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Era of Confusion: The State of Patent Eligibility Jurisprudence and the Need for Intervention

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COMMENT

ERA OF CONFUSION: THE STATE OF PATENT ELIGIBILITY JURISPRUDENCE AND THE NEED FOR INTERVENTION

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I. INTRODUCTION

Innovation built the United States of America.[1] The forefront of the economy is based around innovation,[2] which makes protecting those innovations a significant priority. The utilization of patents has enabled inventors and companies to protect their innovative ideas in the form of a

1. *See* Ufuk Akcigit et al., *When America Was Most Innovative, and Why*, HARV. BUS. REV. (Mar. 6, 2017), https://hbr.org/2017/03/when-america-was-most-innovative-and-why [https://perma.cc/CMT9-8WND] (discussing America's golden age of innovation which occurred between the "late 19th and early 20th centuries").

2. *Id.*; *Executive Summary*, U.S. CHAMBER OF COM. FOUND., https://www.uschamberfoundation.org/enterprisingstates/assets/files/Executive-Summary-OL.pdf [https://perma.cc/CWY3-ZD8K] ("Economists have calculated that approximately 50% of U.S. annual GDP growth is attributed to increases in innovation.").

small monopoly over their inventions.[3] Before United States Patent and Trademark Office (USPTO) can issue a patent, it must meet the eligible subject matter requirements.[4]

For centuries, the Supreme Court has analyzed Section 101 of Title 35 of the United States Code,[5] which contains the eligible subject matter categories for patents.[6] However, in the last decade, the Supreme Court's opinions have caused patent eligibility jurisprudence to go awry.[7] Recently, Senator Thom Tillis proposed the Patent Eligibility Restoration Act of 2022, which aimed at reforming patent eligibility law and continuing conversations towards improving this area of the law.[8] Through reigniting the passion for reform, the innovation industry has voiced its split on whether the current jurisprudence needs change.[9]

This Comment seeks to explain the convoluted area of patent subject matter eligibility and how recent proposed legislation has sparked an interest in bringing forth reformation to the current law. Part II of this Comment lays out the historical development of patent law in the United States. Specifically, it discusses how precedent regarding Section 101 has developed throughout the court system, highlighting the most recent Supreme Court cases, which have muddled the interpretation of subject matter eligibility. Part III dissects the proposed legislation from Senator Tillis and discusses how this bill fares with current jurisprudence. Additionally, it analyzes the similarities and differences between the proposed and existing laws. Lastly, it addresses professionals' views regarding the current jurisprudence and how reformation could affect their

3. MICHAEL SCHUSTER, PATENT LAW AND MANAGING INVESTMENTS IN TECHNOLOGY 4 (2019).

4. 35 U.S.C. § 101.

5. *Id.*

6. *See* Le Roy v. Tatham, 55 U.S. 156, 176 (1852) (holding for the first time a principle is not eligible for a patent).

7. KATHERINE K. VIDAL, U.S. PAT. TRADEMARK OFF., PATENT ELIGIBLE SUBJECT MATTER: PUBLIC VIEWS ON THE CURRENT JURISPRUDENCE IN THE UNITED STATES i–ii (2022).

8. Press Release, Thom Tillis, Senator, Tillis Introduces Landmark Legislation to Restore American Innovation (Aug. 3, 2022), https://www.tillis.senate.gov/2022/8/tillis-introduces-landmark-legislation-to-restore-american-innovation#:~:text=%E2%80%93%20U.S.%20Senator%20Thom%20Tillis%20(R,already%20exists%20in%20nature%2C%20and [https://perma.cc/8T5H-EKHG].

9. VIDAL, *supra* note 7, at 16.

industry. Part IV concludes the Comment, providing an overview of the current state of patent eligibility and a hopeful look toward change.

II. HISTORICAL BACKGROUND AND POLICY CONCERNS LEADING TO THE ERA OF CONFUSION

With the adoption of the United States Constitution, Congress was empowered to "promote the Progress of Science and useful Arts, by securing for limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries."[10] This clause, known as the "intellectual property clause,"[11] has stimulated the economic market and promoted creativity for more than 200 years.[12]

A. *The English Influence on American Patent Law and Specifically 35 U.S.C. § 101*

The British Parliament in England passed the Statute of Monopolies in 1624[13] in response to abuses by the Crown.[14] Specifically, the Crown had been granting monopolies to those in the court's favor.[15] Drawing influence from the English Statute of Monopolies,[16] the "intellectual property" clause of the United States Constitution,[17] and the combined knowledge and experience of Thomas Jefferson,[18] Congress passed the Patent Act of 1790.[19] The legislature passed this act in response to the constitutional decree and included provisions limiting patentable subject

10. U.S. CONST. art. I, § 8, cl. 8.

11. Symposium, *Copyright and Trademark Litigation: A View from the Bench*, 2020 INTELL. PROP. INST. 319, 328 (2020) (discussing the origins of the intellectual property clause).

12. *The Origins of Patent and Copyright Law*, CONST. RTS. FOUND., https://www.crf-usa.org/bill-of-rights-in-action/bria-23-4-a-the-origins-of-patent-and-copyright-law [https://perma.cc/C3N7-FGL2] (explaining the effect intellectual property laws have had on the economy since their incorporation in the Constitution).

13. H. Jared Doster, *The English Origins of the Judicial Exceptions to 35 U.S.C. § 101*, 11 LANDSLIDE 23, 23 (2019).

14. Graham v. John Deere Co. of Kan. City, 383 U.S. 1, 5 (1966).

15. *Id.*

16. 1 MOY'S WALKER ON PATENTS § 1:6 (4th ed. 2020).

17. U.S. CONST. art. I, § 8, cl. 8.

18. Edward C. Walterscheid, *The Use and Abuse of History: The Supreme Court's Interpretation of Thomas Jefferson's Influence on the Patent Law*, 39 IDEA J.L. & TECH. 195, 200–01 (1998).

19. *See In re* Comiskey, 554 F.3d 967, 977 (Fed. Cir. 2009) (discussing the first patent act); *In re* Bilski, 545 F.3d 943, 967 (Fed. Cir. 2008) (Dyk, J., concurring) (discussing the Senate committee report that became the Patent Act of 1790).

matter.[20] This act revolutionized patent law.[21] For the first time, a patent: (1) was seen as an inventor's right, (2) allowed for a standardized examination system, and (3) decreased secrecy over inventions.[22] Shortly thereafter, Congress enacted the Patent Act of 1793, laying the foundation for the current version of 35 U.S.C. § 101.[23] The Patent Act of 1793 generated a solution to the issues of backlogged patent applications and arbitrary, inconsistent decisions regarding patents.[24] The Acts of 1790 and 1793 incorporated the English system's patent law and practices.[25] Scholars and critics note the similarities between the English system and the American patent laws in place.[26] Similar to the English practice, the United States "recognized a limit on patentable subject matter."[27] These categories include: "(1) 'manufacture,' (2) 'machine,' (3) 'composition of matter,' (4) 'any new and useful improvement,' and (5) 'art.'"[28] Most of these categories were drawn from the English Statute of Monopolies and common law interpretation.[29] Through the recodification of the Patent Act in 1952, the only category to change since its establishment in 1793 was "art," which was modified to the term "process."[30] Despite the

20. *Id.* (quoting Graham v. John Deere Co. of Kan. City, 383 U.S. 1, 6 (1966)).

21. Jessie Kratz, *Inventing in Congress: Patent Law Since 1790*, U.S. NAT'L ARCHIVES (Mar. 11, 2015), https://prologue.blogs.archives.gov/2015/03/11/inventing-in-congress-patent-law-since-1790/ [https://perma.cc/TDH6-M7J4].

22. *See id.* (noting for the first time in history, a patent was "not a privilege bestowed from a monarch," "launched an unprecedented examination system," and "diminish[ed] the need for inventors to work secretly to protect their discoveries").

23. *In re Bilski*, 545 F.3d at 967.

24. Kratz, *supra* note 21.

25. *In re Bilski*, 545 F.3d at 967 (noting the criteria of the 1793 and 1790 Acts were "largely based on and incorporated features of the English system").

26. *See id.* ("During a debate in the House over the creation of a Patent Office, for example, the Representative who introduced the bill noted that its principles were 'an imitation of the Patent System of Great Britain.'"); Pennock v. Dialogue, 27 U.S. 1, 18 (1829) (discussing how the English law has influenced the construction, practice, and principles of American patent law); Graham v. John Deere Co. of Kan. City, 383 U.S. 1, 5 (1966) (discussing how the English promotion of advances in the "useful arts," influenced the constitutional provision that granted Congress federal patent power); Doster, *supra* note 13, at 24 ("[T]oday's jurisprudence on § 101 begins with the old English courts' statutory interpretation of the word 'manufactures' in the Statute of Monopolies. In fact, this is the starting point for all Anglo-American and Commonwealth jurisprudence on the issue of patent-eligible subject matter . . . .").

27. *In re Bilski*, 545 F.3d at 968.

28. *Id.*

29. *Id.* at 968–69.

