelm Fink Verlag, 1994), in which there is no mention of mathematics even under a discussion of "logic." I have not examined Thomas Sebastian's forthcoming *Beyond Epic Simplicity: The Intersection of Literature, Philosophy, & Science* (Camden House, forthcoming June 2000), Wilhelm Klingenberg's *Mathematik und Melancholie: Von Albrecht Dürer bis Robert Musil*, or Gerolf Jässl's "Mathematik und Mystik in Robert Musils Roman *Der Mann ohne Eigenschaften* (Eine Untersuchung über das Weltbild Ulrichs)," Dissertation, Munich 1963 (cited in Hyams, note 1, p. 96); see also the bibliography in Wilfried Berghahn, *Robert Musil*.

<sup>16</sup> In *The Man without Qualities* (Volume II, "From the Posthumous Papers," Chs. 52, 54-55, 58), Musil does address these issues. He rejects behaviorism (equating emotions with behaviors). He might be taken to criticize the intentionality of emotion (as a "widely held

prejudice"; p. 1271), but the target is the "unified whole" provided by the "inner relation." The subsequent notion of "appearing to be appropriate" is close to my "orthotic" quality.

<sup>17</sup> One notes shared mental content, the other notes parallel normativity in mechanisms or "inferences."

<sup>18</sup> Compare the following passage from "Mind and Experience" (1921): "A person is not only intellect, but also will, feeling, lack of awareness, and often mere actuality, like the drifting of clouds in the sky." *Pace Luft* (xxi), this is a very complicated and subtle remark. It surely echoes the interpenetration remark of "Profile," but its twist, perhaps its emphasis, is on including in a person the surprising "lack of awareness" and "mere actuality." This passage continues in a way that echoes the previous subordination of feelings to intellect: "But those who see in people only what is not achieved by reason would finally have to seek the ideal in an anthill or beehive..."

<sup>19</sup> I know of no passages in Musil referring to Brentano or Meinong by name.

<sup>20</sup> Cf. "Le réel et l'imaginaire," in Jean-Pierre Cometti, *Robert Musil de Törless à L'homme sans qualités* (Brussels, 1986), pp. 93-105.

<sup>21</sup> In the collapse of his friendship with and worship of the young prince (p. 20).

<sup>22</sup> Such as Robert Musil, *Precision and Soul*, p. 297, note 1.

<sup>23</sup> A more subtle appreciation of Musil's view on mathematics is, however, to be seen in some works such as the chaotic *Musil-Kommentar* (1980) by Helmut Arntzen, p. 39.

<sup>24</sup> Some of this work is not without value, such as his remark that the positivistic tendency of the Enlightenment is a "mode of thought that stands outside the realm of faith and must pursue, not truth but experience" quoted in T. Quinn, "Dialektik der Verzauberung: Mystification, Enlightenment, *The Spell*," in *Hermann Broch*, ed. Stephen D. Dowden, p. 121 (quoted from Broch's "Geist und Zeitgeist," *KW* 9/2, p. 183). For a discussion of works that compare Musil and Broch, see Robert L. Roseberry, *Robert Musil: Ein Forschungsbericht* (Frankfurt a.M.: Athenäum Fischer Taschenbuch Verlag, 1974), p. 148. Broch's later work in philosophy is portrayed in the somewhat superficial *Die Philosophie Hermann Brochs* by Ernestine Schlant (Bern: Francke Verlag, 1971). Broch's views on mathematics and logic (Schlant, pp. 82-90) are of less interest than one might hope, since they appear to be an eclectic assortment of views expressed by various philosophers in the twentieth century. As summarized by Schlant, there is, for example, a formalist conception that the thoughts and their expressions in mathematical formulation are isomorphic; one also finds the Russellian idea that mathematics can be defined as the theory of all possible relations between things without (monadic) properties.

<sup>25</sup> "Unterrichte [der "Gymnasialsupplenten"] Mathematik und Physik, kraft einer kleinen Begabung für exakte Betätigungen [...]. Denn der aus Mittelmäßigkeiten konstruierte Charakter macht sich über die Fiktivität der Dinge und Erkenntnisse wenig Gedanken" (p. 33). Appearing after *Törless* (1906), the mention of the anti-hero's "constructed character" and of the "fictional nature of things" is suggestive.

<sup>26</sup> Cf. B.F. Hyams, "Was ist 'säkularisierte Mystik' bei Musil?" in U. Baur and E. Castex, eds., *Robert Musil: Untersuchungen*, pp. 85-98.

<sup>27</sup> See Rudolf Carnap, "The Old and the New Logic," esp. pp. 140-143, and Hans Hahn, "Logic, Mathematics and Knowledge of Nature," in A.J. Ayer, ed., *Logical Positivism* (New York: Free Press, 1959). A.J. Ayer's *Language, Truth and Logic* (New York: Dover, 1952) is useful, too, especially Chapter IV. Carnap and Ayer retain the more usual view that mathematical truths are "a priori" and "necessary" without much inspection of what that means. Ayer separates two notions of analyticity in Kant: meaning-inclusion and (unique) logical consistency. However, since inclusion (from Leibniz) was metaphorical, and might more properly be analyzed as saying that if the predicate P1 is included in the meaning of P2, this is just to say that "x is P2 but not P1" is contradictory, Kant is perhaps ultimately

vindicated. Ayer argues for the position that the truth of  $7+5=12$  is merely a consequence of the meanings of “7,” “5,” “12,” the operation “+” and perhaps the meaning of the relation “=.” This leaves him with the formidable task of explaining how the truth of some mathematical propositions, despite being simply expressed and consisting of what appear to be simple terms whose meaning we fully understand, can be so difficult to determine (Fermat’s Theorem, Goldbach’s Conjecture), and the process seemingly more like discovery than like examining a lexicon.

<sup>28</sup> “Ohne Zweifel war er [i.e., Ulrich] ein gläubiger Mensch, der bloß nichts glaubte” (p. 826).

<sup>29</sup> Perhaps the correct attitude to some of these objects is not precisely “faith” but rather a grudging resignation. This would explain Musil’s own seeming ambivalence between scorning faith in Törless and endorsing it in “The Mathematical Man.”

<sup>30</sup> The “banal zärtliche Vorstellung[en]” of the novels that Törless read (p. 11).

<sup>31</sup> I find it odd that Musil does not quote or refer to Terrence’s famous epigram that had earlier so captured Montaigne (in many ways a kindred spirit to Musil): “Nihil humani a me alienum puto.”

<sup>32</sup> Musil, “Commentary on a Metapsychics,” in *Precision and Soul*, ed. Burton Pike and David S. Luft, 1990, pp. 57-58; the “us” refers to Germans with the exception of Nietzsche, but the passage surely applies more widely.