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Andrea Albrecht  
*University of Freiburg, Germany*

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### Recommended Citation

Albrecht, A. "The Day Without Evening: Leo Perutz, Evariste Galois, and Augustine," *Journal of Humanistic Mathematics*, Volume 2 Issue 1 (January 2012), pages 2-21. DOI: 10.5642/jhummath.201201.03 .  
Available at: <https://scholarship.claremont.edu/jhm/vol2/iss1/3>

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# The Day Without Evening: Leo Perutz, Évariste Galois, and Augustine

Andrea Albrecht

*Freiburg Institute for Advanced Studies – FRIAS*  
andrea.albrecht@gmail.com

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## Abstract

The biography and historiography of Galois abound with counterfactual imaginations of how the course of mathematics would have been altered, had he not died so young. In the little known short story “The Day Without Evening,” published in 1924, the Jewish-Austrian writer Leo Perutz essentially reiterates the usual narrative of the events leading to Galois’ death, masked only by changing the name of the protagonist to Durval and transposing the setting to the Vienna of the beginning of the 20<sup>th</sup> century. But he is also wary of such counterfactual imaginations. This can be understood in the context of Augustine’s theology, alluded to in the title of the story, which leads to an understanding of Perutz’s reasoning on the different temporal order of artistic, scientific, and divine creations.

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The year 2011 was a ‘Galois-Year.’ We commemorated the 200<sup>th</sup> birthday of not only the misunderstood hero of modern algebra, but also the romantic revolutionary, the victim of a political conspiracy, and the unhappy lover who, in 1832 at the age of only 20, lost his life in a duel. As Lillian R. Lieber writes in *Galois and the Theory of Groups: A Bright Star in Mathesis*, a book illustrated by her husband Hugh Gray Lieber, a century after Galois’ early death:

Galois died,  
Just one hundred years ago,  
Before he reached the age of  
Twenty-one !  
In his short and tragic life  
He developed

This branch of mathematics,  
 Which is of the greatest importance  
 To-day.  
 He is ranked among the  
 Twenty-five greatest mathematicians  
 That EVER lived. [...]

He was ‘framed’  
 To fight a duel  
 In which he was killed.  
 Peace to his spirit.[15]

Not only literary writers like the Liebers, but also biographers<sup>1</sup> and scientists such as Eric Temple Bell and Leopold Infeld<sup>2</sup> contributed to the legend surrounding Galois’ short life and his sudden and tragic death. It was only recently that historians of mathematics began to revise, from a historical standpoint, Galois’ dramatically embellished popular image, propagated since the turn of the century. Yet this is not the place to discuss in detail such revisions.<sup>3</sup> Here, we shall consider an early *fictional* text that takes Galois’ story as its subject and examines it through a literary-aesthetic lens. I refer to a short story, barely spanning ten pages, written by the Jewish-Austrian author Leo Perutz (1882–1957): *Der Tag ohne Abend* (The Day Without Evening). The author not only tells a “story,” but also, in the story’s veiled, implicit form, critically comments on elements of the Galois legend in circulation in the early 20<sup>th</sup> century.

Leo Perutz was born in Prague, studied mathematics and history in Vienna, and first worked as an actuary. The time of the First World War, during which he was gravely wounded, saw Perutz’s first literary successes: the novels *Die dritte Kugel* (The Third Bullet) (1915) and *Das Mangobaumwunder. Eine unglaubliche Geschichte* (The Mango Tree Miracle: An Unbelievable Story) (1916, co-authored with Paul Frank). The success continued after the war, as he published a series of novels and short stories, such as *Der Marques de Bolibar* (The Marquis of Bolibar) (1920), the bestseller *Der Meister des Jüngsten Tages* (The Master of the Day of Judgment) (1923) and *Wohin*

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<sup>1</sup>See for instance [9, 16].

<sup>2</sup>The standard references are [5, 13]. For a recent popular account of Galois’ life, also see [1].

<sup>3</sup>We refer the reader interested in this thread to [7, 10, 23].