30. Diamond v. Diehr, 450 U.S. 175, 182 (1981).

change in terminology, the "eligibility of a claim of patent protection"[31] for art did not change.[32] These two terms embody "a mode of treatment of certain materials to produce a given result."[33] This modification transpired to avoid the over usage of "art" throughout the Constitution and statutes, when in this context, art meant "process or method."[34] Today, Section 101 of Title 35 of the United States Code lays the foundation for patentable inventions.[35] This section provides: "Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent . . . ."[36]

B. *Policy Behind Patent Law and Specifically, 35 U.S.C. § 101*

One view on why Congress established the patent system is the incentive to cultivate economic growth.[37] Although the Framers of the Constitution may not have envisioned the drastic evolution of the law surrounding intellectual property, they believed in the benefit of original thought and wanted to incentivize inventors and artists to profit from the burgeoning system.[38] Patent law allows innovators to create inventions and "limited monopol[ies]" for "limited term[s] in exchange for full disclosure of the invention to the public."[39] This exchange is grounded in three basic public policies: (1) the encouragement of innovation, (2) full disclosure and public access after the patents' expirations, and (3) protection of the public's rights in the public domain.[40]

First, encouraging individuals to create new ideas and reap financial benefits from patented products is consistent with public policy surrounding the incentive to invent.[41] At the inception of the American

31. *Id.* at 184.
32. *Id.* at 182–83 (quoting Cochrane v. Deener, 94 U.S. 780, 788 (1876)).
33. *Id.* at 183–84 (quoting *Cochrane*, 94 U.S. at 788).
34. *See* S. REP. NO. 82-1979, at 2398–99 (1952) (using "art" instead of "process" provided consistency in its interpretation throughout the Constitution, various statutes, and the Patent Act of 1793).
35. 35 U.S.C. § 101.
36. *Id.*
37. SCHUSTER, *supra* note 3, at 4.
38. CONST. RTS. FOUND., *supra* note 12.
39. SCHUSTER, *supra* note 3, at 4.
40. *Id.*
41. *Id.*

patent system, Thomas Jefferson understood patent security functioned as a "reward, [or] an inducement, to bring forth new knowledge."[42] The guarantee of patent protection for some innovators encourages others to create new products in the hopes of receiving similar protections for their own products.[43] Advancements in knowledge, technology, and product development allow for economic expansion.[44] In the absence of governmental influence on the innovation sphere, economists hypothesize that "public invention would decline considerably," directly opposing the strong policy reasons in place for patent law.[45]

Second, innovators require incentives if the public hopes to receive the benefits of their inventions.[46] The primary policy reason underlying the American patent system may be summarized as follows: "[T]he things which are worth to the public the embarrassment of an exclusive patent, . . . must outweigh the restrictive effect of the limited patent monopoly."[47] Concerning the "bargained-for-exchange" requirement seen in patent law, an inventor is able to exclude others from replicating their unique invention for a period of time.[48] However, the knowledge of the invention itself does enter the public arena.[49] Full disclosure curbs the temptation for keeping secret "the best method of practicing" the patented invention for the inventor's private use.[50] Essentially, this means that during "the 20-year limited monopoly,"[51] the inventor is rewarded with financial gains for sharing their invention with the public and also encouraging others to continue sharing their unique work.[52]

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42. Graham v. John Deere Co. of Kansas City, 383 U.S. 1, 9 (1966) (internal quotations marks omitted).

43. SCHUSTER, *supra* note 3, at 5.

44. *See* William W. Eaton, *The Patent System and Economic Growth*, 46 J. PAT. OFF. SOC'Y 833, 833 (1964) (explaining the effect advancements in technology and product development have had on the economy).

45. SCHUSTER, *supra* note 3, at 5.

46. *Id.* at 5–6.

47. Graham, 383 U.S. at 10–11 (quoting Thomas Jefferson).

48. SCHUSTER, *supra* note 3, at 5.

49. *Id.*

50. *Id.* at 6.

51. *Id.* at 5.

52. *See* F.T.C. v. Endo Pharms. Inc., No. 1:21-cv-217-RCL, 2022 WL 951640, at 4 (D. D.C. Mar. 30, 2022) (discussing how the core of patent law is to monopolize the market for the patent holder's financial benefit and "encourage inventors to continue inventing"); *see also* E. Bement &

Lastly, there is an incentive to keep ideas "in the grasps of the public."[53] Patent policy encourages the protection of the public's access to technology that was "already disclosed within the public domain."[54] Congress will not authorize the issuance of a patent that removes knowledge from the public.[55] At the core of patent policy, "[i]nnovation, advancement, and things which *add to the sum of useful knowledge*" are fundamentals to upholding the patent system.[56] With these policy considerations in mind, the United States Patent and Trademark Office is authorized to deny the issuance of a patent for inventions that have already been in the public eye for over a year or were secretly sold before the actual filing occurs.[57] The reason for the one-year limit, in the eyes of the public, is due to the invention already being available for sale on the market.[58] "[P]atent law strikes a balance between encouraging innovation, and encouraging competition and imitation."[59] Once in the public domain, people are freely able to copy the invention as they please. Subsequently, taking patents out of the public domain after a certain time could cause disruptions in the market.[60]

Grounded in strong public policy rationales, technological advancements are reaching levels now beyond the common understanding of Thomas Jefferson and other Framers.[61] In the year 1790, only three

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Sons v. Nat'l Harrow Co., 186 U.S. 70, 91 (1902) (discussing the right to a patent is the "absolute freedom in the use or sale" of the invention and "[t]he very object of these laws is monopoly").

53. SCHUSTER, *supra* note 3, at 6.

54. *Id.*

55. Graham v. John Deere Co. of Kansas City, 383 U.S. 1, 6 (1966).

56. *Id.* (emphasis added).

57. SCHUSTER, *supra* note 3, at 6; *see also* Helsinn Healthcare S.A. v. Teva Pharms. USA, Inc., 139 S. Ct. 628, 630 (2019) ("[A] commercial sale to a third party who is required to keep the invention onfidential may place the invention 'on sale' under the AIA."); Ronald Mann, *Opinion Analysis: Justices Affirm Ruling that Secret Sales of Invention Bar Later Patent*, SCOTUSBLOG (Jan. 22, 2019), https://www.scotusblog.com/2019/01/opinion-analysis-justices-affirm-ruling-that-secret-sales-of-invention-bar-later-patent/ [https://perma.cc/K8KX-8WXQ] (explaining the unanimous *Teva* decision and how the on sale bar applies to inventions that were not in the public eye, but were for sale).

58. 1 PATENT LAW, LEGAL AND ECONOMIC PRINCIPLES § 2:12 (2d ed. 2015).

59. *Id.*

60. *See id.* (discussing policy concerns of an unprotected article and the potential for copying once in the public domain).

61. *See* Paul Gerhardt, *Patent Policy and Invention*, 34 J. PAT. OFF. SOC'Y 877, 878 (1952) ("Today our stage of technical development has reached an extremely high level, whereas in 1789 anything even approaching modern technology was unthought-of.").

patents based on utility were issued in the United States,[62] which compared to a staggering 388,900 in 2020, emphasizing the innovative growth since the birth of the country.[63] Patents are exclusive, as not all innovations are deserving of protection.[64] In the patent sphere, originality and ingenuity are held in high regard—the patent process is not a gradual one.[65] Essentially, "the patentee *must* have made an *invention*."[66]

C. *History of Supreme Court's Interpretations Regarding 35 U.S.C. § 101*

Although the statute regarding patent eligibility, 35 U.S.C. § 101, has remained constant throughout the past few centuries,[67] the Supreme Court may create restrictions on eligible inventions.[68] This is due, in part, to the broad powers of Congress to create laws under Article I of the Constitution,[69] and the Supreme Court's authority to interpret these laws.[70]

1. Historical Cases that Set the Precedent for Patent Subject Matter Eligibility and Its Limitations

In 1852, one of the first Supreme Court cases was decided regarding patentable subject matter. In *Le Roy v. Tatham*,[71] the Supreme Court, as a matter of first impression, established that a principle is not considered patentable subject matter, but "the processes used to extract, modify, and concentrate natural agencies, constitute the invention."[72] The issue in the case centered around an abstract, fundamental truth that would exist as a

62. *U.S. Patent Activity Calendar Years 1790 to the Present*, USPTO (2020), https://www.uspto.gov/web/offices/ac/ido/oeip/taf/h_counts.htm [https://perma.cc/8Q88-RB73].

63. *Id.*

64. Gerhardt, *supra* note 61, at 878.

65. *Id.* at 878–79.

66. *Id.* at 880 (emphasis added).

67. *In re* Bilski, 545 F.3d 943, 966 (Fed. Cir. 2008) (Dyk, J., concurring).

68. *See* John W. Cox & Joseph L. Vandegrift, *A Brief History of Supreme Court Interest in Patent-Eligible Subject Matter Under 35 U.S.C. § 101*, 19 J. TECH. L. & POL'Y 181, 183 (2014) (recognizing the Supreme Court has established limited exceptions to patent eligible subject matter, such as laws of nature, physical or natural phenomena, and abstract ideas).

69. U.S. CONST. art. I, § 8, cl. 8.; Diamond v. Chakrabarty, 447 U.S. 303, 307 (1980).

70. *See* Cox & Vandegrift, *supra* note 68, at 183 (discussing how the Supreme Court has been restricting Section 101 through caselaw).

