

## GÖDEL'S LOOPHOLE

F.E. GUERRA-PUJOL\*

*Judge Phillip Forman:* “[Germany] was under an evil dictatorship . . . but fortunately, that’s not possible in America.”<sup>1</sup>

*Kurt Gödel:* “On the contrary, I know how that can happen. And I can prove it!”<sup>2</sup>

*Jorge Luis Borges:* “En algún anaquel de algún hexágono (razonaron los hombres) debe existir un libro que sea la cifra y el compendio perfecto de todos los demás: algún bibliotecario lo ha recorrido y es análogo a un dios.”<sup>3</sup>

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<sup>1</sup> JOHN L. CASTI & WERNER DEPAULI, GÖDEL: A LIFE OF LOGIC 89 (2000). *See also* Oskar Morgenstern, History of the Naturalization of Kurt Gödel 3 (Sept. 13, 1971) (unpublished draft memorandum), available at [http://morgenstern.jeffreykegler.com/Home/files/Morgenstern\\_onGoedelcitizenship.pdf](http://morgenstern.jeffreykegler.com/Home/files/Morgenstern_onGoedelcitizenship.pdf).

<sup>2</sup> CASTI & DEPAULI, *supra* note 1, at 89.

<sup>3</sup> JORGE LUIS BORGES, *La Biblioteca de Babel*, in FICCIONES 46, 51 (Gordon Brotherton & Peter Hulme eds., Bristol Classical Press 1999) (1956) [hereinafter BORGES, *La Biblioteca de Babel*]. In English, this passage means: “On some shelf in some hexagon [in the Library of Babel], it was argued, there must exist a book that is the cipher and perfect compendium of all other books [in the Library], and some librarian must have examined that book; this librarian is analogous to a god.” JORGE LUIS BORGES, *The Library of Babel*, (continued)

## I. INTRODUCTION: GÖDEL AND THE CONSTITUTION

In the words of the American constitutional law scholar John Nowak, Gödel's loophole "is one of the great unsolved problems of constitutional law."<sup>4</sup> Stated briefly, the mathematician and philosopher Kurt Gödel once claimed to have found a logical contradiction in the United States Constitution, a fatal flaw that might transform our existing constitutional democracy (in which political power is divided among different branches of government) into a legalistic or military dictatorship (in which power is concentrated in one individual or one branch of government). Yet, like the lost proof of Fermat's Last Theorem, in which the French mathematician and jurist Pierre de Fermat claimed to have discovered a proof that the equation  $x^n + y^n = z^n$  has no integer solution when  $n > 2$  and when  $x$ ,  $y$ , and  $z$  are not equal to zero,<sup>5</sup> no one knows with certainty the particulars of Gödel's discovery.

The story of Kurt Gödel's discovery of a deep logical flaw in the U.S. Constitution has been retold many times before.<sup>6</sup> Additionally, rampant speculation surrounding Gödel's lost discovery also abounds on the Internet<sup>7</sup> and has even found its way into a best-selling science fiction

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<sup>in</sup> COLLECTED FICTIONS 112, 116 (Andrew Hurley trans., 1998) [hereinafter BORGES, *The Library of Babel*].

<sup>4</sup> Interview with John Nowak, Raymond & Mary Simon Chair in Constitutional Law, Loyola University Chicago Sch. of Law, in Chi., Ill. (Nov. 2, 2012).

<sup>5</sup> See, e.g., E.T. BELL, MEN OF MATHEMATICS 67–72 (1986); SIMON SINGH, FERMAT'S ENIGMA: THE EPIC QUEST TO SOLVE THE WORLD'S GREATEST MATHEMATICAL PROBLEM 59–62 (1998).

<sup>6</sup> See, e.g., Morgenstern, *supra* note 1, at 2 (offering a first-hand account); HAO WANG, REFLECTIONS ON KURT GÖDEL 115–16 (1987) (offering a second-hand account, based in part on Wang's personal communications with Gödel). Most reported versions of this episode, however, are "hearsay," or third-hand, accounts. See, e.g., CASTI & DEPAULI, *supra* note 1, at 88–89; REBECCA GOLDSTEIN, INCOMPLETENESS: THE PROOF AND PARADOX OF KURT GÖDEL 232–34 (2005); PALLE YOURGRAU, A WORLD WITHOUT TIME: THE FORGOTTEN LEGACY OF GÖDEL AND EINSTEIN 98–99 (2005); M. Shubik, *Oskar Morgenstern: Mentor and Friend*, 7 INT'L J. GAME THEORY 131, 134 (1978); John W. Dawson, *Gödel and the Limits of Logic*, 280 SCI. AM. 76, 80 (1999). Sanford Levinson has offered a fourth-hand account. Sanford Levinson, *Shards of Citizenship, Shards of Sovereignty: On the Continued Usefulness of an Old Vocabulary*, 21 CONST. COMMENT. 601, 606 n.19 (2004) (reviewing T. ALEXANDER ALEINIKOFF, SEMBLANCES OF SOVEREIGNTY: THE CONSTITUTION, THE STATE, AND AMERICAN CITIZENSHIP (2002)).

<sup>7</sup> For example, search the phrase "Gödel and the Constitution."

novel.<sup>8</sup> In sum, like the infinite library in Jorge Luis Borges's beautiful short story *The Library of Babel*,<sup>9</sup> there are many possible branches and permutations of Gödel's lost discovery, but the essential facts of this episode are as follows.

After Gödel applied to become a U.S. citizen in 1947, he prepared for his citizenship interview by closely studying the Constitution.<sup>10</sup> In the course of his studies, perhaps on the eve of his citizenship hearing, Kurt Gödel—a “reticent genius”<sup>11</sup> and the “greatest logician since Aristotle”<sup>12</sup>—found a potentially fatal contradiction in the Constitution—what is referred to in this Article as “Gödel's loophole.” What was it? This Article offers the following conjecture: the problem with the Constitution is the amending power in Article V and the logical possibility of “self-amendment.” In brief, if the amending clause of the Constitution can itself be amended, then all express and implied limitations on the amending power might be overcome through a constitutional self-amendment.

This Article is divided into five parts. Following this brief introduction, Part II retells the story of Gödel's lost discovery in greater detail and attempts to answer a subsidiary question: Why is there no formal record of Gödel's constitutional loophole? Part III then reconstructs Gödel's loophole in four logical steps: (i) the Constitution contains a finite number of legal provisions or “constitutional statements”; (ii) one of these statements contains an amending-power statement, which permits amendments to the Constitution when certain conditions or procedural steps are met; (iii) the amending power can be used to amend itself; and (iv) if the amending clause can amend itself, then all express and implied limitations on the amending power might be overcome through a constitutional amendment. Next, Part IV identifies other serious flaws or “design defects” in the Constitution and explains why these alternatives are probably not what Gödel had in mind. In summary, these alternative theories of Gödel's loophole are off the mark because they ignore his interest in logical contradictions and the problem of self-reference. Part V concludes.

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<sup>8</sup> See RUDY RUCKER, MATHEMATICIANS IN LOVE 295–96 (2006).

<sup>9</sup> BORGES, *La Biblioteca de Babel*, *supra* note 3, at 46; BORGES, *The Library of Babel*, *supra* note 3, at 112.

<sup>10</sup> WALTER ISAACSON, EINSTEIN: HIS LIFE AND UNIVERSE 510 (2007). Unless otherwise indicated, all references to the Constitution in this Article are to the U.S. Constitution.

<sup>11</sup> Dawson, *supra* note 6, at 78.

<sup>12</sup> HAO WANG, A LOGICAL JOURNEY 2 (1996) (statement by Robert Oppenheimer).

## II. THE STORY OF GÖDEL'S "LOST DISCOVERY"

Why did Gödel, a mathematician and a citizen of Austria,<sup>13</sup> turn his attention to the Constitution of the United States? Further, why is there is no record of his all-important "discovery"? Before contemplating these questions, it is necessary to provide a brief sketch of Gödel's childhood and his years in Vienna. Gödel's early years, even before his appointment to the Institute of Advanced Studies in Princeton, New Jersey, where Gödel eventually made his discovery in late 1947, may provide some clues in deciphering Gödel's lost discovery.<sup>14</sup> By all accounts, Gödel was always an inquisitive and intellectually curious person. From an early age, the young Gödel was so fond of asking questions that his family nickname was *der Herr Warum*, or "Mr. Why."<sup>15</sup> Gödel later studied physics, philosophy, and mathematics at the University of Vienna during the 1920s and completed his doctoral dissertation in 1929 in which he proved the completeness of the first-order predicate calculus.<sup>16</sup> After receiving his doctorate degree in 1930, he began teaching at the University of Vienna and continued his mathematical research.<sup>17</sup>

While in Vienna, Gödel also attended the weekly discussions of a group of philosophers, the "Vienna Circle."<sup>18</sup> Led by the philosopher Moritz Schlick, the members discussed deep problems in mathematics and logic—subjects that Gödel must have found fascinating—though Gödel

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<sup>13</sup> See KEITH DEVLIN, MATHEMATICS: THE SCIENCE OF PATTERNS 62 (1994).

<sup>14</sup> Several well-researched biographies provide more complete accounts of Gödel's life and mathematical ideas. See, e.g., CASTI & DEPAULI, *supra* note 1; JOHN W. DAWSON, JR., LOGICAL DILEMMAS: THE LIFE AND WORK OF KURT GÖDEL (1997); GOLDSTEIN, *supra* note 6; WANG, *supra* note 12.

<sup>15</sup> GOLDSTEIN, *supra* note 6, at 54–55; G. Kreisel, *Kurt Gödel*, 26 BIOGRAPHICAL MEMOIRS OF THE FELLOWS OF THE ROYAL SOC'Y 148, 153 (1980); Dawson, *supra* note 6, at 76.

<sup>16</sup> Juliette Kennedy, *Kurt Gödel*, STAN. ENCYCLOPEDIA PHILOSOPHY (July 5, 2011), <http://plato.stanford.edu/archives/fall2011/entries/goedel/>.

<sup>17</sup> See DAWSON, *supra* note 14, at 21; Kreisel, *supra* note 15, at 154; Kennedy, *supra* note 16.

<sup>18</sup> See GOLDSTEIN, *supra* note 6, at 109–13; Kreisel, *supra* note 15, at 153. For a member's overview of the membership and activities of the Vienna Circle, see KARL MENGER, REMINISCENCES OF THE VIENNA CIRCLE AND THE MATHEMATICAL COLLOQUIUM 143–57 (Louise Golland et al. eds., 1994). For a collection of informative essays about the Circle and its members, see 6 THE LEGACY OF THE VIENNA CIRCLE: MODERN REAPPRAISALS (Sahotra Sarkar ed., 1996).

never spoke or participated in the discussions.<sup>19</sup> He was by all accounts a “silent dissenter.”<sup>20</sup> Despite Gödel’s silence, he was at the same time secretly working on his own proof about the nature of mathematics and logic, a proof that would destroy the foundations of “logical positivism” associated with the Vienna Circle.<sup>21</sup>

In summary, Gödel solved a paradox: he proved the existence of unprovable mathematical truths, meaning there are mathematical propositions that are both unprovable and true.<sup>22</sup> In the words of his biographer, Rebecca Goldstein, Gödel proved that “there might be true, though unprovable, arithmetical propositions.”<sup>23</sup> In the words of the philosopher Roger Penrose, he proved that “no formal system of sound mathematical rules of proof can ever suffice, even in principle, to establish all the true propositions of ordinary arithmetic.”<sup>24</sup>

Gödel disclosed his famous proof in 1930—Gödel’s miracle year.<sup>25</sup> The mathematics community immediately recognized the originality and importance of Gödel’s proof, and he was invited to present his work at the newly-established Institute for Advanced Study (the Institute) in Princeton. Soon thereafter, the Institute offered him a full-time position.<sup>26</sup>

Although the prospect of working with Albert Einstein—the first and most famous resident of the Institute—may have played a decisive role in

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<sup>19</sup> See generally MENGER, *supra* note 18, at 200–36 (detailing Gödel’s role in the Vienna Circle).