*rollst du, Äpfelchen...* (Little Apple) (1928). The death of his wife in 1928 threw Perutz into crisis. In 1934 he remarried, but was soon forced to flee from the National Socialists into a life in exile that would eventually lead him to Tel Aviv. He returned to Austria in 1950 and took up residence in Bad Ischl. But he encountered serious difficulties reinvigorating his literary career that had flourished before the Second World War. In 1953, he published the novel *By Night under the Stone Bridge*, and the novel *Leonardo's Judas* (1959) was released posthumously, after his death in 1957. All but forgotten by his readers, Perutz was only recently rediscovered in literature departments during the early 1980s, primarily through the works of Hans-Harald Müller and Lutz Danneberg.

*The Day Without Evening* belongs to a collection of texts published in 1930 under the title *Herr, erbarme dich meiner* (Lord, have mercy upon me). According to Müller's reading of Perutz's diaries [19], Perutz evidently wrote the short story in a sort of "furor" within five days in November 1924.<sup>4</sup> This furor is mirrored by the story's subject matter: a short but intense burst of mathematical creativity in the life of Georges Durval, the story's protagonist, who stands in as Perutz's Galois-figure. Although Perutz only covertly alludes to the story's real subject (the Galois legend), although he displaces events by almost a century to 1912, although he moves them from Paris to Vienna, and although Perutz's Galois-figure is neither a born revolutionary nor a born mathematician, the story's historical core is evident to readers reasonably familiar with the history of mathematics and the life story of Évariste Galois.<sup>5</sup> Critical readers of the text need to keep an eye on the historical background, but they also need to pay attention to a second significant context: the writings of Saint Augustine which provided Perutz with the title of his story. "The day without evening" refers to Augustine's *dies septimus sine vespera* and his interpretation of *Genesis*. As I will argue in the following interpretation, the story of Perutz transforms the references to the Galois legend and Augustinian theology into a reflection that begins by questioning the sense (or nonsense) of counterfactual imaginations in historical reasoning and that ends in the determination of the boundaries of human and divine creation and knowledge. Perutz's fictional, meta-biographical commentary

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<sup>4</sup>The story was first published in *Hamburger Nachrichten* **134** (1925), Numbers 106 and 107. For further information about the history of the publication see [20, page 176f].

<sup>5</sup>The historical context of the text is noticed and evaluated by [8, page 31]. See also [18, page 24f] and [27].

on Galois thus evolves into a fictional, philosophical commentary on the human condition.

I start with an overview of the plot of Perutz’s story (§1), comment on his turn against counterfactual imaginations in fictional and historical writing (§2), continue with an explanation of Augustine’s theology (§3) and finish with an argument that combines both contexts, the historical and the theological, with Perutz’s reasoning on the different temporal orders of artistic, scientific, and divine creation (§4).

## 1.

With a chronologically narrated plot, divided in the first edition visually by asterisks into seven parts, the story’s relatively simple structure can be quickly summarized: As the narrator reports in the story’s first, expository section, Georges Durval is a dandy reminiscent of Pushkin’s Eugen Onegin, who dilettantishly and unproductively pursues a multitude of interests, doing a bit of mathematics on the side. However, he can sustain his lifestyle only until the moment when, as the narrator declares full of foreboding at the end of the exposition, “Georges Durval’s fate and predestination remembered him” [21].

The anticipated caesura occurs on the evening of March 14, 1912 and marks a turning point in Durval’s life: because of an inane fight, in which a fellow restaurant guest insults him [21, page 163], Durval is challenged to a duel. While the duel is postponed for a few weeks, he is grasped by a “peculiar disquiet” [21, page 164] and begins to busy himself more intensely with mathematics. His mathematical studies soon consume him completely, breaking off his former connections with society. Durval makes only a single visit to his mother’s nurse, otherwise devoting all of his time to mathematics. The obsessive mathematical activity even continues when his seconds arrive on the morning of the duel, April 25, 1912. Likewise, during the preparations directly preceding the duel – the ride to the designated location of the shooting, the attempt at reconciliation, and the last instructions – Durval continues to work on his mathematical problems. Eventually both duelists shoot, and the narrator laconically states: “This day had no evening” [21, page 168], thus announcing Durval’s death. In the story’s last section, the narrator provides a meta-commentary which hints, on the one hand, at the aftermath, the posthumous publication of Durval’s works by an “academic society” and, on the other hand, at a possible interpretation of the story:

The story of George Durval had to be told. Sometimes, it seems to me as if it would offer insight into the economy of world events. It is debatable, whether the greats of science, art, or literature – such as Pushkin, Lassalle, or Lord Byron – who died young, would have added just one more line to their works, had death passed them by. Maybe fate only calls upon those who have nothing more to give, who, in the end, are finished, empty, and burned out [21, pages 168f].