71. Le Roy v. Tatham, 55 U.S. 156 (1852).

72. *Id.* at 175.

power in nature, such as electricity.[73] The Court also emphasized that if an invention is dated and well known it cannot be considered patentable.[74] Only an invention that is considered substantially new has a claim to be patentable.[75]

Next, in *Tilghman v. Proctor*,[76] the Supreme Court addressed an issue that the lower courts were struggling to determine: "whether any method or process claims were patent eligible."[77] The Court held patentable subject material extends to processes.[78] Justice Bradley confidently asserted: "[t]he patent law is not confined to new machines and new compositions of matter, but extends to any new and useful art or manufacture. A manufacturing process is clearly an art, within the meaning of the law."[79] The Court considered the difference between a mere principle and a process.[80] A process is one in which a natural principle is applied and results in something of use.[81] In this case, Tilghman only claimed an invention of a "particular mode of bringing about the desired" result, but he did not assert a claim to every process that produces the desired result or the underlying chemical fact.[82]

2. Supreme Court Interpretations Post-Patent Act of 1952 and How the Term 'Process' Affected the Court

From the decision in *Tilghman* until the Patent Act of 1952, the Supreme Court went through a decades-long period categorized as "The Dark Ages."[83] Draped in formalism, the Court chose to pigeonhole categorization of patentable subject matter, rather than focusing on the

73. *Id.*

74. *Id.* at 177.

75. *Id.*

76. Tilghman v. Proctor, 102 U.S. 707 (1880).

77. Cox & Vandegrift, *supra* note 68, at 185.

78. *Tilghman*, 102 U.S. at 722.

79. *Id.*

80. *Compare Tilghman*, 102 U.S. at 729 (discussing why Tilghman's claim for a patent was not for the natural "chemical union between the fatty elements and water," but rather the process of subjecting the mixture to high heat to convert itself into steam), *with* O'Reilly v. Morse, 56 U.S. 62, 117 (1853) (holding the discovery of a mere principle, such as an electromagnetic current, is not patentable subject matter, unless impressed upon means of a new process).

81. *Tilghman*, 102 U.S. at 724.

82. *Id.* at 729.

83. A. Samuel Oddi, *Regeneration in American Patent Law: Statutory Subject Matter*, 46 IDEA—INTELL. PROP. L. REV. 491, 534 (2006).

underlying policy centered around advancement.[84] After the passage of the Patent Act of 1952, the courts tried to steer away from the formalistic approach to patent law and refocus toward the primary goal of the patent system—the promotion of the useful arts.[85] This change was necessary as "[t]he age of computers was beginning."[86]

In *In re Tarczy-Hornoch*,[87] the United States Court of Customs and Patent Appeals[88] shifted from previous Supreme Court precedent because it was "at odds with, the basic purposes of the patent system" and produced "a range of undesirable results from the harshly inequitable to the silly."[89] The decision highlighted the contradictory nature of narrowing the subject matter of a process to use with only one machine.[90] If a process is limited to one apparatus and others are invented at a later time, inequities effectively result for the initial inventor.[91]

After the Patent Act of 1952 was passed, the Supreme Court did not address patent eligibility issues for two decades.[92] However, in the *Gottschalk v. Benson*[93] opinion, the Supreme Court ironically expressed concern for the state of Section 101, while continuing to muddle the application of the statute with respect to processes.[94] In this case, the Court upheld the previous notion that "an idea of itself is not

84. *See id.* at 535 (emphasizing the rigid categorization of the formalistic point of view and how inventions had to meet a certain category for it to prevail, rather than if it advanced the useful arts).

85. *Id.* at 540–41.

86. *Id.* at 541.

87. *In re* Tarczy-Hornoch, 397 F.2d 856 (C.C.P.A. 1968).

88. The United State Court of Customs and Patent Appeals is now known as the United States Court of Appeals for the Federal Circuit. Under Article III of the U.S. Constitution and through the passage of the Federal Courts Improvement Act of 1982, the Federal Circuit was "formed by the merger of the U[nited] S[tates] Court of Customs and Patent Appeals and the appellate division of the U[nited] S[tates] Court of Claims." The Federal Circuit was established on October 1, 1982. *About the Court*, U.S. COURT OF APPEALS FOR THE FED. CIR., https://cafc.uscourts.gov/home/the-court/about-the-court/ [https://perma.cc/KJV3-7APM].

89. *In re Tarczy-Hornoch*, 397 F.2d at 867.

90. *Id.*

91. *Id.* at 868.

92. Cox & Vandegrift, *supra* note 68, at 189.

93. Gottschalk v. Benson, 409 U.S. 63 (1972).

94. *See id.* at 72–73 (noting concern for the growth of copyright protection for programs and how Congress's broad powers are needed to investigate this issue before the field of technology continues to grow); *see also* Cox & Vandegrift, *supra* note 68, at 189–90 (analyzing the confusion *Benson* brought and the Supreme Court's concern for the state of the patent eligibility statute).

patentable"[95] because a mathematical equation is considered a natural scientific truth, not a process.[96] In this case, Benson could not patent the discovery of a "formula for converting BCD numerals to pure binary numerals" because it consisted of a mathematical equation.[97] The Court was concerned patenting this computer program would wholly pre-empt the algorithm itself, because the program was "so abstract and sweeping as to cover both known and unknown uses of the" equation.[98] However, the Court declined to extend this reasoning to all computer programs, though acknowledging novel advancements in technology might require further consideration.[99]

In *Parker v. Flook*,[100] the Supreme Court reaffirmed its prior ruling in *Benson*,[101] holding the application for calculating alarm limits ineligible for patent protection.[102] The Court, however, concluded with a discussion of the current technological field and the limitations imposed by precedent, describing these decisions as a result of the "youth of the industry."[103] Considering limitations imposed by precedent in a modern world, the Court declined to extend its reach and placed the burden on Congress to make legislative changes in patent law.[104]

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95. *Gottschalk*, 409 U.S. at 67 (internal citations omitted) (quoting Rubber-Tip Pencil Co. v. Howard, 87 U.S. 498, 507 (1874)).

96. *Id.* at 67.

97. *See id.* at 71 (holding the mathematical formula in the application had no practical effect besides its connection with a digital computer); *see also* Parker v. Flook, 437 U.S. 584, 588–89 (1978) (explaining why the *Benson* holding concerning binary numeral methods effectively foreclosed a literal reading of "process" in Section 101).

98. *Gottschalk*, 409 U.S. at 68, 72.

99. The Court eloquently stated as follows:

> It may be that the patent laws should be extended to cover these programs, a policy matter to which we are not competent to speak. The President's Commission on the Patent System rejected the proposal that these programs be patentable: 'Uncertainty now exists as to whether the statute permits a valid patent to be granted on programs . . . creation of programs has undergone substantial and satisfactory growth in the absence of patent protection and that copyright protection for programs is presently available.

Id. at 71–72.

100. Parker v. Flook, 437 U.S. 584 (1978).

101. *Id.* at 585, 588–89 (citing *Gottschalk*, 409 U.S. at 93).

102. *Flook*, 437 U.S. at 594–95.

103. *Id.* at 595.

104. *See id.* at 595–96 (noting why the Court should proceed with caution in the field of patent law and not extend into areas solely within congressional authority).

Having established the limitations on natural and mathematical phenomena in the *Benson* and *Flook* decisions, the Supreme Court then addressed patentable subject matter for manufactures and processes in the *Diamond v. Chakrabarty*[105] and *Diamond v. Diehr*[106] cases.[107] In *Chakrabarty*, the Supreme Court considered whether a man-made micro-organism fits the definition of "manufacture" or "composition of matter" for subject matter eligibility purposes.[108] Answering in the affirmative, the Court explained why a non-naturally occurring manufacture, "having a distinctive name, character and use,"[109] is the type of ingenuity Congress intended under Section 101.[110] Similarly, in *Diehr*, the Court revisited the issue of whether mathematical formulas on programmed computers were patentable subject matter.[111] However, in contrast to previous decisions, the application in *Diehr* involved the process of curing synthetic rubber by employing a well-known mathematical formula.[112] Considered in isolation, the formula would normally be ineligible for protection, but this process incorporated the equation in its entirety to perform a function.[113] Thus, it would not be barred from patent eligibility,[114] effectively adding further

105. Diamond v. Chakrabarty, 447 U.S. 303, 307 (1980).

106. Diamond v. Diehr, 450 U.S. 175, 177 (1981).

107. *Compare Chakrabarty*, 447 U.S. at 309 (holding the man-made microorganism is a patentable invention under Section 101) *and* Diehr, 450 U.S. at 188 (finding a mathematical formula applied to a structure or process that transforms it into a different state is eligible under the patent eligibility statute), *with* Benson, 409 U.S. at 71–72 (1972) (finding a general purpose digital computer with the sole purpose of algorithm application not patentable under Section 101) *and Flook*, 437 U.S. at 595–96 (finding an application which only explains how the mathematical formula computes an updated alarm limit and does not explain any other variables is not eligible subject matter under § 101).

108. *Chakrabarty*, 447 U.S. at 307.

109. *Id.* at 309–10.

110. This is a drastic change from the previous Supreme Court opinions discussing the boundaries of the judicial branch. In *Chakrabarty*, the Court dares Congress to amend Section 101, but in *Flook*, Justice Stevens is hesitant to extend past precedent for fear of infringing upon legislative authority. *See Chakrabarty*, 447 U.S. at 315–16 (citing Great A. & P. Tea Co. v. Supermarket Corp., 340 U.S. 147, 154 (1950) (Douglas, J., concurring)) (arguing "Congress employed broad general language in drafting § 101 precisely because such inventions are often unforeseeable" and those that are unforeseeable benefit society the most).

111. *Diehr*, 450 U.S. at 177.

112. *Id.* at 187.

113. *Id.* at 192.