<sup>20</sup> GOLDSTEIN, *supra* note 6, at 109.

<sup>21</sup> See *id.* at 112.

<sup>22</sup> For a more detailed explanation of Gödel’s “first incompleteness theorem,” see ERNEST NAGEL & JAMES R. NEWMAN, GÖDEL’S PROOF 68–108 (Douglas R. Hofstadter ed., 2001). For a prose summary of Gödel’s theorem, see GOLDSTEIN, *supra* note 6, at 164–83. See also DEVLIN, *supra* note 13, at 62–63; Kennedy, *supra* note 16. In addition, for a summary of Gödel’s proof written for lawyers, see John M. Rogers & Robert E. Molzon, *Some Lessons about the Law from Self-Referential Problems in Mathematics*, 90 MICH. L. REV. 992, 994–97 (1992).

<sup>23</sup> GOLDSTEIN, *supra* note 6, at 155.

<sup>24</sup> ROGER PENROSE, SHADOWS OF THE MIND 65 (1994).

<sup>25</sup> See generally KURT GÖDEL, ÜBER FORMAL UNENTSCHEIDBARE SÄTZE DER PRINCIPIA MATHEMATICA UND VERWANDTER SYSTEME I [ON FORMALLY UNDECIDABLE PROPOSITIONS OF PRINCIPIA MATHEMATICA AND RELATED SYSTEMS I] (1931), reprinted in, 1 KURT GÖDEL: COLLECTED WORKS 145–95 (Solomon Feferman et al. eds., 1986).

<sup>26</sup> CASTI & DEPAULI, *supra* note 1, at 83–84.

Gödel's decision to leave Vienna and join the Institute,<sup>27</sup> Gödel did not decide to leave Vienna until late 1939.<sup>28</sup> By 1939, there was a real possibility that Gödel might lose his position at the University of Vienna and be conscripted into the German army, so he and his wife Adele left the dangers and splendors of imperial Vienna behind for the safe backwaters of parochial Princeton.<sup>29</sup>

Like other leading members of the Institute, such as the Hungarian mathematician and computer genius John von Neumann, who became a naturalized U.S. citizen in 1937,<sup>30</sup> and Albert Einstein, who became a U.S. citizen in 1940,<sup>31</sup> Kurt Gödel too decided to become a U.S. citizen after the war.<sup>32</sup> This decision led to his "lost discovery"—the discovery of a logical flaw or loophole in the Constitution. At that time, the naturalization process involved three separate steps.<sup>33</sup> First, the applicant had to submit a "Declaration of Intention" form, a petition for naturalization stating one's intention to become a citizen of the United States, to the federal district court closest to one's home.<sup>34</sup> Next, the applicant had to pass a citizenship exam at a formal court hearing.<sup>35</sup> During the hearing, a federal judge would interview character witnesses and then ask the applicant general questions regarding the U.S. Constitution and U.S. history.<sup>36</sup> Finally, upon

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<sup>27</sup> See GOLDSTEIN, *supra* note 6, at 20–23, 29–36 (describing the friendship between Einstein and Gödel and describing them as "intellectual exiles"); YOURGRAU, *supra* note 6, at 87–88.

<sup>28</sup> See YOURGRAU, *supra* note 6, at 87–88. This was well after the brutal murder of Moritz Schlick, the founder of the Vienna Circle, in 1936, and well after Nazi Germany's annexation of Austria in 1938. *Id.* at 86–87.

<sup>29</sup> For a more complete account of Gödel's formative years in Vienna and his ultimate decision to leave the city of his youth, see GOLDSTEIN, *supra* note 6, and Karl Sigmund, "Dozent Gödel Will Not Lecture," in KURT GÖDEL AND THE FOUNDATIONS OF MATHEMATICS 75–93 (Matthias Baaz et al. eds., 2011).

<sup>30</sup> See Pierre Marchal, *John von Neumann: The Founding Father of Artificial Life*, 4 ARTIFICIAL LIFE 229, 230 (1998).

<sup>31</sup> See *infra* Appendix A: Albert Einstein's Declaration of Intention.

<sup>32</sup> YOURGRAU, *supra* note 6, at 98.

<sup>33</sup> David S. North, *The Long Grey Welcome: A Study of the American Naturalization Program*, 21 INT'L MIGRATION REV. 311, 312–13 (1987) (summarizing the naturalization process from applicant's perspective).

<sup>34</sup> See, e.g., *infra* Appendix A: Albert Einstein's Declaration of Intention.

<sup>35</sup> See North, *supra* note 33, at 312–13.

<sup>36</sup> *Id.* at 315.

passing the interview, the applicant had to attend an oath ceremony to take an oath of allegiance to the United States.<sup>37</sup>

Gödel took his citizenship exam very seriously.<sup>38</sup> Like his fellow Institute colleagues von Neumann<sup>39</sup> and Einstein,<sup>40</sup> Gödel submitted his “Declaration of Intention” form to the federal district court in Trenton, New Jersey.<sup>41</sup> Gödel also asked his two closest friends at the Institute, Albert Einstein and the economist Oskar Morgenstern, to be his character witnesses at his citizenship hearing on December 5, 1947.<sup>42</sup>

Even though his citizenship examination was a routine matter, Gödel “prepared seriously for it and studied the US Constitution carefully.”<sup>43</sup> In the words of his close friend, Oskar Morgenstern, “Gödel gradually over the next weeks proceeded to study American history, concentrating in particular on matters of constitutional law.”<sup>44</sup>

One day, during the course of his constitutional studies, Gödel called Morgenstern in an agitated state and told him that he had found “some inner contradictions” in the Constitution that could allow a dictatorship to arise.<sup>45</sup> In the words of Morgenstern, the only person to write a first-hand account of Gödel’s lost discovery and his citizenship hearing:

[Gödel] rather excitedly told me that in looking at the Constitution, to his distress, he had found some inner contradictions and that he could show how in a perfectly legal manner it would be possible for somebody to become a dictator and set up a Fascist regime, never intended by those who drew up the Constitution.<sup>46</sup>

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<sup>37</sup> See 8 U.S.C. § 1448(a) (2006).

<sup>38</sup> See CASTI & DEPAULI, *supra* note 1, at 88; GOLDSTEIN, *supra* note 6, at 232; WANG, *supra* note 6, at 115; Morgenstern, *supra* note 1, at 1.

<sup>39</sup> See FBI, FREEDOM OF INFO./PRIVACY ACTS SECTION, SUBJECT: JOHN LOUIS VON NEUMANN, FILE: 116-1914 (Apr. 17, 1985), [http://www.majesticdocuments.com/pdf/john-vonneumann\\_fbifile\\_part1a.pdf](http://www.majesticdocuments.com/pdf/john-vonneumann_fbifile_part1a.pdf).

<sup>40</sup> See *infra* Appendix A: Albert Einstein’s Declaration of Intention.

<sup>41</sup> WANG, *supra* note 6, at 116.

<sup>42</sup> GOLDSTEIN, *supra* note 6, at 233. See also WANG, *supra* note 6, at 30–34 (documenting Gödel’s close friendship with Einstein).

<sup>43</sup> WANG, *supra* note 6, at 115.

<sup>44</sup> Morgenstern, *supra* note 1, at 1.

<sup>45</sup> *Id.* at 2.

<sup>46</sup> *Id.*

Unfortunately, we may never know of what Gödel's loophole consisted. Gödel's discovery—like the lost proof of Fermat's last theorem—is now “lost” due to the dismissive attitudes of the protagonists in this story. Morgenstern himself dismissed Gödel's constitutional analysis and did not even bother to include it in his 1971 memorandum recounting the history of Gödel's naturalization: “I told him that it was most unlikely that such events would ever occur [i.e., a legalized dictatorship], even assuming that he was right, which of course I doubted.”<sup>47</sup>

Einstein shared Morgenstern's dismissive attitude toward Gödel's discovery. According to Morgenstern, Einstein was not only “horrified that such an idea had occurred to Gödel,” but also Einstein assured Gödel that his discovery was extremely hypothetical and “told [Gödel] he should not worry about these things nor discuss that matter” at his upcoming naturalization hearing.<sup>48</sup> Despite Gödel's logical skills and the fact that he spent “weeks” closely studying the Constitution, both Morgenstern and Einstein found Gödel's discovery of a constitutional loophole to be far-fetched and outlandish. Morgenstern and Einstein also acted with pragmatic motives: they did not want Gödel to jeopardize becoming a U.S. citizen by discussing far-fetched and outlandish theories at his citizenship hearing. As a recently-naturalized U.S. citizen himself, Einstein especially knew that Gödel's upcoming citizenship hearing would be a mere formality. At most, Gödel might be required to identify the three branches of government or to recite the Pledge of Allegiance, but under no circumstance would he be required to delve into matters of deep constitutional theory.

On the day of Gödel's citizenship hearing, Morgenstern, Einstein, and even the examining judge, Phillip Forman, did everything possible to “quieten” Gödel and prevent him from explaining his discovery.<sup>49</sup> Morgenstern's first-hand account of the hearing was as follows:

When we came to [the courthouse in] Trenton, we were ushered into a big room, and while normally the witnesses are questioned separately from the candidate, because of Einstein's appearance, an exception was made and all

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<sup>47</sup> *Id.*

<sup>48</sup> *Id.*

<sup>49</sup> *Id.* at 3.

three of us were invited to sit down together, Gödel, in the center.<sup>50</sup>

Next, after questioning Morgenstern and Einstein about Gödel's background and character, the examining judge turned to Gödel.<sup>51</sup> According to Morgenstern's first-hand account, the following exchange occurred between Kurt Gödel and Judge Forman:

*Judge Forman:* "Now, Mr. Gödel, where do you come from?"

*Gödel:* "Where I come from? Austria."

*Judge:* "What kind of government did you have in Austria?"

*Gödel:* "It was a republic, but the constitution was such that it finally was changed into a dictatorship."

*Judge:* "Oh! This is very bad. This could not happen in this country."

*Gödel:* "Oh, yes, I can prove it."

*Judge:* "Oh God, let's not go into this."<sup>52</sup>

Other biographers, such as Rebecca Goldstein<sup>53</sup> as well as John Casti and Werner DePauli,<sup>54</sup> report a slightly different version of Gödel's citizenship examination, but the substance of the exchange is the same. According to this alternative account of the hearing, the brief exchange between Gödel and the examining judge went as follows:

*Judge Forman:* "Up to now you have held German citizenship."<sup>55</sup>

*Gödel:* "Austrian citizenship."<sup>56</sup>

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<sup>50</sup> *Id.* at 2.

<sup>51</sup> *Id.*

<sup>52</sup> *Id.* at 2–3.