These reflections are remarkable for a number of reasons. The narrator uses them to interrupt abruptly the story’s narration, to reveal himself suddenly as a first person narrator, and to all but usurp the story for his own interpretation. Indeed, other stories by Perutz also contain interpretive commentaries added after the fact. But what is afoot here is not simply the exposure of the story’s fictive and constructed character; nor is it just a reference to the historical-philosophical exemplarity of the story’s subject matter; nor is it the valorization of the Durval/Galois plot as a significant instance of the “economy of world events.” Rather, through the specific case of Durval/Galois, Perutz calls into question and tentatively revises the practice of counterfactual scenarios,<sup>6</sup> the postulation of which the life stories of “the greats of science, art, or literature . . . who died young” continually seem to invite.

## 2.

What if Galois had not died so young? Counterfactual imaginations of this kind are such a timely figure of thought in the critical literature surrounding Galois that Perutz’s challenge to them demands further discussion. By 1846 the mathematician Joseph Liouville stated that, had it never come to the “calamitous duel,” Galois would have “expanded the mathematical sciences in ways that would have aroused great interest” [16, page 87]. Felix Klein makes a similar postulation in his *Lectures on the Development of Mathematics in the 19<sup>th</sup> Century* (1926/1927) (although the lectures were first published posthumously, Klein was known to mull upon this idea frequently before his death.) As Klein writes, we can assume:

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<sup>6</sup>Counterfactual narratives are currently of great interest to narratologists, historians, and philosophers of science, see for example [6].

that Galois would have continued on the prescribed path to new successes, and would have given the world insights unimaginable even today, if his passionate temperament had not prepared for him such an early end [14, page 92].

In a tenor not untypical for mathematicians, Liouville and Klein clearly rely on an assumption of the inexhaustibility of mathematics and the linearity and determinate nature of the progression of mathematical knowledge. The cumulative growth of knowledge can thus be slightly hindered by happenstance singular events, such as Galois' early death, but it cannot be stopped. Acting on these assumptions, counterfactual imaginations seem to be reasonable although they do not contribute anything new to the historical account.

Categorically skeptical of the point of counterfactual imaginations regarding Galois' not-lived life is the historian of science George Sarton. In his melancholy portrait of Galois from 1921, Sarton ultimately rejects such postulations as pointless. Yet, he still finds a positive aspect in this rejection, namely the greatness and purity of Galois' immortality that resides in the brevity of his life:

What would not Galois have given us, if he had been granted six more such years at the climax of his life? But it is futile to ask such questions. [...] does it really matter? A few years more or less, a little more or less suffering .... Life is such a short drive altogether. Galois has accomplished his task and very few men will ever accomplish more. He has conquered the purest kind of immortality [24, pages 363 and 365].

Thus, if Perutz allows his Durval/Galois to slip into the ranks of the "greats who died young" – who provide the creators of biographical and scientific-historical legends welcome occasion for counterfactual imaginations of the distinct inexhaustible potential of their hero – and simultaneously questions this practice within the framework of his story, then he agrees to a certain extent with Sarton's position. Whereas Perutz's rejection of counterfactual imaginations is achieved through irony within a fictional text and thus comes from the perspective of a writer who possesses the poetic license to fictionalize events, Galois' biographers (Sarton included) are supposed, as the standards of their discipline dictate, to mistrust counterfactual scenarios. Therefore, Perutz imitates in his fictional text biographical, historical narratives supposedly based on facts in order to reveal the premises

that are particularly manifest in counterfactual postulations. Accordingly, Perutz's text forms a fictional, meta-biographical commentary on counterfactual imaginations in biographical and historical writing.

### 3.

The secondary literature on Perutz has repeatedly stressed that Perutz's texts express "a determinate and fatalistic perspective on history", according to which "coincidence and necessity" concur in a manner that seems absurd to the human observer [26, page 147]. In reference to Perutz's historical novels, Michael Mandelartz for instance speaks of a "divine logic of destruction" and of a "violence of history," at the mercy of which, according to Perutz's perspective of history, the individual stands [17, pages 194 and 87].