114. *Id.* at 188.

expansion on what can qualify under Section 101 of Title 35 of the United States Code.

3. Era of Confusion: How Recent Supreme Court Decisions Have Restricted 35 U.S.C. Section 101

Since the creation of the Federal Circuit in 1982, the Supreme Court declined cases regarding subject matter eligibility until 2001.[115] This period of absence from the patent field was followed by another period of hiatus until the *Bilski v. Kappos* case in 2010.[116] *Bilski* was the first of four consecutive cases before the Court seeking clarification of patent eligibility.[117]

In *Bilski*, the Supreme Court addressed the issue of whether a claimed invention for hedging risk in the business world could be patentable subject matter, or if it claimed fundamental economic practices.[118] Under the Federal Circuit's formulation, they established a test, called the machine-or-transformation test, which determined whether an application could be claimed as a patentable process.[119] The test considers: (1) whether the process is "tied to a particular machine or apparatus," or (2) whether the process transformed something into a different state.[120] The Supreme Court declined to use the machine-or-transformation test as the sole test for deciding whether an invention is a "process."[121] Despite its usefulness as an investigative tool, the Court found the test too restrictive.[122] In an age of information and technology, this test would create uncertainty and limit innovation in software, programming, or other new technologies.[123] The Supreme Court also declined to limit

115. The Supreme Court allowed the Federal Circuit to consider all areas of patent law with minimal interference until 2001. John W. Cox & Joseph L. Vandegrift, *A Brief History of Supreme Court Interest in Patent-Eligible Subject Matter Under 35 U.S.C. § 101*, 19 J. TECH. L. & POL'Y 181, 197 (2014); *see* J.E.M. AG Supply, Inc. v. Pioneer Hi-Bred Int'l, Inc., 534 U.S. 124, 145–46 (2001) (affirming previous cases which addressed patent eligibility of human-created living organisms).

116. Bilski v. Kappos, 561 U.S. 593 (2010).

117. Cox & Vandegrift, *supra* note 115, at 199.

118. *Bilski*, 561 U.S. at 597–99, 602.

119. *Id.* at 602.

120. *Id.* (citing *In re* Bilski, 545 F.3d 943, 954 (Fed. Cir. 2008)).

121. *Bilski*, 561 U.S. at 603.

122. *Id.* at 605.

123. *Id.* at 605–06.

"processes" from potentially excluding business methods.[124] However, even though the Court did not exclude business methods from patent eligibility, it found that the invention at hand claimed an abstract idea, meaning it was reduced to a mathematical formula and not eligible for a patent, similar to the claimed inventions in *Benson* and *Flook*.[125] Although this case still found the invention to be ineligible for a patent, it set the tone for a broader interpretation of patent eligibility and set a threshold for Section 101.[126] The next line of cases from this era of Supreme Court jurisprudence directly affected patent eligibility and continues to muddle this area of the law.[127]

The first in this line of cases is *Mayo Collaborative Services v. Prometheus Laboratories*.[128] In *Mayo*, the Supreme Court addressed an issue with a patent claim for a process to determine proper dosage levels for thiopurine drugs for patients with autoimmune disorders.[129] The Court explained this patent contained a three-step process: (1) the "administering" step, (2) the "wherein" clauses, and (3) the "determining" step.[130] Within the first step, the patent referred to a relevant audience, consisting of doctors with patients already using this specific drug.[131] The second step pointed the doctors in the direction of the relevant natural law of toxicity limits, which is not patentable.[132] In the last step, the doctors used the natural law to both determine the level of metabolites in the bloodstream of the patient and adjust levels accordingly.[133] However, this was already routine practice

124. *See id.* at 606–07 (emphasizing the Court is unaware of any definition where the common meaning of the term "method" would exclude business methods).

125. In *Bilski*, Justice Kennedy compared the claimed application of hedging risk to the claimed inventions in *Benson* and *Flook* because, similar to those cases, it claimed an abstract idea. *See* Bilski, 561 U.S. at 611–12 ("Hedging is a fundamental economic practice long prevalent in [the] system of commerce and taught in any introductory finance class.").

126. *Bilski*, 561 U.S. at 601–02.

127. *See* Cox & Vandegrift, *supra* note 115, at 203 (discussing how *Bilski* did not limit patent eligibility, but the Court's following cases greatly restrict interpretations to § 101); VIDAL, *supra* note 7 at i-ii (noting the concerns Senators Tillis, Coons, Hirono, and Cotton have toward recent Supreme Court interpretations over subject matter eligibility for patents).

128. Mayo Collaborative Servs. v. Prometheus Lab'ys, Inc., 566 U.S. 66 (2012).

129. *Id.* at 72.

130. *Id.* at 78–79.

131. *Id.* at 78.

132. *Id.*

133. *Id.* at 79.

for the scientists in this field.[134] Essentially, the "instructions add nothing specific to the laws of nature other than what is well-understood, routine, conventional activity, previously engaged in by those in the field," [135] which does not transform it into a patentable application.[136] The Court noted: "those steps, when viewed as a whole, add nothing significant beyond the sum of their parts taken separately."[137] This conclusion was also driven by the concern of highly general language in various process applications.[138] For instance, the "determining" step used language that would cover all future "processes that measure metabolite levels in new ways."[139] Essentially, it would tie up the future use of this natural law and provide a monopoly for the patentee, which the public could not benefit.[140]

After *Mayo*, scholars were worried about the implications for patent eligibility, especially in the medical field.[141] In the Court's view, however, the relationship between the concentration of thiopurine metabolites in the blood and the effect of the drug within the body was a natural process which had already been discovered.[142] This led medical experts to be concerned with the future of DNA sequencing and genetic material.[143] The next case in line, *Association for Molecular Pathology v. Myriad Genetics, Inc.*,[144] addressed this concern.

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134. *Id.*

135. *Id.* at 82.

136. *Id.* at 79.

137. *Id.* at 79–80.

138. *Id.* at 86.

139. *Id.* at 87.

140. *Id.* at 85.

141. Sanjesh P. Sharma, *Patent-Eligible Subject Matter in Light of Mayo v. Prometheus*, 24 INTEL. PROP. & TECH. L.J. 9, 9, 13 (2012); *see* Bryan Wisecup, *Mayo v. Prometheus: Reorganizing the Toolbox for Patent Eligible Subject Matter and Uses of Natural Law*, 81 U. CIN. L. REV. 1651, 1653 (2013) (explaining the efforts of the Supreme Court to resolve patent eligibility issues fell short, causing medical professionals to seek alternatives for their inventions); *see also* Bernard Chao, *Moderating Mayo*, 107 NW. U. L. REV. COLLOQUY 82, 82–83 (2012) (highlighting how critics are concerned with the Court's lack of explanation on how to apply the *Mayo* framework); Jessica Belle, *Prometheus v. Mayo: Limited Implications for § 101 Jurisprudence*, 8 WASH. J. L. TECH. & ARTS 555, 569–70 (2013) (stressing how *Mayo's* decision affected the patentability of claims for "personalize[d] medical treatment through comparison of a patient's symptoms or naturally occurring DNA sequences").

142. Sharma, *supra* note 141, at 11–12.

143. *Id.* at 13.

144. Ass'n for Molecular Pathology v. Myriad Genetics, Inc., 569 U.S. 576 (2013).

In *Myriad*, the Court addressed two issues concerning DNA patentability. First, whether an isolated segment of DNA could be eligible for a patent due to its "isolation from the rest of the human genome."[145] Second, whether a complementary DNA (cDNA)—a synthetically created DNA that contained portions of the same protein-coding information found in natural DNA segments but omitted parts that did not code for proteins—could be eligible subject matter for a patent.[146] Essentially, the Court focused on whether these claims produce "any new and useful . . . composition of matter," as required by Section 101, or attempt to patent something naturally occurring.[147] Myriad, the defendant, argued neither of these versions naturally occurred by themselves but were products of human ingenuity.[148] At some level, every invention contains or applies natural law, and the Court highlights that "too broad an interpretation of this exclusionary principle could eviscerate patent law."[149] This balance is what patent law tries to maintain.[150] As to the first issue, Justice Thomas—writing for a unanimous Court—concluded that isolating a genetic sequence alone does not transform the DNA into anything unnatural.[151] Myriad discovered the precise location of the genetic sequences for the applicable gene and isolated it from the rest of the genome.[152] Conversely, the Court concluded the second issue qualified as patentable subject matter because cDNA is not a natural product but a newly altered synthetic strand of DNA.[153]

The Supreme Court's latest opinion issued for patentable subject matter was *Alice Corp. Pty. v. CLS Bank Int'l*.[154] Justice Thomas—for another

145. *Id.* at 580.

146. *Id.*

147. *Id.* at 590 (alteration in original).

148. *See* 1 WILLIAM C. HOLMES, INTELLECTUAL PROPERTY AND ANTITRUST LAW § 1:10 (2022) (noting a case where the Supreme Court found humanly-made bacterium patent eligible because it was "a product of human ingenuity").

149. *Myriad*, 569 U.S. at 590 (quoting Mayo Collaborative Servs. v. Prometheus Laby's, Inc., 566 U.S. 66, 71 (2012)).

150. *See id.* at 590 (quoting *Mayo*, 566 U.S. at 71 ("[P]atent protection strikes a delicate balance between creating 'incentives that lead to creation' . . . and 'impeding the flow of information that might permit . . . invention.'")).

151. *Id.* at 596.