<sup>53</sup> GOLDSTEIN, *supra* note 6, at 233–34.

<sup>54</sup> CASTI & DEPAULI, *supra* note 1, at 89.

<sup>55</sup> *Id.* It is possible that the examining judge, who had naturalized Albert Einstein on a previous occasion, may have thought that both Gödel and Einstein were from Germany. GOLDSTEIN, *supra* note 6, at 233.

<sup>56</sup> CASTI & DEPAULI, *supra* note 1, at 89; GOLDSTEIN, *supra* note 6, at 234.

*Judge:* “Anyhow, it was under an evil dictatorship . . . but fortunately, that’s not possible in America.”<sup>57</sup>

*Gödel:* “On the contrary, I know how that can happen. And I can prove it!”<sup>58</sup>

*Judge:* “You needn’t go into all that . . .”<sup>59</sup>

Yet another, more concise, version of this exchange appears in Hao Wang’s biography of Gödel.<sup>60</sup> According to this version, the judge “greeted [Gödel, Einstein, and Morgenstern] warmly and invited all three to attend the (normally private) examination of [Gödel].”<sup>61</sup>

*Judge Forman:* “You have German citizenship up to now.”

*Gödel:* “Excuse me sir, Austrian.”

*Judge:* “Anyhow, the wicked dictator! [B]ut fortunately that is not possible in America.”

*Gödel:* “On the contrary, . . . I know how that can happen.”<sup>62</sup>

Despite the many permutations and variations in each retelling of Gödel’s citizenship hearing,<sup>63</sup> the various versions—Morgenstern’s first-hand account,<sup>64</sup> Wang’s second-hand account,<sup>65</sup> and even Shubik’s third-hand account<sup>66</sup>—all agree on the pertinent facts:

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<sup>57</sup> CASTI & DEPAULI, *supra* note 1, at 89. Goldstein’s version is slightly different: “In any case, it was under an evil dictatorship. Fortunately, that is not possible in America.” GOLDSTEIN, *supra* note 6, at 234.

<sup>58</sup> CASTI & DEPAULI, *supra* note 1, at 89. Again, Goldstein’s account is somewhat different: “On the contrary, . . . I know precisely how it can happen here . . .” GOLDSTEIN, *supra* note 6, at 234. *See also* Jim Holt, *When Einstein Walked with Gödel*, NEW YORKER, Feb. 28, 2005, at 84 (“On the contrary, I can prove it is possible!”).

<sup>59</sup> GOLDSTEIN, *supra* note 6, at 234. According to Goldstein’s version of the hearing, the judge then “steered the conversation round to less dangerous topics.” *Id.*

<sup>60</sup> WANG, *supra* note 6, at 116. *See also* Levinson, *supra* note 6, at 606 n.19.

<sup>61</sup> WANG, *supra* note 6, at 116.

<sup>62</sup> *Id.*

<sup>63</sup> These differing reports of the exchange between Kurt Gödel and the examining judge remind us of the multiple versions of a reportedly hostile exchange between the philosophers Karl Popper and Ludwig Wittgenstein. *See* DAVID EDMONDS & JOHN EIDINOW, WITTGENSTEIN’S POKER: THE STORY OF A TEN-MINUTE ARGUMENT BETWEEN TWO GREAT PHILOSOPHERS 2 (2001).

<sup>64</sup> *See* Morgenstern, *supra* note 1, at 2–3.

- first, Morgenstern and Einstein attended Gödel's citizenship hearing;
- second, the judge mistakenly thought that Gödel was German and Gödel corrected the judge that he was a citizen of Austria;
- third, the judge made a reference to the dictatorship in Germany;
- fourth, Gödel attempted to explain his discovery of a logical contradiction or loophole in the U.S. Constitution; and
- finally, the judge cut Gödel off and did not allow him to explain his discovery.

It is unnecessary to speculate which version of the hearing is closest to the truth because no version reveals the content of Gödel's discovery.<sup>67</sup> In each version, the result is the same: when Gödel attempted to disclose to Judge Forman his proof of a contradiction in the Constitution, the judge quickly dismissed Gödel's discovery and prevented him from speaking on the subject. In Morgenstern's words: "[T]he [judge] was intelligent enough to quickly quieten Gödel . . . and broke off the examination at this point, greatly to our relief."<sup>68</sup>

The exchange between Judge Forman and Gödel is in many ways a microcosm of everything that is wrong with the U.S. legal system.<sup>69</sup> First, consider the anti-intellectual behavior of Judge Forman, the federal official presiding over Gödel's citizenship interview, and his dismissive attitude toward Gödel's discovery of a logical loophole in the Constitution. Rather than continue the inquiry or allow Gödel to explain the details of his discovery, the judge used his absolute authority to arbitrarily bring the line of questioning to an abrupt end. Stated differently, Judge Forman

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<sup>65</sup> See WANG, *supra* note 6, at 115–16.

<sup>66</sup> See Shubik, *supra* note 6, at 134.

<sup>67</sup> Morgenstern's version may be the most credible because he was present at the hearing.

<sup>68</sup> Morgenstern, *supra* note 1, at 3.

<sup>69</sup> For a paper proposing an alternative legal system based on the Turing Test in computer science, see F.E. Guerra-Pujol, *The Turing Test and the Legal Process*, 21 INFO. & COMM. TECH. L. 113 (2012).

demonstrated the problem of “results-oriented” jurisprudence.<sup>70</sup> His main concern was the immediate and predetermined result of the hearing—Gödel’s fitness to be a U.S. citizen—not the search for the truth or the possibility of finding a contradiction in the Constitution.

Judge Forman was not the only one to demonstrate anti-intellectual behavior. Gödel’s own character witnesses, Einstein and Morgenstern, showed absolutely no interest in Gödel’s discovery. Why would Einstein and Morgenstern have been so dismissive about the truth or falsity of Gödel’s discovery of a constitutional contradiction?

One possibility is “risk-aversion” due to the context of Gödel’s situation. After all, Gödel was attending a citizenship hearing, which was not the proper place for a deep discussion about constitutional contradictions. Thus, both Einstein and Morgenstern may have feared that Gödel’s discovery of a fatal flaw in the Constitution would antagonize or upset the judge and jeopardize Gödel’s citizenship.<sup>71</sup> Additionally, Einstein and Morgenstern’s role at Gödel’s citizenship hearing was simply to attest to Gödel’s good character and fitness for U.S. citizenship, not to moderate an extended discussion of constitutional law. The problem with this risk-aversion explanation, however, is that Einstein and Morgenstern showed no interest in Gödel’s ideas about the Constitution either *before* or *after* the citizenship hearing.

A second possibility is the tendency of specialization in the natural and social sciences.<sup>72</sup> Einstein’s research interests embraced gravitational fields and the speed of light,<sup>73</sup> while Morgenstern was a mathematical economist.<sup>74</sup> Constitutional law contrasted greatly from Einstein’s and Morgenstern’s respective fields of physics and economics. However, this possibility cannot be right. Einstein and Morgenstern were two of the

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<sup>70</sup> A major problem with the U.S. legal system is that judges tend to be “results-oriented,” deciding certain cases based on their pre-existing political or “policy” preferences and not based on “neutral principles.” *See generally* Richard A. Posner, *Foreword: A Political Court*, 119 HARV. L. REV. 31 (2005) (reviewing the leading cases in the United States Supreme Court’s 2004 term).

<sup>71</sup> *See* GOLDSTEIN, *supra* note 6, at 232–33.

<sup>72</sup> *See* James A. Evans, *Electronic Publication and the Narrowing of Science and Scholarship*, 321 SCIENCE 395, 398 (2008) (stating that modern graduate education is becoming more specialized).

<sup>73</sup> *See* Roger Penrose, *Introduction* to ALBERT EINSTEIN, RELATIVITY: THE SPECIAL AND GENERAL THEORY, at xiv–xv (Robert W. Lawson trans., 2005).

<sup>74</sup> *See generally* JOHN VON NEUMANN & OSKAR MORGENSTERN, *THEORY OF GAMES AND ECONOMIC BEHAVIOR* (1944).

greatest intellectual polymaths of all time. Einstein was not only “the architect of grand unification in physics”;<sup>75</sup> he also cared deeply about social issues, such as world government and nuclear disarmament.<sup>76</sup> Morgenstern was the co-founder, along with the Hungarian mathematician John von Neumann, of a new branch of mathematics called “game theory.”<sup>77</sup> In sum, the tendency toward scientific specialization cannot be the reason that such brilliant men took no interest in Gödel’s discovery.

A third possibility is that Einstein and Morgenstern did not understand Gödel’s reasoning, or perhaps Gödel’s discovery was too trivial or uninteresting to merit further comment. Although these possibilities are plausible, they are the least likely to be true, for many considered Gödel the greatest logician since Aristotle.<sup>78</sup> If anyone could discover a fatal contradiction in the Constitution, it would have been Gödel, and if anyone could understand Gödel’s logic, it would have been Einstein and Morgenstern.

Perhaps, then, the real reason for Einstein’s and Morgenstern’s disinterest in Gödel’s discovery was the general divide between the natural sciences and the humanities, or in the immortal words of C.P. Snow, the divide between “the two cultures.”<sup>79</sup> Although Professor Snow’s immediate concern was the divide between science education and the liberal arts,<sup>80</sup> Snow also brought to public attention a larger issue: “[A] dangerous divide between the ethos, outlook and practices of the sciences and those of the old humanities.”<sup>81</sup> Snow compared and contrasted two great intellectual cultures: “Literary intellectuals at one pole [and] at the other [pole] scientists, and as the most representative, the physical scientists.” He diagnosed “a gulf of mutual incomprehension” and a “lack of understanding” between these two great intellectual cultures, between science and the humanities.<sup>82</sup>

But there is a problem with Snow’s hypothesis. Snow’s picture of the “two cultures” may explain the closed and anti-inquisitive attitude of Judge

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<sup>75</sup> EDWARD O. WILSON, *CONSILIENCE: THE UNITY OF KNOWLEDGE* 5 (1998).

<sup>76</sup> See WILLIAM POUNDSTONE, *PRISONER’S DILEMMA* 71, 265–66 (1992).

<sup>77</sup> See generally VON NEUMANN & MORGESTERN, *supra* note 74.

<sup>78</sup> WANG, *supra* note 12.

<sup>79</sup> C.P. SNOW, *THE TWO CULTURES* 2–4 (1998). For an overview and history of Snow’s thesis, see Lisa Jardine, *C. P. Snow’s Two Cultures Revisited*, 235 CHRIST’S C. MAG., Sept. 2010, at 49.

<sup>80</sup> SNOW, *supra* note 79, at 3–4.

<sup>81</sup> Jardine, *supra* note 79, at 49.

<sup>82</sup> SNOW, *supra* note 79, at 4.

Forman at Gödel's hearing. It may also explain the closed-minded and anti-science bias of most members of the legal profession generally. This hypothesis, however, does not explain Einstein's and Morgenstern's dismissive and closed-minded attitudes toward Gödel's discovery. After all, Gödel, Einstein, and Morgenstern were all men of mathematics and science, and all three belonged to the same scientific culture of the Institute of Advanced Studies.

Whatever the reason for Judge Forman's, Einstein's, and Morgenstern's lack of interest in Gödel's lost discovery, the questions remain the same: What was Gödel's discovery? What is this fatal flaw in our Constitution? The remainder of this Article answers these questions.