In *The Day Without Evening* these generally valid observations receive a peculiar treatment connected, on the one hand, with mathematical-historical references to Galois and, on the other hand, with a specific reflection on time and history. In addition, Perutz's short story contains a theological subtext: Augustine's theology of creation and doctrine of predestination. Perutz takes from Augustine not only the story's title, but also a framework for the story's narrative and philosophical construction as well as its formal, seven-sectioned shape. At least three theological aspects are relevant here and shall be discussed in the following: first, Augustine's program for the individual's contemplative path to God, second, his interpretation of genesis and, third, his philosophic concept of *oikonomia*.

What the narrator identifies as the intervention of Georges Durval's fate and "predestination" is that which Durval himself experiences as an inner drive to which he completely falls victim. After his interest for mathematical problems has been piqued, he senses excitement and a "peculiar disquiet . . . whose source was not to be found in his thoughts about the duel that stood before him." He feels as if he was "excited by a daemon" [21, pages 164f] – "*la fureur des Mathématiques le domine*", as a teacher of Galois once said [9, page 208] – and finds temporary peace and a type of fulfillment solely in his mathematical work. Certainly, mathematical questions played a role in his life before the duel: Durval sometimes entertained ideas during chess games, as the narrator informs us, "which led him to the realm of higher mathematics" [21, page 161]; he had thought about "the rectification of isothermic families of curves" through the "expansion of Picard's theorem" and contemplated "disproving Marxist economics through mathematical-analytic meth-



ods of thought” [21, page 162]. The latter observation is not uninteresting, especially in the context of the French and later, Anglo-American reception of Galois: In contrast to the majority of Galois biographers, Perutz seems disinterested in his political affiliation. He avoids alluding to Galois’ revolutionary past and even tends to turn Durval into a critic of the Left who works on a “disproval” of Marxism via a theory of political economy founded on mathematics. Perutz might have found a real world model for this approach, for instance, in the liberal Italian political economist Vilfredo Pareto. Similarly, actuarial-mathematical criticisms of Marxism have found approval in right-wing conservative circles. For instance, the mathematician Theodor Vahlen expresses a similar standpoint in his speech *The Worth and Essence of Mathematics*, held in 1923:

Not only is actuary mathematics a discipline of higher mathematics of great practical significance, but also remarkable progress has been made in sociology to raise actuary mathematics from a political to an exact science. We can hope that it is in this way possible to expose once and for all the nonsense of Marxism and show it for what it really is: a fairy tale for political children [29, page 6].

Perutz is obviously not interested in a politicization of his protagonist. On the contrary, the allusion to a mathematical refutation of Marxism shifts the attention from Galois the revolutionary to Durval/Galois the *mathematician* and his peculiar *conditio humana*. It is Durval’s fate to be a mathematician and, as such, he involuntarily devotes the rest of the time that remains before the duel to mathematics:

The evening was his time. Deep clarity came to him every evening as the lamp burned, bringing with it insight into hidden connections. At such times he worked with quiet preponderance, his eyes on the prize [21, pages 164f].

Perutz’s depiction of mathematical creativity is a variation of the widespread cliché of the socially isolated mathematician concentrated entirely on his work, who forgets even the life-threatening situation in which he finds himself. At the same time, Perutz also allows his protagonist to “mature,” with clear echoes of Augustine’s idea of a successive coming-to-rest through contemplative, intellectual exercise. As we can read in the *Confessions*, Augustine first had to overcome the excesses of his youth, the squandering and

misuse of his “gift” (*ingenium*) on “follies” [4, page 18], on game and theater, in order finally to arrive on the path of *contemplation* that leads to inner peace. In one of his commentaries on Genesis, *De Genesi contra Manichaeos libri Duo* (ca. 389), Augustine compares and generalizes this process of individual maturation with the process of Creation. Accordingly, once belief has been awoken in someone, he or she can successively divulge himself of the sensory-corporal aspects of life in favor of a commitment to spiritual aspects and, in this manner, move towards God [2].