152. *See id.* (explaining Myriad's claims did not consist of chemically changing the DNA sequence but isolating a particular section from the rest of the genome).

153. *Id.* at 595.

154. Alice Corp. Pty. v. CLS Bank Int'l, 573 U.S. 208 (2014).

unanimous court—began the opinion by stressing the important balance between patentable inventions and the exception of abstract, natural law.[155] He stated:

> Accordingly, in applying the § 101 exception, we must distinguish between patents that claim the "buildin[g] block[s]" of human ingenuity and those that integrate the building blocks into something more, thereby "transform[ing]" them into a patent-eligible invention. The former would "risk disproportionately tying up the use of the underlying" ideas, and are therefore ineligible for patent protection. The latter pose no comparable risk of pre-emption, and therefore remain eligible for the monopoly granted under our patent laws.[156]

Justice Thomas also laid the framework for applying this balancing test.[157] The two steps outlined in *Mayo* are: (1) determining if the claim at issue is directed to a patent-ineligible concept,[158] such as "laws of nature, natural phenomena, and abstract ideas;"[159] and (2) if there is an ineligible concept, the court should "consider the elements of the claim both individually and as 'an ordered combination' to determine whether the additional elements 'transform the nature of the claim' into a patent-eligible application."[160] At the fundamental level, this test looks for an inventive concept, which ensures the natural concept is not patented but something more than the concept itself.[161] The Court concluded that petitioner Alice claimed an abstract idea concerning mitigating settlement risk using a third party under the first step.[162] Like the *Bilski* decision, intermediate settlement is a long-established economic practice and cannot be patented.[163] Applying the second step, the Court explained that the inventive concept is more than stating and applying the abstract idea; it

155. *Id.* at 216–17.

156. *Id.* at 217 (alteration in original) (citing Mayo Collaborative Servs. v. Prometheus Lab'ys, Inc., 566 U.S. 66, 73, 79, 89 (2012)).

157. *Id.* at 217–18.

158. *Id.* at 217.

159. *Id.*

160. *Id.* (quoting *Mayo*, 566 U.S. at 79).

161. *Id.* at 217–18.

162. *Id.* at 219.

163. *Id.* at 219–20 (citing Bilski v. Kappos, 561 U.S. 593, 612 (2010)).

implements a concept transformation.[164] The Court concluded the petitioner's application did not claim more than the "abstract idea of intermediated settlement on a generic computer."[165] Thus, the Court concluded this was not enough of a transformation to be considered patent eligible.[166]

Since the *Alice* decision, the Supreme Court has declined to hear other cases concerning patent eligibility.[167] The lower court's application of the *Mayo/Alice* two-part test has led to confusion and inconsistency about which patents deserve protection.[168] Scholars have turned to Congress and the USPTO in hopes of resolving the Supreme Court's confusing precedent.[169]

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164. *Id.* at 221.

165. *Id.* at 225.

166. *Id.* at 226.

167. Blake Brittain, *U.S. Supreme Court Rejects American Axle Case on Patent Eligibility*, REUTERS (June 30, 2022, 6:45 PM), [hereinafter Brittain, *Axle Case*] https://www.reuters.com/legal/litigation/us-supreme-court-rejects-american-axle-case-patent-eligibility-2022-06-30/ [https://perma.cc/9NVT-LZAS]; Scott Graham, *Ignoring Solicitor General, Supreme Court Declines Patent Eligibility Case*, NAT'L L.J. (June 30, 2022, 12:35 PM), https://www.law.com/nationallawjournal/2022/06/30/ignoring-solicitor-general-supreme-court-declines-patent-eligibility-case/?slreturn=20221026164637 [https://perma.cc/672P-EDZK]; Scott Graham, *Like Clockwork, U.S. Supreme Court is Pondering Another Patent Eligibility Case*, NAT'L L.J. (Oct. 3, 2022 3:49 PM), https://www.law.com/nationallawjournal/2022/10/03/like-clockwork-us-supreme-court-is-pondering-another-patent-eligibility-case/[perma.cc/FNM7-QH95]; *see* Natalya Dvorson & Mark C. Davis, *Through the Looking Glass: Exploring the Wonderland of Patent Subject Matter Eligibility After* Alice Corp. v. CLS Bank International, 7 LANDSLIDE 8, 10 (2014) (posing the unanswered questions *Alice* has left practitioners).

168. *See* Aatrix Software, Inc. v. Green Shades Software, Inc., 882 F.3d 1121, 1129–30 (Fed. Cir. 2018) (noting the district court did not provide reasoning or evidence behind their decision); *see also* Alian Godoy, *Proposed Patent Eligibility Restoration Act Reinvigorates Debate Over Biotechnology Patents*, HARV. J.L. & TECH.: JOLT DIGEST (Nov. 11, 2022), https://jolt.law.harvard.edu/digest/proposed-patent-eligibility-restoration-act-reinvigorates-debate-over-biotechnology-patents [https://perma.cc/4AKM-KLE4] ("Kimberly A. Moore, chief judge of the U.S. Court of Appeals for the Federal Circuit, expressed that Federal Circuit judges faced confusion in applying the current patent eligibility provision."); Brittain, *Axle Case*, *supra* note 167 ("The Federal Circuit then decided, thanks to a 6-6 deadlock, not to rehear the case with all of its judges.").

169. *See* Dvorson & Davis, *supra* note 167, at 10 ("It will now be up to the Federal Circuit, the USPTO, and patent practitioners to further explore" subject matter eligibility in light of the *Alice* decision); *see also* Hung H. Bui, *A Common Sense Approach to Implement the Supreme Court's* Alice *Two-Step Framework to Provide "Certainty" and "Predictability*," 100 J. PAT. & TRADEMARK OFF. SOC'Y 165, 175–76 (2018) (noting it might take years for Congress to address subject matter eligibility proposals).

III. ANALYSIS OF SENATOR THOM TILLIS'S PROPOSED LEGISLATION AS COMPARED TO CURRENT PATENT ELIGIBILITY JURISPRUDENCE

A. *USPTO Involvement and Current Views on Patent Eligibility Jurisprudence*

Over the past century and a half, the Supreme Court has interpreted patentable subject matter categories.[170] However, recently, there has been controversy over the state of patent eligibility and the applicable laws.[171] In June 2022, the United States Patent and Trademark Office released a report to Congress regarding the public views of patent eligible subject matter in the United States.[172] This study was conducted at the request of Senators Thom Tillis, Chris Coons, Mazie Hirono, and Tom Cotton, who sent a letter to the USPTO voicing their concerns over the state of patent eligibility after the recent Supreme Court cases of *Mayo* and *Alice*.[173] The Senators requested this study to aid them in future legislative action regarding patent eligibility jurisprudence.[174]

B. *Split Views on Patent Eligibility Jurisprudence and Potential Reformation*

While conducting this report, the USPTO collected 141 public comments consisting of opinions from "legal associations, industry organizations, advocacy groups, nonprofit entities, businesses, law firms, practitioners, academics, and inventors."[175] This study allowed members of the public to voice their opinions regarding the state of the law, shedding light on areas of weakness and irregularity.[176] Although some commenters believed the changes to the law provided certainty and improvement,[177] other commenters found the changes to bring uncertainty

170. *See* Alice Corp. Pty. v. CLS Bank Int'l, 573 U.S. 208, 216 (2014) (first citing Bilski v. Kappos, 561 U.S. 593, 601–02 (2010); then citing O'Reilly v. Morse, 56 U.S. 62, 112–20 (1854); and then citing Le Roy v. Tatham, 55 U.S. 156, 174–75 (1853) (highlighting the ongoing interpretation of Section 101 from the mid-nineteenth century to current day)); HOLMES, *supra* note 148 (listing Supreme Court cases where the statutory categories of patentable subject matter were defined by the Court).

171. VIDAL, *supra* note 7, at i–ii.

172. *Id.* at ii.

173. *Id.* at i.

174. *Id.* at ii.

175. *Id.* at 3.

176. *Id.* at 16.

177. *See* E-mail from Robert E. Rutkowski, to Drew Hirshfeld, Dir., USPTO, (Nov. 4, 2021), https://www.regulations.gov/comment/PTO-P-2021-0032-0149

and disincentivize innovation.[178] Specifically, this split can be seen amongst the software and technology industry versus startups and life sciences,[179] as well as large companies versus advocacy groups.[180] At the core of the responses was the need for predictability when filing a patent.[181]

C. *Senator Thom Tillis's Proposed Patent Restoration Act of 2022*

1. The Proposed Bill

After the USPTO released their report regarding the public views of patent eligibility jurisprudence, "widespread bipartisan agreement in Congress and across all recent Administrations" desired modifications "to restore the United States to a position of global strength and leadership in key areas of technology and innovation . . . ."[182] Less than a week after the USPTO provided their report, the Supreme Court declined to hear the

[https://perma.cc/ZB6K-U6EU] ("For people who actually work with and on software, the *Alice* precedent has produced more certainty than ever before."); Timothy O'Leary, Comment Letter on Patent Eligibility Jurisprudence Study (Aug. 26, 2021), https://www.regulations.gov/comment/PTO-P-2021-0032-0038 [https://perma.cc/H8PB-ZLSV] ("The patent law as written and upheld by the Supreme Court is clear, and allows only for patenting of true inventions."); American Civil Liberties Union, Comment Letter to Patent Eligibility Jurisprudence Study (Sept. 6, 2021), https://www.regulations.gov/comment/PTO-P-2021-0032-0052 [https://perma.cc/GP5W-W2V3] ("This comment provides facts challenging the unsupported premise that current patent subject matter eligibility laws are inconsistent and unclear.").