### III. ONE POSSIBLE GÖDELIAN DESIGN DEFECT IN THE CONSTITUTION

The previous part of this Article revisited the story of Gödel's lost discovery of a logical flaw in the Constitution. Although no one knows with certainty of what Gödel's loophole or "constitutional contradiction" consists, it is believed to be a problem of self-reference or self-amendment.<sup>83</sup> The criterion for distinguishing between Gödelian and non-Gödelian design defects or flaws in the Constitution is the presence of "self-reference." Under this criterion, a constitutional design defect is "Gödelian" only if the flaw is contained in a constitutional statement that is self-referential.<sup>84</sup>

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<sup>83</sup> For an overview of the problem self-reference in law, see PETER SUBER, THE PARADOX OF SELF-AMENDMENT 39–40 (1990). The academic literature on self-reference in constitutional law begins with Alf Ross, *On Self-Reference and a Puzzle in Constitutional Law*, 78 MIND 1, 7–17 (1969). For a small sample of the self-reference literature after Ross, see Virgilio Afonso da Silva, *A Fossilised Constitution?*, 17 RATIO JURIS. 454, 460–63 (2004); J. C. Hicks, *The Liar Paradox in Legal Reasoning*, 29 CAMBRIDGE L.J. 275, 280–83 (1971); J. Raz, *Professor A. Ross and Some Legal Puzzles*, 81 MIND 415, 415 (1972); Rogers & Molzon, *supra* note 22, at 994. For an excellent historical analysis of the problem of self-reference in connection with a proposed amendment during the civil-war era, see A. Christopher Bryant, *Stopping Time: The Pro-Slavery and "Irrevocable" Thirteenth Amendment*, 26 HARV. J.L. & PUB. POL'Y 501, 536–38 (2003). Most of this literature, however, is highly theoretical and does not focus on the problem of dictatorship, which was Gödel's primary concern.

<sup>84</sup> For example, consider the following self-referential statement: "This sentence is false." The statement is self-referential because it refers to itself. Likewise, a constitutional amendment that amends the amendment statement in the Constitution (i.e., an amendment that amends Article V itself) satisfies this Gödelian criterion because such a "self-amendment" is self-referential. Part III.B classifies, defines, and illustrates three specific types of self-referential self-amendments.

“Self-reference” is the dividing line because it is central to Gödel’s first incompleteness theorem and to his mathematical methods generally.<sup>85</sup> Gödel proved that there are true arithmetical propositions that are not formally or logically provable.<sup>86</sup> That is, he demonstrated the existence of statements that are “provably unprovable.”<sup>87</sup> Moreover, at a deeper or philosophical level, Gödel used a formal method (i.e., mathematical logic) to demonstrate the limits of formal methods.<sup>88</sup> The problem of self-reference is essential not only to Gödel’s famous proof of his first incompleteness theorem, but also to his approach to mathematics and knowledge generally. Thus, self-reference is the dividing line for distinguishing a possible Gödelian flaw in the Constitution from the non-Gödelian flaws. This criterion distinguishes Parts III and IV of this Article).

To illustrate the problem of self-reference generally, consider Jorge Luis Borges’s short story *The Library of Babel*.<sup>89</sup> Imagine a Borgesian library composed of all the books in the world and containing “an indefinite, perhaps infinite number of hexagonal galleries.”<sup>90</sup> Now imagine that somewhere in this infinite library there exists a master catalogue “C<sub>1</sub>” with a complete listing of all the contents of the library. This is what Borges himself invites his reader to imagine: “there must exist a book that is the . . . perfect compendium of *all other books*.”<sup>91</sup> However, as a matter of logic, such a master catalogue could not exist because a finite list could not contain a set of finite objects. Alternatively, if such a catalogue C<sub>1</sub> did exist, then there must also exist a catalogue C<sub>2</sub> of the catalogue C<sub>1</sub>, and thus a catalogue C<sub>3</sub> of the catalogue C<sub>2</sub> of the catalogue C<sub>1</sub>, and so on.<sup>92</sup>

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<sup>85</sup> See GOLDSTEIN, *supra* note 6, at 66–67, 166–68; NAGEL & NEWMAN, *supra* note 22, at 60–63; YOURGRAU, *supra* note 6, at 65–67.

<sup>86</sup> GOLDSTEIN, *supra* note 6, at 165.

<sup>87</sup> *Id.* at 168.

<sup>88</sup> See YOURGRAU, *supra* note 6, at 76 (“This was the secret of Gödel’s strategy: where possible, he would establish the limits of the formal from within the formalism itself.”).

<sup>89</sup> See BORGES, *The Library of Babel*, *supra* note 3, at 112.

<sup>90</sup> *Id.*

<sup>91</sup> *Id.* at 116.

<sup>92</sup> In addition to the problem of self-reference, this logic illustrates the related problem of infinite regress. Recall that the Library of Babel contains every book, including C<sub>1</sub>, the “total book,” containing a cipher or complete catalogue of every book in the universe. *Id.* But where is this all-important “total book” located? How does one find it? According to Borges, the solution is a paradoxical infinite regress: “On some shelf in some hexagon, it

(continued)

As will be explained, Gödel must have discovered that the same problem of self-reference is inherent to all constitutions with amending-power statements. Consider the United States Constitution. The original 1787 Constitution appears to be a finite text because it contains a finite number of constitutional statements spread across seven Articles and eighty-three sentences.<sup>93</sup> Yet, Article V consists of an amending-power statement.<sup>94</sup> As a result, because the Constitution may in theory be amended an infinite number of times, the Constitution is potentially an open-ended text similar to Borges's Library of Babel.<sup>95</sup>

Furthermore, recall that Gödel was troubled by a "loophole" or "contradiction" in the Constitution that might lead to a legalistic dictatorship. Gödel's ultimate concern with dictatorship may provide a clue to reconstructing Gödel's discovery. Under the existing Constitution, political power is divided among different branches of government,<sup>96</sup> but in a legalistic or nonmilitary dictatorship, power is concentrated in one individual or one branch of government.<sup>97</sup> What, then, prevents the creation of a legalistic or constitutional dictatorship, such as rule by decree by one of the branches of government? To be more precise, what

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was argued, there must exist a book that is the cipher and perfect compendium of *all other books.*" *Id.*

How was one to locate the idolized secret hexagon that sheltered [this total book]? Someone proposed searching by regression: To locate book A, first consult book B, which tells where book A can be found; to locate book B, first consult book C, and so on, to infinity . . . . It is in ventures such as these that I have squandered and spent my years.

*Id.* at 117.

<sup>93</sup> See *infra* Table 1.

<sup>94</sup> See U.S. CONST. art. V.

<sup>95</sup> While the number of books in Borges's Library of Babel is astronomical, it is actually finite. See Pedro V. Amaral, *Borges, Babel y las Matemáticas*, 37 REVISTA IBEROAMERICANA 421, 423 n.9 (1971); WILLIAM GOLDBLOOM BLOCH, THE UNIMAGINABLE MATHEMATICS OF BORGES' LIBRARY OF BABEL 16–19 (2008). Such a library contains "a number which, though unimaginably vast, is not infinite." BORGES, *The Library of Babel*, *supra* note 3, at 115.

<sup>96</sup> See U.S. CONST. art. I (assigning legislative powers); U.S. CONST. art. II (assigning executive powers); U.S. CONST. art. III (assigning judicial powers).

<sup>97</sup> See, e.g., Patrick J. Glen, *Towards the Criminalization of Dictatorship: A Draft Proposal for an International Convention on Dictatorship*, 14 BUFF. HUM. RTS. L. REV. 15, 27 (2008) (providing various definitions of "dictatorship").

provision in the Constitution reduces the probability that such a state of affairs will occur?

The main constitutional protection against the possibility of a legalistic dictatorship is Article V, which makes it difficult to amend or change any part of the Constitution. However, notice that Article V is procedural in nature. Article V allows the people to change or amend the Constitution through a two-stage amendment process, but Article V also makes it very difficult to propose and approve any changes to the Constitution. It requires two-thirds approval by both houses of Congress in the first stage and three-quarters approval by the States in the second stage.<sup>98</sup> Given that it is incredibly difficult to amend the Constitution, a dramatic departure from our existing system of constitutional democracy is highly unlikely. However, it is important to notice that *Article V does not prevent any change or amendment to Article V itself*.

This Gödelian observation leads to the following conclusion: If the procedural requirements of Article V may be amended, they may be amended “downward”; that is, these procedural requirements may be reduced or eliminated, making it easier to amend the Constitution in the future. This, in turn, may increase the probability of a future amendment that authorizes a constitutional dictatorship.

The possibility of self-amendment (i.e., an amendment of the amendment clause) may have been the essence of Gödel’s discovery. That is, instead of focusing on the procedural requirements of Article V, Gödel may have focused on the scope of Article V and specifically the possibility of a “downward” or “anti-entrenchment” amendment, making it easier (hence the term “anti-entrenchment”) to amend the Constitution. In summary, Article V specifies the method in which the Constitution may be amended from time to time, but aside from two narrow exceptions (i.e., federal regulation of the slave trade prior to 1808<sup>99</sup> and the rule requiring equal representation in the Senate<sup>100</sup>), the amendment clause of Article V applies to every part of the Constitution, including the amendment clause itself. Thus, one possible Gödelian contradiction in the Constitution, the one that Gödel himself may have discovered in the weeks and days leading up to his citizenship examination, is the possibility of a “downward” or

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<sup>98</sup> For a more detailed analysis of Article V, see *infra* Part III.B.

<sup>99</sup> U.S. CONST. art. V (citing art. I, § 9, cl. 1).

<sup>100</sup> *Id.* (“[N]o State, without its Consent, shall be deprived of its equal Suffrage in the Senate.”).

“anti-entrenchment” amendment. The logic of Gödel’s lost discovery is spelled out in five steps.

*A. Step 1 (Major Premise): The Original 1789 Constitution Without Amendments Contains a Finite Number of “Constitutional Statements”*

Compare an infinite set or collection of objects, such as the number of hexagons or books in the Library of Babel, with a finite set, such as the number of sentences or statements in the original Constitution. As Gödel, a mathematician with an interest in logical systems, studied the text of the original Constitution of 1787, he would have noticed that it appears to be a self-contained text consisting of seven Articles and a finite number of sentences or constitutional statements.

Before proceeding, notice the word choice “appears to be” a self-contained text. As will be discussed, the Constitution is open to amendment, and Article V may have been of particular interest to Gödel because this allows new sentences or statements to be added or taken away from the Constitution. For instance, in 1947, when Gödel was preparing for his citizenship exam, the Constitution contained twenty-one amendments.<sup>101</sup> Today, the Constitution contains a total of twenty-seven amendments.<sup>102</sup>

In addition, each constitutional statement within the original seven Articles of the Constitution contains a finite number of procedural and substantive provisions, such as the Preamble,<sup>103</sup> the Necessary and Proper Clause,<sup>104</sup> and the Supremacy Clause.<sup>105</sup> In Gödelian fashion, scholar Orlando Martínez-García counted the number of separate sentences in the Constitution and presented this distribution of sentences visually.<sup>106</sup>

By our count, there are a total of eighty-three sentences in the original Constitution of 1787 (i.e., without any amendments), and these sentences are distributed among the original seven Articles as follows:

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<sup>101</sup> See, e.g., AKHIL REED AMAR, AMERICA’S CONSTITUTION 433 (2005) (noting that the Twenty-second Amendment was ratified in 1951).