We find something similar in the figure of Durval. While he has previously sought above all else amusement and adventure in sensual pleasure and societal enjoyment, he now develops an awareness of the spiritual and intellectual dimensions of life along with the interest in mathematics. Neither the offer of a game of bridge, nor the news of the marriage of “a young girl, who had played a certain role in his life,” can distract him from the state of mathematical *contemplatio* that consumes him every evening. For Durval, the adventure he had previously sought in society seems to have, after having been challenged to the duel, entirely lost any hint of excitement, supplanted now by the spiritual adventures he finds in mathematics. Only music – here again a typical element of the stereotype of the mathematician – is able to accompany him into the realm of “singular points” of Cayley curves and of the “theory of differential equations.” Only music can complete his contemplative ascension into the realm of the spiritual:

Sometimes a violin sounded from the neighboring apartment, a young girl who he did not know, practiced Tartini’s A-Major sonata. And the sadness of this melody united with the mysteries of mathematics to form a magical and fantastical world as full of adventure as Klingsor’s garden [21, page 165].

Durval’s experience recalls not only the Klingsor fairytale from Novalis’ novel *Heinrich from Ofterdingen* (1802) and Richard Wagner’s *Parsifal* (1882), but also Hermann Hesse’s novella *Klingsor’s Last Summer* (1919). With similarities also to Van Gogh’s biography, Hesse’s story depicts the painter Klingsor who, aware of his imminent death, experiences a final obsessive phase of artistic production and finishes a self-portrait while living in almost complete isolation. Hesse writes in the preface: “His works live forth, and the legend of his life and of this last summer no less lives on in the circles of his closest friends” [11, page 8].

Yet Perutz does not expand upon these intertextual references. Nevertheless, like Hesse's *Klingsor*, Durval also reaches his "goal." He works on his mathematical problems, literally, until his last breath: shortly before departing for the duel, he jots down "algebraic formulas" on the backside of a "laundry bill," uses a stop during the chauffeured car ride to write "long mathematical expansion series on the marble top" of a café table [21, page 167], and even asks the duel officary for "a little piece of paper" on which he hopes to scribble down a few last ideas. The reference to legends surrounding Galois' last night is unmistakable; Perutz's depiction falls nothing short of dramatics, as Durval, in comparison to Galois, actually never stops calculating. The parallel narration of the ever-intensifying duel events and the mathematical chains of thought, likewise rapidly approaching their conclusion, drives the short story to its climax:

The seconds measured the distance. Unconcerned with what was happening around him, Georges Durval stood at the wooden wall that marked off the dueling area and calculated. The duel officary had loaded the pistols. . . . At this moment, Georges Durval turned around. With the piece of paper in his hand he walked towards Captain Drescovich [one of his seconds, A.A.]. His face showed peace and complete indifference. He had brought his work to an end [21, page 168].

With this action, Durval confirms from his own perspective the narrator's theory that quickly follows: "that fate only calls upon those people who have nothing more to give, who, in the end, are finished, empty, and burned out." Durval evidently fulfilled the predetermined course ascribed to him by fate through the solution of his mathematical problem, so that the feelings of peace and complete indifference – which he feels despite the impending duel and which contrast the prior societal upheaval and mathematical furor – can be fully justified by the individual accomplishment of mathematical creation. His increasing renunciation of sensuous and worldly concerns in favor of mathematical contemplation finds here its ultimate end.

However, the chain of mathematical thought persists in Durval's head. Right after he feels the satisfaction to have finally found the solution, he starts to think of a more elegant reformulation and to look forward to the evening to dwell on this new mathematical idea:

The formula can easily be divided into a real and an imaginary part, Durval said to himself. There must be another, a more elegant type of solution. Anyway, this evening, when I . . .

Two shots interrupt these thoughts, and the narrator contradicts his fallen hero: “This day had no evening” [21, page 168].

Augustine’s theology of creation illuminates the punch line of the narrator’s laconic sentence, which confirms the death of Perutz’s protagonist and lends the short story its title. In the thirteenth and last book of *Confessions*, Augustine arrives at a discussion of the meaning of the Sabbath, of *dies septimus sine vespera*:

O Lord God, grant us peace, for Thou hast granted us all things, the peace of repose, the peace of Thy Sabbath, the peace that has no evening. For this gloriously beautiful order of things that are very good will pass away when it has achieved its end: it will have its morning and its evening.