178. *See* Daniel Thomson, Comment Letter to Patent Eligibility Jurisprudence Study (July 12, 2021), https://www.regulations.gov/comment/PTO-P-2021-0032-0022 [https://perma.cc/PV2T-X3PS] ("Congress needs to address this issue as quickly as possible to prevent the further disincentive for American companies to innovate."); STT WebOS, Inc. and TS Patents LLC, Comment Letter to Patent Eligibility Jurisprudence Study (July 11, 2021), https://www.regulations.gov/comment/PTO-P-2021-0032-0021 [https://perma.cc/KW6U-4JTJ] ("The current state of patent eligibility jurisprudence does not work well, as a result many good patents could be killed."); Rutmian IP, Comment Letter to Patent Eligibility Jurisprudence Study (July 9, 2021), https://www.regulations.gov/comment/PTO-P-2021-0032-0019 [https://perma.cc/C3P5-52QY] ("This inconsistent, confused state of affairs is a barrier to progress . . . .").

179. Riddhi Setty, *Clarity on Patent Eligibility Sought from Courts, Congress, PTO*, BLOOMBERG L. (July 5, 2022, 3:40 AM), https://news.bloomberglaw.com/ip-law/clarity-on-patent-eligibility-sought-from-courts-congress-pto [https://perma.cc/FH45-FEGC].

180. VIDAL, *supra* note 7, at 31.

181. *Id.* at 16, 41; *see* Setty, *supra* note 179 (discussing a clear indicator that further action is needed to clarify the issue because a lack of clarity will diminish innovation).

182. Tillis, *supra* note 8.

case *American Axle & Manufacturing, Inc. v. Neapco Holdings LLC*[183] from the Federal Circuit.[184] U.S. Solicitor General Elizabeth Prelogar, from the Biden Administration, urged the Supreme Court to take this case, as it would have been a seminal case for clarifying patent eligibility issues.[185]

American Axle sued defendants for infringing on their patent for "manufacturing driveline propeller shafts . . . with liners that are designed to" reduce vibrations through the shaft assembly.[186] The Federal Circuit utilized the *Mayo/Alice* test to determine whether the claimed patent met Section 101 eligibility requirements.[187] The *Mayo/Alice* test asked first, "whether the claims are *directed to* a law of nature, natural phenomenon, or abstract idea" and second, "if the claims are so *directed* . . . whether the claims embody some 'inventive concept.'"[188] When applying the test, Judge Dyk emphasized the patent directed to the use of Hooke's law and claimed to incorporate nothing else to achieve the desired result.[189] In step two, Judge Dyk explained the patent had no "inventive concept" to claim patent eligibility.[190] Applying *Flook* precedent, the claimed patent does nothing "more than conventional pre- and post-solution activity" and is not patent eligible.[191] Judge Moore's dissent brought about a bitter view towards the majority's ruling, stating:

> I cannot fathom the confusion that will be caused by declaring that claims are ineligible as directed to a natural law, when it is clear to all involved that this patent does not recite any particular natural law. Every mechanical invention must apply the laws of physics—that does not render them all

183. Am. Axle & Mfg., Inc. v. Neapco Holdings LLC, 967 F.3d 1285 (Fed. Cir. 2020), *cert. denied*, 142 S. Ct. 2902 (2022).

184. Brittain, *Axle Case, supra* note 167.

185. Blake Brittain, *Gov't Urges SCOTUS to Take Up the IP Case that Fractured the Federal Circuit*, REUTERS (May 24, 2022, 6:04 PM), [hereinafter Brittain, *IP Case*] https://www.reuters.com/legal/transactional/govt-urges-scotus-take-up-ip-case-that-fractured-federal-circuit-2022-05-24/ [https://perma.cc/BX8Z-H7RB]; Brittain, *Axle Case*, *supra* note 167.

186. *Am. Axle & Mfg., Inc.*, 967 F.3d at 1289.

187. *Id.* at 1292.

188. *Id.* (emphasis added) (first quoting Alice Corp. Pty. v. CLS Bank Int'l, 573 U.S. 208, 217 (2014); and then quoting Mayo Collaborative Servs. v. Prometheus Lab'ys Inc., 566 U.S. 66, 72–73 (2012)).

189. *Id.* at 1298 ("Claim 22 here simply instructs the reader to tune the liner to achieve a claimed result, without limitation to particular ways to do so.").

190. *Id.*

191. *Id.* at 1299.

> ineligible, or maybe it does now. . . . Our job, our mandate from Congress is to create a clear, uniform body of patent law. Our inability to do so in the § 101 space has not been a mess of our making. But, the unfairness, confusion[,] and uncertainty that will be caused by this opinion is all us.[192]

The bitterly divided 6-6 decision amongst the Federal Circuit threw a continued wrench into understanding current patent jurisprudence.[193] After the Supreme Court declined to hear *American Axle*, practitioners and applicants sought congressional or administrative intervention for clarity in the law.[194]

As a result of the hostile Federal Circuit split and the Supreme Court's denial of certiorari, Senator Tillis restored his efforts toward patent eligibility reform.[195] The product of his efforts led to the birth of the "Patent Eligibility Restoration Act,"[196] which was introduced to the 117th session of Congress on August 2, 2022.[197] This landmark legislation resulted from a "wide array of industries, fields, interest groups, and academia" submitting comments and testifying about current patent eligibility law and the effects of its confusion on the United States.[198] The bill is the first step toward change, where further discussion and ideas can

192. *Id.* at 1319 (Moore, J., dissenting).

193. Brittain, *IP Case, supra* note 185.

194. *See* Setty, *supra* note 179 ("The *American Axle* denial could reinvigorate congressional efforts to provide clarity in the absence of guidance from the Supreme Court."); Brian Pomper & Marc Ehrlich, *Tillis Bill Would Restore Needed Clarity and Predictability in Patent Eligibility Law*, IP WATCHDOG (Nov. 10, 2022, 12:15 PM), https://ipwatchdog.com/2022/11/10/tillis-bill-restore-needed-clarity-predictability-patent-eligibility-law/id=152866/ [https://perma.cc/QAW9-B6X5] ("The bill would clarify what inventions are eligible for patent protection."); *see also* JOHN GLADSTONE MILLS III ET AL., PATENT LAW BASICS § 6:35 (Westlaw 2022) (indicating how the USPTO is "working with Congress and U.S. Department of Justice's Office of the Solicitor General" to assist with patent eligibility confusion).

195. Gene Quinn & Eileen McDermott, *Tillis Addresses Criticism of His Eligibility Reform Bill, Warns WD of TX Not to Backtrack on Standing Order*, IP WATCHDOG (Aug. 31, 2022, 5:15 PM), https://ipwatchdog.com/2022/08/31/tillis-addresses-criticism-eligibility-reform-bill-warns-wd-tx-not-backtrack-standing-order/id=151211/ [https://perma.cc/6QK5-9M96].

196. *See id.* (emphasizing how the Supreme Court's refusal revived his efforts towards reformation).

197. Patent Eligibility Restoration Act of 2022, S. 4734, 117th Cong. (2022); Tillis, *supra* note 8.

198. Tillis, *supra* note 8.

cultivate innovation and provide clarity for future patent holders.[199] Senator Tillis explains:

> This legislation, which is the product of almost four years of consensus driven stakeholder conversations from all interested parties, maintains the existing statutory categories of eligible subject matter, which have worked well for over two centuries, and addresses concerns regarding inappropriate eligibility constraints by enumerating a specific but extensive list of excluded subject matter.[200]

Currently, Section 101 of Title 35 of the United States Code is a single sentence stating: "[w]hoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title."[201] Senator Tillis proposes to amend Section 101 significantly by incorporating exclusions and requiring further conditions for patent subject matter eligibility.[202] With this significant proposal, patent jurisprudence is entering a time of change.[203] However, there are concerns about how this proposal would affect industries and the future of United States patent law.[204]

2. Similarities Between the Proposed Patent Act with Current Supreme Court Precedent

By comparing the proposed bill for restoring patent eligibility with current Supreme Court jurisprudence, practitioners and innovators can see

199. Quinn & McDermott, *supra* note 195.

200. Tillis, *supra* note 8.

201. 35 U.S.C. § 101.

202. *See* Patent Eligibility Restoration Act of 2022, S. 4734, 117th Cong. § 2(b)(2) (2022) (proposing patent eligibility categories along with exclusions and conditions to be met before a patent meets Section 101 requirements); Kari Barnes, *The Patent Eligibility Restoration Act of 2022: What You Need to Know*, ANYLAW, https://www.anylaw.com/media/2022/09/04/the-patent-eligibility-restoration-act-of-2022-what-you-need-to-know/ [https://perma.cc/TL48-EQEK].

203. *See* Quinn & McDermott, *supra* note 195 (discussing Senator Tillis's goal of bringing back clarity to patent eligibility).

204. *See generally* Samantha Handler & Riddhi Setty, *New Patent Eligibility Bill Takes Aim at High Court Inaction*, BLOOMBERG L. (Aug. 3, 2022), https://news.bloomberglaw.com/ip-law/new-patent-eligibility-bill-takes-aim-at-high-court-inaction [https://perma.cc/8RJD-SFFJ] (providing insight from attorneys and industry professionals discussing the changes the bill brings and how this will affect industries).

the potential changes that are necessary to implement when drafting patents or litigating them in court.[205] Although differences exist between the proposed law and current jurisprudence, the bill incorporates some previous aspects.