<sup>102</sup> See, e.g., *id.* at 453 (discussing the Twenty-seventh Amendment).

<sup>103</sup> U.S. CONST. pmbl.

<sup>104</sup> U.S. CONST. art. I, § 8, cl. 18.

<sup>105</sup> U.S. CONST. art. VI, cl. 2.

<sup>106</sup> See Orlando I. Martínez-García, *The Person in Law, the Number in Math: Improved Analysis of the Subject as Foundation for Nouveau Régime*, 18 AM. U. J. GENDER SOC. POL’Y & L. 503, 521 (2010).

**Table 1. Constitutional Sentences**

Constitutional article	Number of sentences
I	44
II	18
III	8
IV	8
V	1
VI	3
VII	1
<b>Total number of articles</b>	<b>Total number of sentences</b>
7	83

In addition, Martínez-García identified an aggregate of sixty-five sentences in the twenty-seven amendments to the Constitution.<sup>107</sup> There are a total of 148 sentences in today's Constitution.<sup>108</sup> These sentences in the Constitution can, in turn, be further subdivided into a finite number of constitutional statements that consist of clauses, words, and letters.<sup>109</sup>

The remainder of this Article refers to "constitutional statements" as opposed to "constitutional sentences" because there is not always a one-to-one correspondence between the two. This is because a sentence in the Constitution may contain more than one statement. For example, consider Article I, Section 8 of the Constitution,<sup>110</sup> which consists of a single sentence containing at least sixteen separate constitutional statements, with each statement separated by a semi-colon.<sup>111</sup>

In many ways, constitutional statements are rules for creating rules.<sup>112</sup> Stated differently, constitutional statements are "rules of recognition" or "secondary rules" that determine under what conditions a legislative, executive, or judicial decision is valid.<sup>113</sup> Additionally, as will be argued,

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<sup>107</sup> *Id.*

<sup>108</sup> Note that this total differs slightly from Martínez-García's conclusion that there are 144 sentences in the Constitution. *Id.*

<sup>109</sup> For a fascinating "coding approach" to the text of the Constitution as well as a visual demonstration of the coding of the constitutional statements in Article III, see *id.* at 520–23.

<sup>110</sup> U.S. CONST. art. I, § 8.

<sup>111</sup> *Id.* In fact, the number of statements in Article I, Section 8 of the Constitution might actually be larger or smaller depending on one's definition of the concept of "statement."

<sup>112</sup> See, e.g., Rogers & Molzon, *supra* note 22, at 1002.

<sup>113</sup> See H.L.A. HART, THE CONCEPT OF LAW 100–10 (2d ed. 1994) (1961). Cf. Rogers & Molzon, *supra* note 22, at 998 ("A legal rule . . . is a statement that if certain actions or circumstances are found to exist or to have existed, a certain action (or inaction) will be (continued)

the statement contained in Article V of the Constitution may have been of particular interest to Gödel.

*B. Step 2 (Minor Premise #1): The Constitution Not Only Contains a Finite Number of Constitutional Statements, but One of These Statements, Article V, Consists of an Amending Power*

Summing up Gödel's logic thus far, there are a finite number of constitutional statements in the original 1787 Constitution. The next step in Gödel's analysis would focus on Article V in particular, which permits formal amendments to the Constitution. As a whole, the Constitution can be visualized as a global but finite set of  $n$  constitutional statements and one of the constitutional statements in this finite set is an amending-power statement.<sup>114</sup>

Within the category of constitutional amending-power statements, a further distinction may be drawn between (i) purely "procedural amendment statements," which may impose low or high conditions for amending the Constitution, and (ii) more formal "entrenchment statements" or "anti-amendment statements," which try to prevent any changes or amendments to certain parts of the Constitution.<sup>115</sup> Of course, a procedural amendment statement with onerous amendment rules, such as Article V of the Constitution, may have the same effect as a formal entrenchment provision. The U.S. Constitution, for example, is difficult to amend because the procedures in Article V for amending the Constitution are so onerous.<sup>116</sup> The Constitution thus has a low amendment rate: only

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required (or permitted, or not required, or not permitted) by whatever force supports the requirement.").

<sup>114</sup> As an aside, it is worth noting that most, if not all, constitutions have an amending power statement. Indeed, every political system—regardless of whether a particular political system is constitutional—must eventually be modified over time for a wide variety of reasons. *See, e.g.*, Donald S. Lutz, *Toward a Theory of Constitutional Amendment*, 88 AM. POL. SCI. REV. 355, 357 (1994).

<sup>115</sup> Michael Freitas Mohallem, *Immutable Clauses and Judicial Review in India, Brazil, and South Africa: Expanding Constitutional Courts' Authority*, 15 INT'L J. HUM. RTS. 765 (2011) (providing recent examples of entrenched anti-amendment statements or "immutable clauses"); Ernest A. Young, *The Constitutive and Entrenchment Functions of Constitutions: A Research Agenda*, 10 U. PA. J. CONST. L. 399 (2008) (providing an overview and history of entrenchment clauses).

<sup>116</sup> *See* Young, *supra* note 115 (referring to this reality as the "entrenchment function" of Article V).

seventeen amendments in more than 200 years.<sup>117</sup> Nevertheless, the distinction between (i) a procedural amendment statement without an entrenchment clause and (ii) an amendment statement with an entrenchment clause is still useful because making change more difficult (through an onerous procedural amendment statement) is not the same as preventing change altogether (through an entrenchment statement).<sup>118</sup>

Specifically, there are three types of amending-power statements:

- Type I: An amending-power statement without an entrenchment clause, such as Article 88 of the Denmark Constitution of 1953;<sup>119</sup>
- Type II: An amending-power statement with a non-self-referential entrenchment clause, that is, an amending clause with a separate, nonreflexive entrenchment clause prohibiting the amendment of certain parts of the constitution but not prohibiting the amendment of the amending clause itself, such as Article V of the U.S. Constitution;<sup>120</sup> and

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<sup>117</sup> See Lutz, *supra* note 114, at 369 (using data from thirty-two national constitutions to confirm that the U.S. Constitution has the second-lowest amendment rate).

<sup>118</sup> An amending power statement converts a finite collection of constitutional statements into a potentially infinite or open-ended collection, just as a finite number of letters and symbols may produce an almost infinite number of sentences. In the words Borges's translator, "the Library is 'total'—perfect, complete, and whole—and . . . its bookshelves contain all possible combinations of the twenty-two orthographic symbols (a number which, though unimaginably vast, is not infinite)." BORGES, *The Library of Babel*, *supra* note 3, at 115. For alternative methods of constructing a truly infinite library from a finite number of materials, see W.V. QUINE, *QUIDDITIES: AN INTERMITTENTLY PHILOSOPHICAL DICTIONARY* 223–24 (1987) ("Universal Library"). See also Haris Epaminonda & Daniel Gustav Cramer, *Proposal for Infinite Library* (undated Working Paper), available at <http://www.harisperaminonda.com/epaminonda-cramer.pdf>.

<sup>119</sup> See generally Ross, *supra* note 83, at 3–7.

<sup>120</sup> See, e.g., LAURENCE H. TRIBE, 1 AMERICAN CONSTITUTIONAL LAW 111–14 (3d ed. 2000). Another example of Type II is Article 79, paragraph 3, of the West German Constitution of 1949, which exempts Article I of German Constitution (concerning the protection of human dignity) and Article 20 (concerning federalism, separation of powers, the rule of law, and the social welfare state) from any alteration by amendment. GRUNDEGESETZ [GG] art. 94, May 23, 1949 (F.R.G.). For a summary of the entrenchment clauses in the West German Constitution of 1949, see Inga Markovits, *Constitution Making After National Catastrophes: Germany in 1949 and 1990*, 49 WM. & MARY L. REV. 1307, (continued)

- Type III: An amending-power statement with a self-referential or self-reflexive entrenchment clause prohibiting any amendments to the amending clause itself, such as Article XIII of the revolutionary-era Articles of Confederation.<sup>121</sup>

A taxonomy of amending-power statements is presented in summary form in the following table:

**Table 2. Taxonomy of amending-power statements**

Type I	Type II	Type III
Amending-power statements with no entrenchment clause	Amending-power statement with non-self-referring entrenchment clause	Amending-power statement with self-referring entrenchment clause
Example: Article 88 of the Denmark Constitution of 1953	Example: Article V of the U.S. Constitution of 1787	Example: Article XIII of the Articles of Confederation

European constitutions provide examples of all three types of amending-power statements.<sup>122</sup> Consider first Article 88 of the Denmark Constitution of 1953.<sup>123</sup> In summary, Article 88 contains a set of rules of amendment, but it contains no entrenchment clauses or other limiting language and thus applies to every provision in Denmark's constitution. Consequently, since Article 88 is a Type I amending-power statement, “[t]here is no inviolate [i.e., entrenched] core in the Danish Constitution.”<sup>124</sup> In other words, under Article 88, every provision in Denmark's constitution can be changed or even abrogated altogether because Article 88 imposes no specific limits on what constitutional provisions may or may not be amended.

At the other extreme is Article XIII of the old Articles of Confederation, a textbook example of a Type III amending-power

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1345 n.204 (2008). The entrenchment clauses in Article 40, paragraph 2, and Article 100, paragraph 2, of the East German Constitution of 1949 provide further comparison. *See id.* at 1327.

<sup>121</sup> ARTICLES OF CONFEDERATION OF 1781, art. XIII.

<sup>122</sup> *See, e.g.*, R. Bernhardt, *The Problems of Drawing Up a Catalogue of Fundamental Rights for the European Communities*, in THE PROTECTION OF FUNDAMENTAL RIGHTS IN THE EUROPEAN COMMUNITY, BULL. EUR. COMMUNITIES, Supp. 5/76, at 18–69 (1976).

<sup>123</sup> *See* Ross, *supra* note 83, at 3–4.

<sup>124</sup> *See* Bernhardt, *supra* note 122, at 31.

statement. In brief, Article XIII not only states that the union among the States shall be perpetual, which is a form of entrenchment, but also it (awkwardly) states, “[N]or shall any alteration at any time hereafter be made in any of them [i.e., in any of the Articles of the Articles of Confederation], unless such alteration be agreed to in a congress of the United States, and be afterwards confirmed by the legislature of every state.”<sup>125</sup> In other words, Article XIII imposes a strict unanimity requirement on all constitutional changes, thus effectively preventing any constitutional change.<sup>126</sup> Between these two extremes lies Article V of the Constitution, a Type II amending-power statement.

*C. Step 3 (Minor Premise #2): Article V of the Constitution Is a Type II Amending-Power Statement*

Gödel would have noticed that Article V of the Constitution is a Type II amending-power statement because it contains two “entrenchment clauses,” but neither clause refers to Article V itself and they instead refer to other parts of the Constitution. For reference, Article V states in full:

The Congress, whenever two thirds of both Houses shall deem it necessary, shall propose Amendments to this Constitution, or, on the Application of the Legislatures of two thirds of the several States, shall call a Convention for proposing Amendments, which, in either Case, shall be valid to all Intents and Purposes, as Part of this Constitution, when ratified by the Legislatures of three fourths of the several States, or by Conventions in three fourths thereof, as the one or the other Mode of Ratification may be proposed by the Congress; Provided that no Amendment which may be made prior to the Year [1808] shall in any Manner affect the first and fourth Clauses in the Ninth Section of the first Article [regarding the migration and importation of slaves]; and that no State, without its Consent, shall be deprived of its equal Suffrage in the Senate.<sup>127</sup>

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<sup>125</sup> ARTICLES OF CONFEDERATION OF 1781, art. XIII.