But the seventh day is without evening. It has no sunset, for You sanctified it that it may abide forever. After all Your works which were very good, You rested on the seventh day – although You made them with no interruption of Your repose. And likewise the voice of Your Book tells us that we also, after our works – which are only very good because You have granted us to accomplish them – will rest in You in the Sabbath of life everlasting [4, pages 320f].

In the context of Augustine’s theology of creation, human works are only creations of a second order, in that God’s spirit works through man. Humans and human creations are, unlike God, subject to a temporal order; they have “a beginning and end in time, a rising and setting, growth and decay, beauty and defect. Thus they have their succession of morning and evening” [4, page 319]. Only God is timeless, eternal, and perfect: “But You, Lord, are ever in action and ever at rest. You do not see in time, nor move in time, nor rest in time” [4, page 321]. As long as he is still alive, man is separated from God’s timeless, eternal peace. But, at the end of his days, he can find his peace in God “on the Sabbath of eternal life.”

## 4.

Through the unattributed quote from Augustine, Perutz calls upon the theological ideas of creator and creation. The fatal shot rips Durval from the temporal order and transfers him to his ‘day without evening.’ Since he has successively become more at peace in the course of his mathematical contemplation and since he has finally reached his goal through his growing mathematical concentration, Durval has made his scientific contribution and finds ultimate peace – if one may say so – through divine intervention. However, his creative work still remains incomplete and, in a certain sense, incompletable. Indeed, Durval has “fulfilled the proportion allotted” to him, but has, all told, only made a small and incomplete contribution to mathematical knowledge as a whole. The mathematical knowledge that remains and progresses with time is, after Durval’s insights, anything but finished – and is neither finishable nor completable. Yet the fundamental incompleteness of scientific knowledge becomes clear to Durval in the moment death arrives: there must still be “a more elegant type of solution” to the mathematical problem he had just solved [21, page 168]. Perutz underscores the impression of incompleteness with a further hint regarding what Durval will leave behind. The curators of Durval’s archive will never enjoy the complete Durvalian solution, because they are confronted with a “torso,” whose missing parts are “scattered in the wind,” given over to chance:

But even when his work is available, collected in 10 volumes, even then it will remain a torso. His last, final work will never be found. It is distributed across the back of a laundry bill, the top of a marble café table, and a small sheet from a notebook, scattered in the wind [21, page 169].

Incompleteness, incompleteness, and the fundamental torso-like nature of mathematical knowledge contrast here powerfully with the completion, self-sufficiency, and perfection of God. With this juxtaposition, Perutz negates any attempt undertaken by the human genius and his creations that would seek to approximate God and his Creation – a practice more than common in the aesthetic and scientific cults of genius in the nineteenth and twentieth centuries. Paul Dupuy, Galois’ first biographer, finds consolation for his hero’s early death in an allusion to the immortality of genius:

Du moins le tombeau ne l’a-t-il pas pris tout entier; les quelques pages qu’il a laissées ont suffi pour que la patrie sache son nom: sa

vraie patrie, la plus belle et la plus large de toutes, celle où fraternisent nécessairement, dans les conceptions rigoureuses et profondes des Mathématiques, tant de nobles intelligences dispersées sur tous les points du monde. Si, comme il le disait, l’immortalité n’est que la trace laissée dans la mémoire des hommes, il est assuré de l’immortalité tant qu’il y aura des hommes: ignoré de la foule, son nom est défendu contre l’oubli par l’admiration d’une élite; c’est pour elle que j’ai écrit cette étude, en souhaitant d’ajouter à l’admiration du génie quelque sympathie pour l’me ardente, pour le coeur tourmenté et misérable, et de dresser enfin, à côté de ce nom qui ne représentait que des idées, la figure vivante d’un homme [9, page 252].<sup>7</sup>

Therefore, Galois’ death is not a ‘real’ death. For Dupuy, Galois by his genius reaches a level of immortality in an afterlife of “intelligences” that will further develop his ideas. George Sarton seems to make a similar assumption, that the (imagined) infinite future of the progress of scientific knowledge compensates for the finitude of individual existence:

To put it more concretely, when we are very thirsty a juicy orange is more precious to us than an orange tree. Yet when the emergency has passed, we learn to value the tree more than any one of its fruits; for each orange is an end in itself, while the tree represents the innumerable oranges of the future. The fame of Galois has a similar foundation; it is based upon the unlimited future [24, page 364].