First, the patent-eligible subject matter categories under the proposed legislation remain the same as stated in 35 U.S.C. § 101.[206] Senator Tillis's legislation will allow familiarity and consistency between previous patents and future applications by incorporating the same subject matter categories.[207] This allows the major portion of the current Section 101 law to remain a pivotal standard.

Second, the proposed eligibility guideline explains "eligibility shall be determined . . . by considering the claimed invention as a whole and without discounting or disregarding any claim element."[208] Under the precedent of *Diehr*, eligibility should be "considered as a whole," instead of dismembering elements into categories.[209] In more recent jurisprudence, the concept of considering elements as a whole was echoed in *Mayo* and *Alice*, where elements were considered individually and as a whole for patent eligibility.[210] Therefore, the proposed legislation adopts a similar approach to analyzing elements of patent eligibility claims.

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205. *See generally* Barnes, *supra* note 202 (advising patent drafters and practitioners on "incorporating the technological problem-solution writing style adopted by European practitioners" due to the changes to come if the bill moves through the legislative process); Dina Blikshteyn, *Dina Blikshteyn Discusses New Patent Eligibility Bill in World IP Review Q&A*, HAYNES BOONE (Aug. 12, 2022), https://www.haynesboone.com/news/articles/blikshteyn-on-new-patent-eligibility-bill [https://perma.cc/BS7G-CZBJ] (explaining how patent attorneys should familiarize themselves with the proposed legislation to help minimize future issues).

206. *Compare* 35 U.S.C. § 101 ("Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof . . . ."), *with* Patent Eligibility Restoration Act, § 2(a) ("Whoever invents or discovers any useful process, machine, manufacture, or composition of matter, or any useful improvement thereof . . . .").

207. *See* Barnes, *supra* note 202 (explaining how the original statutory language regarding categories for patentable subject matter remains the same); Pomper & Ehrlich, *supra* note 194 ("[T]he new bill maintains the current statutory scope of patent-eligible subject matter . . . .").

208. Patent Eligibility Restoration Act of 2022, S. 4734, 117th Cong. § 2(c)(1)(A) (2022).

209. Diamond v. Diehr, 450 U.S. 175, 188 (1981).

210. *See* Mayo Collaborative Servs. v. Prometheus Lab'ys, Inc., 566 U.S. 66, 80 (2012) ("[T]hose steps, when viewed as a whole, add nothing significant beyond the sum of their parts taken separately."); Alice Corp. Pty. v. CLS Bank Int'l, 573 U.S. 208, 218 n.3 (2014) (adopting the *Mayo* approach of considering all the elements in a claim independently and in combination of one another (citing *Diehr*, 450 U.S. at 188).

Lastly, Senator Tillis's bill incorporated Supreme Court precedent into the eligibility exclusions such as mathematical formulas, unmodified human genes, and unmodified natural material.[211] Mathematical formulas have long been ineligible for a patent on their own.[212] Recently, *Bilski* and *Mayo* reiterated the exception that mathematical formulas are not inherently patentable.[213] Next, under *Myriad*, unmodified human genes within the body are not patentable; they exist in their natural state and have not been manipulated by mankind.[214] Lastly, an unaltered natural material cannot be claimed under a patent, for it is "only . . . the handiwork of nature."[215] This restriction means if the material has not been altered by mankind, it exists purely in the way nature provided.[216] Senator Tillis, referencing these past decisions, incorporated various clear areas of the law to provide a fixed and codified guideline on exclusions from eligibility.

As discussed, various aspects of the Patent Restoration Act of 2022 assimilate precedent, but some areas abrogate it.

3. The Differences Between the Patent Restoration Act with Current Patent Eligibility Jurisprudence

Although similarities exist between current patent eligibility jurisprudence with the proposed legislation, there are overwhelming differences. The proposed bill would abrogate some Supreme Court

211. Patent Eligibility Restoration Act of 2022, S. 4734, 117th Cong. § 2(b)(1)(A), (C), (D) (2022).

212. *See* Gottschalk v. Benson, 409 U.S. 63, 71–72 (1972) (holding the mathematical formula incapable of patenting due to its connection with a digital computer); *Diehr*, 450 U.S. at 188. ("Arrhenius' equation is not patentable in isolation . . . .").

213. *See* Bilski v. Kappos, 561 U.S. 593, 611 (2010) (concluding the concept of hedging could be reduced to a mathematical formula, which "is an unpatentable abstract idea . . . like the algorithms . . . in *Benson* and *Flook*"); *Mayo Collaborative Servs.*, 566 U.S. at 89 ("And so the cases have endorsed a bright-line prohibition against patenting laws of nature, mathematical formulas, and the like . . . .").

214. *See* generally Ass'n for Molecular Pathology v. Myriad Genetics, Inc., 569 U.S. 576 (2013) (comparing how isolated genes are not eligible for patentability, which insinuates human genes, not isolated, must also not be patent eligible).

215. Diamond v. Chakrabarty, 447 U.S. 303, 310 (1980) (quoting Funk Bros. Seed Co. v. Kalo Inoculant Co., 333 U. S. 127, 131 (1948)).

216. *Id.* (citing *Funk Bros.*, 333 U.S. at 131).

precedent.[217] The proposed bill would repeal some areas of patent eligibility and codify specific exclusions under one statute.[218]

Specifically, a major difference between the current statute for Section 101 and the proposed law is the lack of the word "new" before the subject matter categories.[219] This key difference "resets the proper scope of analysis of Section 101 relative to Sections 102 and 103."[220] Section 102 of Title 35 of the United States Code lays out the statutory requirement of novelty for patentable inventions,[221] while Section 103 requires a patent for a claimed invention be a non-obvious subject matter.[222] Another area of the proposed legislation highlighting this constrained scope is the requirement that patent eligibility should not regard "whether a claim element is known, conventional, routine, or naturally occurring . . . or [] any other consideration in [S]ection 102, 103, or 112."[223] This proposed change addresses recent court cases, fusing a Section 101 analysis with the other listed sections from the statute.[224]

Another difference between the current jurisprudence and Senator Tillis's bill is the proposed specific eligibility exclusions.[225] The act states eligible subject matter is "subject *only* to the exclusions in subsection (b) and to the further conditions and requirements of this

217. Pomper & Ehrlich, *supra* note 194.

218. *See id.* (explaining the effect the proposed legislation would have towards current disarray in the law and provide predictability for future patentholders).

219. *Compare* 35 U.S.C. § 101 ("Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof . . . ."), *with* Patent Eligibility Restoration Act, § 2 (a) ("Whoever invents or discovers any useful process, machine, manufacture, or composition of matter, or any useful improvement thereof . . . .").

220. Pomper & Ehrlich, *supra* note 194.

221. 35 U.S.C. § 102.

222. 35 U.S.C. § 103.

223. Patent Eligibility Restoration Act of 2022, S. 4734, 117th Cong. § 2(c)(1)(B)(ii), (iv) (2022).

224. Am. Axle & Mfg., Inc. v. Neapco Holdings LLC, 967 F.3d 1285, 1316 (Fed. Cir. 2020) (Moore, J., dissenting) ("The majority's new blended 101/112 defense is confusing, converts fact questions into legal ones and eliminates the knowledge of a skilled artisan.").

225. Patent Eligibility Restoration Act of 2022, S. 4734, 117th Cong. § 2(b) (2022); Handler & Setty, *supra* note 204.

title."[226] This means the proposed legislation contains a set exhaustive list of excluded subject matter.[227] This list in subsection (b) includes:

> (A) A mathematical formula, apart from a useful invention or discovery.
> (B) A process that—
> (i) is a non-technological economic, financial, business, social, cultural, or artistic process;
> (ii) is a mental process performed solely in the human mind; or
> (iii) occurs in nature wholly independent of, and prior to, any human activity.
> (C) An unmodified human gene, as that gene exists in the human body.
> (D) An unmodified natural material, as that material exists in nature.[228]

Although some of these exclusions are Supreme Court precedent,[229] statutory exclusions have never been codified under Section 101. However, the "intent of itemizing the exclusions is to remove the current ambiguity created by the inconsistent application of the judicially created exceptions."[230] By including the word "only," the proposed legislation restricts the judicial system from creating its own exceptions.[231] Despite that, there is argument from part of the legal community that adding

226. Patent Eligibility Restoration Act of 2022, S. 4734, 117th Cong. § 2(a)(2) (2022) (emphasis added).

227. *See* KEVIN J. HICKEY, CONG. RSCH. SERV., R45918, PATENT-ELIGIBLE SUBJECT MATTER REFORM: BACKGROUND AND ISSUES FOR CONGRESS 40 (2022) ("In effect, PERA would abrogate the *Alice*/*Mayo* framework, and replace the three judicially created ineligible categories with this closed statutory list of narrower ineligible categories.").