<sup>126</sup> Another example of an upward or pro-entrenchment amendment is the proposed Corwin Amendment of 1861. *See generally* Bryant, *supra* note 83, at 520–34. Professor Bryant describes the Corwin Amendment as “an unprecedented attempt to use Article V to prevent future amendments under Article V.” *Id.* at 548.

<sup>127</sup> U.S. CONST. art. V.

In other words, of the constitutional statements in the Constitution, only two are “entrenched” or protected from change: (i) the infamous Slave-Trade Clause,<sup>128</sup> and (ii) the Equal Representation Rule in the Senate.<sup>129</sup> Expressed in terms of set theory, these two Article V entrenchment clauses form a small subset of constitutional statements, and only the members of this smaller subset are protected from change. That is, of all the constitutional statements contained within the Constitution, only two perform an “entrenchment” function.

Of course, this is not the only possible interpretation of Article V.<sup>130</sup> Some scholars, for example Yale Law School professors Bruce Ackerman and Akhil Amar, have argued that Article V is not the exclusive method for making changes at the constitutional level.<sup>131</sup> Other scholars, in contrast, have taken the position that the amendment procedures in Article V are exclusive.<sup>132</sup> This Article eschews the novel and nontextual theories of Ackerman and Amar and instead, like Gödel, takes the words of the Constitution at face value to assume that Article V provides the only legal or formal method of amending the Constitution.

Although Article V contains two entrenchment clauses—one specifically prohibiting legislation regarding slave trade prior to 1808 and one prohibiting non-unanimous changes to the equal representation rule in the Senate—there are no other substantive or procedural limits on what parts of the Constitution may be amended. There are thus no specified

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<sup>128</sup> U.S. CONST. art. I, § 9, cl. 1.

<sup>129</sup> *Id.* art. I, § 3, cl. 1. For a history of the drafting of Article V, including the language of the amending power statement and entrenchment clauses in Article V, see Bryant, *supra* note 83, at 505–12, and Douglas Linder, *What in the Constitution Cannot Be Amended?*, 23 ARIZ. L. REV. 717, 719–22 (1981).

<sup>130</sup> Bryant, *supra* note 83, at 541–45 (providing an overview of this academic debate).

<sup>131</sup> See 1 BRUCE ACKERMAN, *WE THE PEOPLE: FOUNDATIONS* 6–10 (1991) (describing the U.S. constitutional system as a “dualist” democracy and contrasting “normal lawmaking” from “higher lawmaking”); Akhil Reed Amar, *The Consent of the Governed: Constitutional Amendment Outside Article V*, 94 COLUM. L. REV., 457, 457 (1994) (“We the People . . . have a legal right . . . to change our Constitution—via a [non-article V] majoritarian and populist mechanism akin to a national referendum, even though that mechanism is not explicitly specified in Article V.”).

<sup>132</sup> See Bryant, *supra* note 83, at 543 (stating that Article V is “the exclusive, *legally sanctioned* means for amendment”); David R. Dow, *When Words Mean What We Believe They Say: The Case of Article V*, 76 IOWA L. REV. 1, 4 (1990) (“[T]he only way to amend the Constitution is in accordance with the mechanism outlined in article V.”).

limits on what may be amended, except for the slave trade and the equal representation rule in the Senate.<sup>133</sup> This now leads to step four.

*D. Step 4 (Conclusion): Gödel's Loophole: The Amending-power Statement in Article V of the Constitution Is Self-Referring and May Thus Be Amended Downward*

Gödel would have drawn the following inference from the previously-discussed major and minor premises: (i) if the Constitution contains a finite number of constitutional statements, (ii) including an amendment clause in Article V of the Constitution, and (iii) if the amending-power statement in the Constitution is itself not entrenched, then (iv) the amending-power statement in Article V may itself be amended at any time. That is, the procedural requirements for exercising the amendment power may themselves be amended.

In summary, given steps one through three, the Gödelian conjecture is based on a logical inference. Because only two specific constitutional statements are explicitly entrenched, it is implied that the remaining constitutional statements, including the amendment procedures set forth in Article V, are not entrenched by operation of the “law of the excluded middle.”<sup>134</sup> Expressed in terms of set theory, the constitutional statement containing the amendment procedure is not included in the subset of entrenched constitutional statements. Put another way, because the procedural requirements in the amendment clause in Article V are not entrenched, these procedural requirements may themselves be amended upward (making it more difficult to amend the Constitution) or downward (making it easier to amend the Constitution). It was this possibility of a downward change that must have worried Gödel in the days and weeks leading up to his citizenship hearing.

Now for the heart of the matter. Amending the amendment clause in Article V in an upward direction—making it even more difficult to amend the amendment clause—might pose a logical problem, but this possibility did not likely trouble Gödel because it does not pose a threat of dictatorship. Instead, it was the possibility of a downward or anti-entrenchment amendment to the Constitution. To appreciate Gödel’s

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<sup>133</sup> For a contrary but unpersuasive view of Article V, see Jason Mazzone, *Unamendments*, 90 IOWA L. REV. 1747, 1769–70 (2005).

<sup>134</sup> For an explanation of the “law of the excluded middle,” see B. Meltzer, *The Third Possibility*, 73 MIND 430, 430 (1964).

possible concern about an anti-entrenchment self-amendment, consider the following hypothetical constitutional amendment:

The Congress, whenever a simple majority of the House of Representatives shall deem it necessary, shall propose Amendments to this Constitution, and such Amendments shall be valid to all Intents and Purposes, as Part of this Constitution, when ratified by a simple majority of the Senate.

This hypothetical downward amendment is not far-fetched. Consider, for example, the recent proposals by Stephen Griffin and Timothy Lynch to make the Article V amendment process less onerous.<sup>135</sup> Both of these proposals are paradigm examples of anti-entrenchment (i.e., amending the amending process itself to make it easier to amend the Constitution); they differ only in terms of their degree of anti-entrenchment. Professor Lynch's proposal would simply make it easier to propose amendments to the Constitution by lowering the threshold needed to reach the ratification stage of the amendment process, while Professor Griffin's proposal would abolish the second stage of state ratification altogether.

In addition, compare the hypothetical amendment with the amendment clause in Article 76 of the German Constitution of 1919, the Constitution of the Weimer Republic,<sup>136</sup> with which Gödel himself may have been familiar: "The Constitution may be amended by legislation. But decisions of the Reichstag [the national parliament] as to such amendments come into effect only if two-thirds of the legal total of members be present, and if at least two-thirds of those present have given their consent."<sup>137</sup>

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<sup>135</sup> Stephen M. Griffin, *The Nominee Is . . . Article V*, 12 CONST. COMMENT. 171, 173 (1995) ("Perhaps a supermajority of Congress should be sufficient to approve any amendment."); Timothy Lynch, *Amending Article V to Make the Constitutional Amendment Process Itself Less Onerous*, 78 TENN. L. REV. 823, 830 (2011) ("[I]nstead of the two-thirds vote necessary for Congress to propose amendments or for the states to call a convention, we should lower the threshold to a simple majority.").

<sup>136</sup> See IRISH PROVISIONAL GOVERNMENT, 1 SELECT CONSTITUTIONS OF THE WORLD 192 (1922) (translating Die Verfassung Des Deutshen Reichs [Weimar Constitution] 1919, art. 76).

<sup>137</sup> *Id.* Likewise, the East German Constitution of 1949 contained a similar amendment procedure. Under Article 83 of the East German Constitution, "amendments required a two-thirds majority or at least two-thirds of the total number of deputies" of the People's Chamber. See Markovits, *supra* note 120, at 1334.

Contrary to such contemporary commentators as Timothy Lynch, Stephen Griffin, and others, who offer a number of arguments in support of anti-entrenchment, a central European like Gödel would have likely seen anti-entrenchment as a dangerous possibility—one that could lead to a legalized or constitutional dictatorship.

In this regard, the rise of Adolf Hitler and the fall of the democratic Weimar Republic may have provided an instructive lesson to Gödel. Less than two months after Hitler was appointed Chancellor of the national German government on January 30, 1933,<sup>138</sup> the national parliament, *Reichstag*, amended the constitution of the Weimar Republic by approving the Enabling Act of 1933.<sup>139</sup> The Enabling Act conferred on Hitler plenary power to rule by decree. In effect, the *Reichstag* transferred its law-making powers to Adolf Hitler and legalized Hitler's dictatorship.<sup>140</sup>

Similarly, as the hypothetical constitutional amendment demonstrated, the cumbersome amendment conditions in Article V could be removed and replaced with a system of “legislative amendments” to the Constitution. That is, instead of requiring supermajorities in both houses of Congress and in the states, one could replace the cumbersome procedures in Article V with a streamlined amendment procedure, eliminating the requirement of state ratification altogether and merely requiring a simple majority of both houses of Congress to amend the Constitution. In the alternative, one could even imagine an amendment to Article V consolidating the proposal and ratification stages of the amendment process into a single, streamlined, one-step process, requiring only a simple majority of votes in the Senate.<sup>141</sup>

In theory, the existing provisions in Article V that create a cumbersome two-step amendment process and require supermajorities during both stages of the process could be watered down, streamlined, or eliminated altogether. Accordingly, Gödel's loophole may have involved the possibility of a downward amendment to the Constitution. Because the amendment procedures in Article V are not entrenched (and even if they were entrenched, see step five), these conditions could always be amended downward to allow legislative amendments to the Constitution. Once this occurs, the President could request that Congress expand presidential

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<sup>138</sup> WILLIAM L. SHIRER, THE RISE AND FALL OF THE THIRD REICH 170–75 (1990).

<sup>139</sup> See *id.* at 198–99 (noting that the formal name of the Enabling Act of 1933 was *Gesetz zur Behebung der Not von Volk und Reich*, meaning the “Law to Remedy the Distress of People and Reich”).

<sup>140</sup> *Id.* at 196–200.

<sup>141</sup> Under either scenario, the President or his allies would only need to bribe a small number of senators and representatives to further amend the Constitution.

powers by approving an amendment that authorizes rule by decree during a four-year period. Congress could then entrench this expansion of power by approving a second amendment preventing any further amendments to the Constitution regarding executive power. Furthermore, this scenario is not as improbable as one may believe (or as Einstein, Morgenstern, and Judge Forman may themselves have believed), especially in times of national emergencies. This exact scenario occurred in Nazi Germany in 1933 when the German national parliament amended the democratic Weimer Constitution to transfer its law-making powers to Adolf Hitler, thus allowing Hitler to rule by decree.<sup>142</sup> In essence, the *Reichstag* used a downward amendment to legalize Hitler's military dictatorship.

#### *E. Step 5: Universality of Gödel's Loophole: The Problem of Anti-Entrenchment Is Unsolvable*

Gödel may have also drawn the following larger conclusion from his analysis of the U.S. Constitution: There is no solution to the problem of downward or anti-entrenchment amendments. Instead, the Gödelian problem is inherent in all constitutions or *Grundnorms* generally.<sup>143</sup>

All supreme charters and constitutions, written or unwritten, are susceptible to the problem of anti-entrenchment.<sup>144</sup> Even if a particular constitution imposed a substantive limit on the amending power, like a Type III amending-power statement that immunizes itself from future amendment, such an entrenchment clause is not self-enforcing and is not immune to self-amendment.