Galois’ “orange tree” thus seems to outlive Galois’ “juicy orange.” Perutz, however, does not accept this consolatory theory of afterlife and he rejects

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<sup>7</sup>Translation: “At least the grave has not taken him entirely; the few pages he has left have sufficed for the fatherland to know his name: his true fatherland, the most beautiful and largest of all, where so many noble minds, dispersed to all places of the world, convene with their brothers in the rigorous and deep concepts of mathematics. If, as he said, immortality is nothing but the trace left in the memories of men, he is sure of his immortality as long as there are men. Ignored by the masses, it is the admiration of an elite that defends his name against oblivion. It is for them that I have written this study, wishing to add to the admiration of the genius some sympathy for the burning soul, for the tormented and suffering heart, and, finally, to put next to this name, which stands only for ideas, the living figure of a man.”

the idea of a secular, history of salvation propagated by science. George Sarton claimed that “the history of science is the history of mankind’s unity, of its sublime purpose, of its gradual redemption” [25, page *i*] and, through this claim, Sarton expresses his conviction that scientific geniuses like Galois, while they are not equal to the Redeemer himself, function as an agent of a secular process of redemption that is completed within the course of time. Following Augustine, Perutz’s short story provides a refutation of the equation of divine and earthly power. As long as the flow of time is not brought to an end, “knowledge in time,” as Augustine writes, is bound to the temporal order, such that an unbridgeable schism separates the progression of scientific knowledge, which seems to guarantee a temporalized form of immortality, from God’s permanent being, which is enclosed into itself. Any equation or convergence of God and genius, human and divine creation is hence nothing less than a vain overestimation of human ability. In *De Trinitate*, Augustine says equally apodictically that “a nature that is made is always less than He who made it” [3, page 199]. Human knowledge is also not to be compared to divine knowledge: “This knowledge is far unlike our knowledge” [3, page 194].

The distance between humans and God is thus clearly marked. But Perutz seems to differentiate even within the realm of temporal, earthly being by distinguishing between the works of science and the works of art – at least from Durval’s perspective. To elaborate on this, we must go back to a rather puzzling interlude in the story that hints at such a differentiation: It is only once that Durval, for the “sole time,” interrupts his obsessive, mathematically creative phase and visits “his mother’s paralyzed nurse” [21, page 165]. He complains to her that he is “on the wrong path” with his mathematical activities. And he goes as far as to defend the thesis that not mathematics, but instead “the study of music, the editing and publication” of Italian Baroque music could have been “his life’s true assignment.”

Only in music would he have been sure to achieve something positive, something lasting. That, with which he now concerns himself, is just a worthless gimmick, an entertaining pastime perhaps, but certainly nothing more [21, page 166].

Durval has no choice. He is destined to be a mathematician, even if he momentarily considers this to be futile. Nevertheless, his counterfactual imagination deserves closer attention, for Durval does not, as the reader might

expect, imagine himself being an artist instead of a mathematician, for example a musician or a composer who creates “something positive, something lasting.” Durval rather ponders being a *historian* of music, who would afford longevity and recognition to the already existent creations of Tartini, Corelli, Vitali, and Locatelli, from which “quite a bit still [lies] unnoticed in the archives” [21, page 166]. Tending to and passing on others’ artistic works seems to him to be of more value than his own mathematical creativity.

Considered within the Augustinian interpretive paradigm, a connection arises here to Augustine’s early work *De Musica* (384-409). In it, Augustine demonstrates the congruence of numbers with musical rhythms and justifies in detail the ascension to God proceeding from a sensory to a spiritual perception of numbers and rhythms. While the *numeri sensualis* are corporally perceived numbers that are transient and must be memorized, the *numeri rationis*, the ‘numbers of reason,’ are eternal and unchangeable. The latter belong to the truth hidden by God and protreptically remind the human subject, when he or she hears them, to concentrate on spiritual and mental perception.