This is the case because the same Gödelian logic that applies to Type II amending-power statements (as set forth in steps one through four) also

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<sup>142</sup> *Id.* at 196.

<sup>143</sup> According to the legal philosopher Hans Kelsen, a *Grundnorm* is the “basic norm” or premise that forms the underlying foundation for a given legal system. See HANS KELSEN, GENERAL THEORY OF LAW AND STATE 115–22 (Anders Wedberg trans., Harvard Univ. Press 1945). For an extended discussion of the concept of a “basic norm,” see generally UTA BINDREITER, WHY *GRUNDNORM*? A TREATISE ON THE IMPLICATIONS OF KELSEN’S DOCTRINE (2002). For an application of Kelsen’s concept to the problem of self-amendment, see Ross, *supra* note 83, at 23–24, and for a critique of Ross, see Raz, *supra* note 83.

<sup>144</sup> TRIBE, *supra* note 120, at 110–14 (providing a structural critique of entrenchment clauses generally); da Silva, *supra* note 83, at 455–59 (discussing the “*double amendment thesis*”). For a non-Gödelian, or popular-sovereignty-based, critique of one proposed “unamendable amendment,” the proposed pro-slavery Corwin Amendment of 1861, see Bryant, *supra* note 83, at 534–40, and Linder, *supra* note 129, at 728–33.

applies Type III amending-power statements. The existing entrenchment clauses in Article V of the Constitution may themselves be amended or abolished altogether so long as the procedural requirements of Article V are met. Similarly, a self-referring entrenchment clause or a Type III amending-power statement may also be amended under the same Gödelian logic. Specifically, such an entrenched amending-power statement could be amended downward through a two-step process:

- (a) The first step is to amend the Type III amending-power statement to remove or neutralize the entrenchment clause.<sup>145</sup>
- (b) The second step is to add a downward amendment or an anti-entrenchment clause. Once the entrenchment clause is neutralized, one may proceed to amend the amending-power statement directly by streamlining or watering down the now non-entrenched procedural requirements in the amending-power statement.<sup>146</sup>

Thus, even the presence of a Type III amending-power statement or a self-referring entrenchment clause, one prohibiting any amendments to the amending power itself, provides no protection against a downward or anti-entrenchment amendment. In conclusion, Gödel may have feared not only that Article V of the Constitution could be amended in a downward direction, such as the hypothetical amendment, but also that all amendment power statements (Type I, Type II, and Type III) in all constitutions could be subjected to such downward amendments.

#### IV. NON-GÖDELIAN FLAWS IN THE CONSTITUTION

Having contemplated the content of Godel's logical contradiction,<sup>147</sup> the Article will now briefly survey other possible but non-Godelian design defects in the Constitution. Gödelian and non-Gödelian design defects can be distinguished by the presence or absence of self-reference and logical contradiction. Thus, a non-Gödelian design defect refers to a constitutional statement that might be flawed for reasons other than being self-referential or logically contradictory.

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<sup>145</sup> See *supra* Part III.D (regarding self-amendment).

<sup>146</sup> See TRIBE, *supra* note 120, at 111–14; *supra* Part III.D (regarding downward amendment).

<sup>147</sup> See *supra* Parts II–III.

*A. Non-Gödelian Flaw #1: Article I: Congress's Open-Ended Power to Regulate Commerce*

One potential design defect in the Constitution is the Commerce Clause.<sup>148</sup> The Commerce Clause grants Congress the power to regulate interstate commerce,<sup>149</sup> but because almost every human activity affects commerce in some way, Congress's enumerated power to regulate commerce is open-textured and potentially open-ended.<sup>150</sup> Furthermore, when this express power is combined with Congress's additional set of implied powers under the unlimited Necessary and Proper Clause,<sup>151</sup> the open-ended and unlimited scope of Congress's commerce powers becomes undeniable.

Although this particular design defect in the Constitution is a potentially serious one,<sup>152</sup> it is nevertheless a non-Gödelian problem for two reasons. First, the open-textured Commerce Clause, even when combined with the unlimited Necessary and Proper Clause, does not authorize Congress to transfer all or part of its legislative powers to the President, or otherwise establish a presidential dictatorship. This is because Article I of the Constitution specifically states that "all legislative Powers herein granted shall be vested in a Congress of the United States."<sup>153</sup> Thus, although Congress has open-ended and potentially unlimited power to regulate commerce, Congress may never divest itself of its legislative powers through ordinary legislation.<sup>154</sup>

Secondly, and more to the point, the Commerce Clause conundrum is non-Gödelian because Congress's power to regulate commerce is not self-referential or paradoxical, like an infinite library. That is, it is not really a logical flaw in the Constitution's design. Even if Congress were to exercise its pre-existing set of express and implied commerce powers to

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<sup>148</sup> U.S. CONST. art. I, § 8, cl. 3.

<sup>149</sup> *Id.* See generally AMAR, *supra* note 101, at 107–08; Randy E. Barnett, *The Original Meaning of the Commerce Clause*, 68 U. CHI. L. REV. 101 (2001).

<sup>150</sup> See *United States v. Lopez*, 514 U.S. 549, 558–59 (1995).

<sup>151</sup> U.S. CONST. art. I, § 8, cl. 18.

<sup>152</sup> See, e.g., ROBERT A. LEVY, CATO INST., THE CASE AGAINST PRESIDENT OBAMA'S HEALTH CARE REFORM: A PRIMER FOR NONLAWYERS 5–11 (2011), <http://www.cato.org/pubs/wtpapers/ObamaHealthCareReform-Levy.pdf>.

<sup>153</sup> U.S. CONST. art. I, § 1.

<sup>154</sup> But see War Powers Resolution, 50 U.S.C. §§ 1541–1548 (2006), in which Congress arguably transfers a portion of its war powers to the President. For a thoughtful analysis of this transfer of power, see Stephen L. Carter, *The Constitutionality of the War Powers Resolution*, 70 VA. L. REV. 101, 133 (1984).

divest itself of its commerce power or to otherwise legalize a presidential dictatorship, all would agree that such an open-ended exercise of legislative power would be inconsistent with the text, history, and structure of the Constitution. Simply put, such a perversion of the Constitution, though theoretically possible,<sup>155</sup> would be too explicit or too obvious for someone like Kurt Gödel.

*B. Non-Gödelian Flaw #2: Article II: The President's Open-Ended Commander in Chief Power*

Another possible design defect in the Constitution is the Article II provision granting the President's military powers,<sup>156</sup> which confers the "power of the sword" on one person, the President. In sum, the Founding Fathers not only created a unitary executive,<sup>157</sup> they also authorized Congress to create a powerful standing army under the President's direct command.<sup>158</sup> Specifically, Article II states, "The President shall be Commander in Chief of the Army and Navy of the United States, and of the Militia of the several States, when called into the actual Service of the United States."<sup>159</sup> Thus, not only are the citizens, weapons, and other military equipment of the U.S. Armed Forces under the direct command of the President, all local and state police forces and national guard units are also potentially under the President's chain of command.

As the Commerce Clause confers too much power on Congress, the creation of a unitary executive, combined with the concentration of military power and the existence of a standing army, likewise gives the President too much power. After all, what is to prevent the President from declaring martial law, formally adjourning the Congress, or arresting senators, representatives, or Supreme Court justices and sending political and judicial opponents to the notorious U.S. military prison in Guantanamo Bay, Cuba? Simply put, what is to prevent the President from using military powers to shut down the other branches of the federal government and enforcing dictatorial decrees?

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<sup>155</sup> See, e.g., *Wickard v. Filburn*, 317 U.S. 111 (1942) (declaring constitutional Congress's power to regulate the home consumption of wheat).

<sup>156</sup> U.S. CONST. art. II, § 2, cl. 1.

<sup>157</sup> See, e.g., Ryan J. Barilleaux & Christopher S. Kelley, *Introduction: What is the Unitary Executive?*, in *THE UNITARY EXECUTIVE AND THE MODERN PRESIDENCY* 1–4 (Ryan J. Barilleaux & Christopher S. Kelley eds., 2010).

<sup>158</sup> For a history of the "standing-army controversy" during the founding era, see JOHN PHILLIP REID, *IN DEFIANCE OF THE LAW* (1981). See also AMAR, *supra* note 101, at 45–48.

<sup>159</sup> U.S. CONST. art. II, § 2, cl. 1.

Nevertheless, although this particular flaw or design defect poses a serious problem to constitutional order, like the Commerce Clause problem previously described,<sup>160</sup> it is a non-Gödelian problem for two reasons. First, the danger of an outright military dictatorship is more apparent than real. Although the President wields the power of the sword, Congress still commands the power of the purse. Specifically, Article I of the Constitution gives Congress the power to “raise and support Armies,”<sup>161</sup> and also states that “no Appropriation of Money to that Use shall be for a longer Term than two Years.”<sup>162</sup> In other words, Congress is not required to pay the President’s military bills, including the salaries of the soldiers under the President’s command. Congress thus wields the ultimate power to cut off military funding and disband the President’s standing army at any time. Furthermore, Congress has the exclusive power to “declare War”<sup>163</sup> as well as the exclusive power “to provide for calling forth the Militia to execute the Laws of the Union, suppress Insurrections and repel Invasions.”<sup>164</sup>

In addition, the “commander-in-chief problem” is non-Gödelian because it is too obvious, like the Commerce Clause problem. That is, the possibility of presidential misuse of military power is not a logical flaw per se; it is not an inherent or hidden contradiction in the Constitution. Even if the President were to exercise his commander-in-chief power to round up his enemies and establish a military dictatorship, all would once again agree that such a perversion of presidential power would be inconsistent with the text, history, and structure of the Constitution. Although such a scenario is possible and maybe even probable, especially in times of national emergencies,<sup>165</sup> such an open and obvious abuse of power would have been too explicit or too obvious for a deep thinker like Gödel.

### *C. Non-Gödelian Flaw #3: Article III: The Supreme Court’s Open-Ended Power of Judicial Review*

Yet another potential flaw in the Constitution is the Supreme Court’s inherent power of judicial review. Judicial review involves the power to enforce the provisions of the Constitution against any laws and executive actions that the Court views as inconsistent with the spirit or letter of the

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<sup>160</sup> See *supra* Part IV.A.

<sup>161</sup> U.S. CONST. art. I, § 8, cl. 12.

<sup>162</sup> *Id.*

<sup>163</sup> *Id.* art. I, § 8, cl. 11.

<sup>164</sup> *Id.* art. I, § 8, cl. 15.

<sup>165</sup> See, e.g., *Korematsu v. United States*, 323 U.S. 214 (1944).

Constitution.<sup>166</sup> Although this judicial power is an inherent power—*inherent* because, unlike Congress's commerce power or the President's commander-in-chief power, the power of judicial review is to be found nowhere in the text of the Constitution—the practice of judicial review is now so firmly established in the U.S. constitutional landscape that it is unquestioned.

For reasons that are beyond the scope of this Article, many scholars and lawyers dogmatically believe that judicial review is far from being a design defect, and instead, is an essential feature of our constitutional system of checks and balances.<sup>167</sup> Despite this, the Supreme Court's power of judicial review could still easily lead to a dictatorship. The problem is not so much judicial review as it is judicial supremacy—the unfounded and self-serving assertion that the Supreme Court has the last word in matters of constitutional interpretation. If this were true (and it is not true), a five-person majority of the Justices serving on the Supreme Court could easily abuse the inherent power of judicial review by simply re-interpreting the Constitution to expand the power of the President, giving the President unlimited powers to rule by decree.<sup>168</sup>

Nevertheless, although the problem created by the judicial supremacy view of judicial review, is indeed a serious one,<sup>169</sup> it is a non-Gödelian, non-logical problem for a few reasons.

First, the judicial supremacy view of judicial review is wrong. By its very terms, the Constitution creates three co-equal and coordinate branches of government. Even if one concedes that the Supreme Court does have the last word in constitutional cases, two events or conditions would have to occur before the justices could re-interpret the Constitution and abuse their judicial review power. First, a legal case or controversy involving executive power would have to reach the Court's docket, and second, a

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<sup>166</sup> The power of judicial review appears nowhere in the text of the Constitution but rather was established by judicial decision in the leading case of *Marbury v. Madison*, 5 U.S. (1 Cranch) 137 (1803). Although this case is considered well-settled today, it was extremely controversial when it was first decided. *See generally* William W. Van Alstyne, *A Critical Guide to Marbury v. Madison*, 1969 DUKE L.J. 1 (1969).

<sup>167</sup> *But see* MARK TUSHNET, *TAKING THE CONSTITUTION AWAY FROM THE COURTS* 6–32 (1999).

<sup>168</sup> For instance, imagine if a cases like *Youngstown Sheet & Tube Co. v. Sawyer (Steel Seizure)*, 343 U.S. 579 (1952), or *United States v. Nixon (Watergate)*, 418 U.S. 683 (1974), had been decided differently.

<sup>169</sup> *See, e.g.*, *Scott v. Sanford*, 60 U.S. (19 How.) 393 (1857). *See also* TUSHNET, *supra* note 167, at 7.

coalition of five pro-executive justices would have to agree to rule in the President's favor.

Admittedly, given the ubiquity of public-interest litigation,<sup>170</sup> the first condition would not be difficult to meet, but the second condition might prove impossible. The President could try to stack the Supreme Court favorably by bribing Justices or by appointing a sufficient number of political cronies to the existing Supreme Court. The President could also expand the number of Supreme Court Justices and then pack the newly-expanded court with hand-picked appointees. However, because Congress has the power of the purse, all of these alternatives would require the acquiescence and consent of Congress.

In any case, the problem of judicial review is non-Gödelian because it is not an inherent or hidden loophole in the Constitution.<sup>171</sup> Simply put, the problem of an activist, pro-executive Supreme Court is not a logical flaw but rather a practical flaw. Even if the Supreme Court were to abuse its judicial power by re-interpreting the fundamental provisions of the Constitution or by rubber-stamping the executive actions of the President, most would agree that such actions constitute judicial perversions of the Constitution, meaning the Supreme Court itself acted unconstitutionally. Although the idea of a Supreme Court violating the Constitution may appear paradoxical to some, especially since the role of the Supreme Court is to uphold the Constitution, there is nothing paradoxical about a branch of government abusing or exceeding its constitutional powers. As a matter of logic, judicial violations of the Constitution are no more paradoxical than legislative or even executive violations.

#### *D. Non-Gödelian Flaw #4: Article IV: Congress's Open-Ended Power to Admit New States*

In addition to the three major design defects, one scholar, Mark Dominus, has suggested a fourth possible flaw in the Constitution: Congress's power under Article IV to admit new states into the federal union.<sup>172</sup> According to Dominus, "A congressional majority could agree to admit 150 trivial new states, and then propose arbitrary constitutional

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<sup>170</sup> See, e.g., Abram Chayes, *The Role of the Judge in Public Law Litigation*, 89 HARV. L. REV. 1281 (1976).

<sup>171</sup> In fact, as previously noted, the power of judicial review does not even appear in the Constitution.

<sup>172</sup> See Mark Dominus, *The Loophole in the U.S. Constitution*, UNIVERSE OF DISCOURSE (Sept. 9, 2007), <http://blog.plover.com/law/Godel-dictatorship.html>.

amendments, to be ratified by the trivial legislatures of the new states.”<sup>173</sup> In other words, because Congress has the constitutional authority to admit new states, and because all amendments to the Constitution must be approved by three-fourths of the states,<sup>174</sup> Congress could in theory use its power to admit new states to establish a constitutional amendment creating a presidential dictatorship. Under this scenario, Congress could extort (in quid pro quo form) the newly admitted states into approving a new dictatorial constitution or a pro-dictatorial amendment to the existing Constitution in exchange for statehood.

Of the various non-Gödelian design defects reviewed thus far, this one comes the closest to capturing what Gödel may have had in mind when he discovered a flaw in the Constitution on the eve of his citizenship examination. The admission of new states could, in theory, lead to a legalized dictatorship by gaming the Article V amendment process. Nevertheless, this potential flaw is non-Gödelian because it is too complex and improbable to carry out from a practical perspective.

To begin, although Dominus’s hypothetical Article IV scenario is not far-fetched, as this is precisely how the landmark Fourteenth Amendment was approved,<sup>175</sup> such a scenario would require three separate rounds of voting as well as an enormous amount of advance planning and coordination among a large group of conspirators. If the goal is to replace the existing Constitution with a legalized or constitutional dictatorship by admitting enough new states to approve an amendment to the existing Constitution, then the Article IV scenario is a highly improbable method of achieving this goal for a few reasons.

First, in the initial round of voting, Congress would have to muster enough votes to admit a sufficient number of new states to dilute the voting power of the existing states. Then, in the second round of voting, Congress would once again have to muster enough votes to propose a new amendment to the Constitution. Finally, in a third round of voting, the requisite number of legislatures of the newly minted states would have to ratify the proposed amendment.<sup>176</sup>

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<sup>173</sup> *Id.*

<sup>174</sup> See U.S. CONST. art. V.

<sup>175</sup> See, e.g., JOSEPH B. JAMES, THE RATIFICATION OF THE FOURTEENTH AMENDMENT 1–10 (1984); Amar, *supra* note 131, at 457.

<sup>176</sup> Even if the President were able to garner the requisite number of votes in the Congress to carry out this complex and nefarious plan, where would these new states come from?

Furthermore, aside from its low probability of success, the Article IV scenario is non-Gödelian because, once again, this particular flaw does not really pose a logical contradiction in the Constitution. The Article IV scenario is simply an example of gaming the system by admitting as many new states as necessary to ratify new amendments to the Constitution. Such a conspiracy among so many new States and members of Congress might indeed be able to produce a legalistic or constitutional dictatorship, but again, most would agree that such a scenario is a perversion of the Constitution.

## V. CONCLUSION

This Article not only retold the story of Kurt Gödel's discovery of a logical contradiction in the Constitution, but also made a conjecture about what this constitutional loophole may have consisted. Unlike the design defects described in the previous section of the Article, which pose open and obvious dangers that appear on the surface of the Constitution, Gödel's constitutional contradiction is a deep logical flaw, one hidden far below the surface of the Constitution. In summary, Gödel's loophole is that the amendment procedures set forth in Article V apply to the constitutional statements in Article V themselves. In addition, not only may Article V itself be amended, but also it may be amended in an upward or downward direction. Lastly, the Gödelian problem of self-amendment or anti-entrenchment is unsolvable. This is a Gödelian or logical contradiction in the design of the Constitution for two reasons. First, the system of checks and balances (e.g., federalism, separation of powers, and judicial review) may be amended away (e.g., by proposing and ratifying a constitutional amendment abolishing the states, the Supreme Court, or Congress). Second, the amending power itself may also be amended in a downward direction through a constitutional amendment elevating ordinary legislation to the status of constitutional law or authorizing the President to rule by decree.

In conclusion, a logical flaw is not to be found in Articles I, II, III, or IV of the Constitution, but rather in Article V. Gödel's loophole is the problem of self-amendment—a true logical contradiction in the design and drafting of the Constitution.

## APPENDIX A

**TRIPPLICATE**  
(To be given to  
declarant)

No. 1442

**UNITED STATES OF AMERICA**

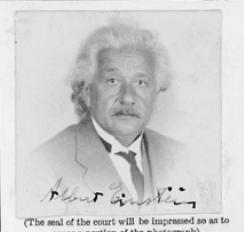
**DECLARATION OF INTENTION**  
(Invalid for all purposes seven years after the date hereof)

United States of America	In the _____ District _____ Court
District of New Jersey	of The United States at Trenton, N. J.

Dr. Albert Einstein  
now residing at 112 Mercer Street, Princeton, N. J., do hereby declare that I have not used, nor shall I use, any other name, without abbreviation, alias, or name, if any.  
occupation Professional, aged 56 years, do declare on oath that my personal description is: Sex Male, color White, complexion Fair, color of eyes Brown.  
color of hair Gray, height 5 feet 7 inches; weight 175 pounds; visible distinctive marks none.  
race Hebrew; nationality German, born March 14, 1879.  
I was born in Ulm, Germany, on March 14, 1879.  
I am married. The name of my wife is Elsa.  
we were married on April 6th, 1917, at Berlin, Germany; she or he was born at Heschingay, Germany, on January 18, 1877, entered the United States at New York, N.Y., on June 5th, 1935, for permanent residence therein, and now resides at Wash. D.C. I have 2 children, and the name, date and place of birth, and place of residence of each of said children are as follows: Albert born 5-14-1905, and Edward born 6-28-1910 both born and reside in Switzerland.

I have not heretofore made a declaration of intention: Number \_\_\_\_\_, on \_\_\_\_\_, at \_\_\_\_\_, (Date)  
my last foreign residence was Bermuda, Great Britain.  
I emigrated to the United States of America from Bermuda, Great Britain.  
my lawful entry for permanent residence in the United States was at New York, N.Y., on June 5th, 1935.  
under the name of Albert Einstein, on June 5th, 1935.  
on the vessel SS Queen of Bermuda.

I will, before being admitted to citizenship, renounce forever all allegiance and fidelity to any foreign prince, potentate, state, or sovereignty, and particularly, by name, to the prince, potentate, state, or sovereignty of which I may be at the time of admission a citizen or subject; I am not an anarchist; I am not a polygamist nor a believer in the practice of polygamy; and it is my intention in good faith to become a citizen of the United States of America and to reside permanently therein; and I certify that the photograph affixed to the duplicate and triplicate hereof is a likeness of me: So help me God.

  
(The seal of the court will be impressed so as to cover a portion of the photograph)

Albert Einstein  
(Original signature of declarant without abbreviation, alias, or name, if any)

Subscribed and sworn to before me in the office of the Clerk of said Court, at Trenton, N. J., this 16th day of January, anno Domini 1936. Certification No. 120742 from the Commissioner of Immigration and Naturalization showing the lawful entry of the declarant for permanent residence on the date stated above, has been received by me. The photograph affixed to the duplicate and triplicate hereof is a likeness of the declarant.

George T. Crammer  
Clerk of the U. S. District Court  
By Dehaven, Deputy Clerk.

Form 2202-1-A  
U. S. DEPARTMENT OF LABOR  
IMMIGRATION AND NATURALIZATION SERVICE

14-2023  
U. S. GOVERNMENT PRINTING OFFICE: 1935

No. 5773