Augustine thus connects music with memory. In this regard, Perutz’s story shows something more essential than just the topical association of music and mathematics. Like the academic society’s archival curators who preserve Durval’s writings after his death, the musical historian is entrusted to inscribe human artifacts into the cultural memory and to protect them against oblivion. Had Joseph Liouville not taken upon himself to edit and publish Galois’ unpublished papers, we would not have today Galois theory – at least not with the same name. Likewise, without the history of music, there would be no, or only coincidental and rudimentary knowledge of Tartini’s oeuvre. While Perutz does not develop this counterfactual consideration further, he does interweave a *vanitas*-motif into his text: In that last sentence he explains how a small piece of paper containing Durval’s final notes is “scattered in the wind.” This also alludes to the expression *vanitas*, which is the translation of the Hebrew word *häväl* (wisp of wind) in the Latin translation of the Bible. Both art and science necessitate continuation to not perish with their creator. Their temporal existence entails that they must be held contemporary through artificial means and with extensive, institutional expenditure, such as in the archival projects undertaken by academic societies. In contrast to the artist or the scientist, God, of course, does not depend on cultural memory. The timeless divine Being, his Creation, and his Knowledge of his Creation are – to follow the Augustinian explanation –



present in his perfection and autonomy. In this sense, Augustine asks in *De Trinitate*:

What man, therefore, can comprehend that wisdom by which God knows all things, and in such a way the what are called past things as are not past for Him, nor does He await the coming of what are called future things as though they were absent, but both past and future things are all present together with present things [...] What man, I say, comprehends that wisdom, that foresight, and that knowledge, seeing that we are unable even to comprehend our own? For we can perceive in some way or other those things which are present either to our senses or to our understanding, but we know those which are absent, and yet had been present through our memory, insofar as we have not forgotten them. We do not conjecture the past from the future, but the future from the past, yet not with a sure knowledge [3, pages 180f].

In conclusion, against this Augustinian background we gain a more precise understanding of Perutz's refutation of counterfactual imaginations and the meta-fictional, interpretive hypothesis provided by his narrator. According to the narrator's interpretation, imagining the insights to which Galois could have lead mathematics had he not died so young may still seem obvious, even seductive. But it is as meaningless as a discussion of how Creation would appear had God spent an eighth – or even a ninth, or a tenth – day creating it. Drawing an analogy between human and divine Creation may, as such, be acceptable for the individual, for Galois, Durval, or Tartini, insofar as his or her creative process imitates the divine process of creation and ultimately leads to a 'day without evening.' But the human – who strives for knowledge in the temporal order and who depends on the facts of the past and their arduous preservation for his future prospects – exceeds his own bounds if he thinks *against* the facts and imagines alternative futures, transgressing the order of time (cf. [12, 22, 28]). As Perutz exposes in his short story, neither the contemporary nor the future "economy of world events" lies under human control. And, in Augustinian theology, the expression *oikonomia* designates precisely this fact: The doctrine of God's action in the world. This action, however, is experienced in the story as determinism, as Perutz exemplifies through the figure of Durval. Durval has no choice, and after the fulfillment of his mathematical task he is "finished, empty, and burned-out."

Following Augustine, knowledge of God's being, the *theologia*, can be inferred theologically from the *oikonomia*, and therefore, humans are supposed to gain access to God through the observation of worldly events. But for Perutz, despite the ubiquitous theological allusions in his short story, it is not a question of the propagation of a theological program, however it may be conceived. On the contrary, he narrates a "story," in which references from the history of mathematics and theology are condensed and stylized into philosophical reflection and a poetological punch line. In this context the narrator refers metafictionally to his own story: "The story of George Durval had to be told." Consequently, even he is not free, but instead is subject, like his fictional figures, to a wide-reaching determinism – in this case, the necessity of narration. As musicians and historians of music preserve the work of Tartini, or mathematicians and learned archive curators preserve the work of Durval, it is the predestination of the poet to preserve historical events from being forgotten or, at least, to render present that which is forgotten through narration itself. Even if Durval's last notes, "scattered in the wind," cannot be reconstructed and his never completed mathematical insights cannot be imagined against the facts, then at least his story reminds us that they are lost. And this is another reason why "the story of George Durval had to be told."

**Acknowledgments:** I thank Matthew Handelman for his help with the translation of this paper.

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