228. S. 4734 § 2(a)(2) (proposing amendments to the eligibility exclusions in 35 U.S.C. § 101).

229. *See* Mayo Collaborative Servs. v. Prometheus Lab'ys, Inc., 566 U.S. 66, 89 (2012) ("And so the cases have endorsed a bright-line prohibition against patenting laws of nature, mathematical formulas, and the like . . . ."); Ass'n for Molecular Pathology v. Myriad Genetics, Inc., 569 U.S. 576, 591 (2013) (alteration in original) ("Myriad found the location of the BRCA1 and BRCA2 genes, but that discovery, by itself, does not render the BRCA genes 'new . . . composition[s] of matter,' § 101, that are patent eligible." (quoting 35 U.S.C. § 101)); Funk Bros. Seed Co. v. Kalo Inoculant Co., 333 U.S. 127, 131 (1948) ("The combination of species produces no new bacteria, no change in the six species of bacteria, and no enlargement of the range of their utility. . . . They serve the ends nature originally provided . . . .").

230. Barnes, *supra* note 202.

231. Forrest Gothia & Vincent Shier, *Calmer Waters Ahead? Senator Tillis' Proposed 35 U.S.C. § 101 Legislation Brings Highly Requested Legislative Review to Patent Eligibility Storm*, HAYNES BOONE (Aug. 22, 2022), https://www.haynesboone.com/news/alerts/calmer-waters-ahead-senator-tillis-proposed-legislative-review-to-the-patent-eligibility-storm [https://perma.cc/W68Z-TCR9].

exclusions within the statute gives the courts more language to interpret, creating room for future confusion.[232]

Although subsection (b) excludes "[a]n unmodified human gene, as that gene exists in the human body" and natural material, the proposed bill dives further into what is not considered unmodified.[233] Specifically, the bill states "a human gene or natural material that is isolated, purified, enriched, or otherwise altered by human activity, or that is otherwise employed in a useful invention or discovery, shall not be considered to be unmodified."[234] Such proposed legislation differs in comparison to current jurisprudence in *Myriad*, which concluded isolated gene sequences or "[g]roundbreaking, innovative, or even brilliant discover[ies]" are not patent eligible under Section 101.[235] If *Myriad* had been decided under the proposed bill, it would have had a different outcome because the bill allows isolated genes or useful discoveries to not be excluded from eligibility.[236] Thus, the third major difference overrules *Myriad*'s precedent regarding DNA isolation and discovery. Future patent holders could meet the statutory eligibility requirements with their discoveries or isolated genomes if incorporated into a useful invention.[237]

Lastly, Senator Tillis's proposed legislation sets out a guideline for eligibility requirements and what to disregard during this process.[238] Under the guideline, a claimed invention's eligibility should be considered

232. *See* Barnes, *supra* note 202 (foreboding the judicial system could use the proposed new language to continue muddling patent law by trying to find its "metes and bounds"); *accord* Gene Quinn, *Tillis' Promised Patent Eligibility Bill Would Overrule* Myriad*,* Mayo, IPWATCHDOG (Aug. 3, 2022, 4:15 PM), https://ipwatchdog.com/2022/08/03/tillis-patent-eligibility-bill-overrule-myriad-mayo/id=150586/ [https://perma.cc/F429-BYV2] (discussing the potential fear of the "Supreme Court . . . resurrect[ing] their line of patent killing precedent by finding that their patent eligibility rulings were mandated by the Constitution").

233. S. 4734 § 2(a)(2).

234. *Id.* (stating the conditions within eligibility exclusions for human genes and natural materials).

235. Ass'n for Molecular Pathology v. Myriad Genetics, Inc., 569 U.S. 576, 591–93 (2013).

236. *Compare id.* at 592–93 (holding isolated DNA and discovery of the location of the BRCA genes were ineligible for a patent under Section 101), *with* S. 4734 § 2(a)(2) (reading isolated human genes or natural materials and useful discovery shall not be considered excluded from patent eligibility).

237. *See* Quinn, *supra* note 232 (discussing the changes the proposed bill would manufacture towards *Myriad*'s holding).

238. S. 4734 § 2(a)(2) (suggesting amendments to 35 U.S.C. §101 to clearly address patent eligibility for inventions in proposed § 101(c)).

"without regard to . . . whether a claim element is known, conventional, routine, or naturally occurring."[239] This language, however, overrules the precedent set in *Mayo* and further elaborated in *Alice*.[240] In *Mayo* and *Alice*, the patent elements claimed ideas "well-understood, routine, [and] conventional activit[ies]," which made them ineligible for patent protection.[241] However, if the proposed language was adopted, the reasoning behind holding the two patent applications ineligible would be abrogated and would then in turn overrule *Mayo* and find difficulty with *Alice*.[242] Additionally, this language helps limit the scope of a Section 101 analysis back to its original purpose of eligible subject matter.[243]

Thus, Senator Tillis's proposed bill would abrogate the recent line of Supreme Court cases, attempting to clear up industry confusion.[244]

4. Various Industry Views Towards Senator Tillis's Proposal

As stated previously, under the USPTO's report regarding public views of patent eligibility jurisprudence, various industries are split on whether current patent jurisprudence is clear or if reformation is necessary.[245] Now with the proposed Patent Eligibility Restoration Act, which is an attempt to bring the discussion of reforming Section 101 back to the table,[246] industries still have a mixed response on whether this would bring forth

239. *Id.*

240. Quinn, *supra* note 232.

241. Mayo Collaborative Servs. v. Prometheus Lab'ys, Inc., 566 U.S. 66, 67 (2012).

> To put the matter more succinctly, the claims inform a relevant audience about certain laws of nature; any additional steps consist of well-understood, routine, conventional activity already engaged in by the scientific community; and those steps, when viewed as a whole, add nothing significant beyond the sum of their parts taken separately.

Id. at 79–80; Alice Corp. Pty. v. CLS Bank Int'l, 573 U.S. 208, 225 (2014) (alteration in original) (citing *Mayo*, 566 U.S. at 73) ("[A]ll of these computer functions are 'well-understood, routine, conventional acivit[ies]' previously known to the industry.").

242. *See* Quinn, *supra* note 232 (explaining how the proposed bill "is intended to overrule *Mayo*, and because much of *Alice* is built on *Mayo*, *Alice* would at a minimum become questioned").

243. Pomper & Ehrlich, *supra* note 194.

244. Tillis, *supra* note 8.

245. *See* VIDAL, *supra* note 7, at 10 (noting the division among stakeholders "as to the state of the law on eligibility").

246. Tillis, *supra* note 8.

clarity or incite more confusion.[247] Specifically, the areas most affected by the legislation are "software, medical, and other inventions."[248] These industries have faced exponential growth over the last few decades[249] and more recently have faced eligibility issues.[250]

In the life sciences industry, before the act was recommended in Congress, the comments regarding the state of the law were "split between patent owners and companies that market and manufacture medical treatments and diagnostics, on the one hand, and the research community and patient advocacy groups, on the other."[251] Research and advocacy groups praised the recent Supreme Court precedent and believed "changing patent eligibility law 'would threaten future innovation, healthy competition, and affordable access to quality health care.'" [252] Patent holders and medical companies opposed this view, as they thrive off patent protection due to the cost of development and time to bring to market. [253] For instance, after *Mayo*, the diagnostic research and development investments dropped "$9.3 billion dollars [with]in . . . four years."[254] With Senator Tillis's proposal, leaders in the intellectual property realm believe the act would bring about necessary change towards "patent standards and increase investment into critically important diagnostics research."[255] Conversely, the other side views the proposal as increasing the risk of "predatory companies to take advantage of patent eligibility and harm efforts to treat health conditions."[256] Expectedly, the

247. *See* Handler & Setty, *supra* note 204 (discussing stakeholder pushback towards the proposed bill).

248. James Harris, *Legislation Proposes to Clarify Patent Subject Matter Eligibility*, GARDELLA GRACE (Aug. 17, 2022), https://gardellagrace.com/archives/ip-insights/legislation-proposes-to-clarify-patent-subject-matter-eligibility [https://perma.cc/6RAS-UYFY].

249. OECD, PATENTS AND INNOVATIONS: TRENDS AND POLICY CHANGES 11 (2004), https://www.oecd.org/science/inno/24508541.pdf [https://perma.cc/WZJ5-XNSG].

250. VIDAL, *supra* note 7, at 31.

251. *Id.*

252. *Id.*

253. *Id.*

254. See Godoy, *supra* note 168 (explaining how the Council of Innovation Promotion (C4IP), which is an organization that consists of "bipartisan leaders in the intellectual property realm," believes this proposed statute will redress negative effects the current jurisprudence has had on diagnostics research).

255. *Id.*

256. *See id.* (highlighting how the plaintiff in *Myriad*, the American Civil Liberties Union (ACLU), expressed concerns about the legislation).

contrasting views of the life sciences industry did not change after the legislative proposal.

In the field of computer technology, especially in software, the overwhelming view of commenters gears towards the inconsistency and difficulty when applying current jurisprudence to their patent claims.[257] Notably, one of the USPTO commenters claimed the *Mayo-Alice* test biasedly disfavors the abstract ideas of computer-related inventions.[258] Senator Tillis introduced his patent eligibility act which brought forth a straightforward approach to determining whether a computer technology claimed patent meets eligibility requirements.[259] As laid out in the bill, a person is unable to obtain a patent for "a process that . . . (i) is a non-technological economic, financial, business, social, cultural, or artistic process; (ii) is a mental process performed solely in the human mind; or (iii) occurs in nature wholly independent of, and prior to, any human activity."[260] However, there are set conditions, which allow a person to obtain a patent for a claimed process if it is "embodied in a machine or manufacture, unless that machine or manufacture is recited in a patent claim without integrating, beyond merely storing and executing, the steps of the process that the machine or manufacture perform."[261] From one side of the industry which prefers the Supreme Court jurisprudence, they believe the act would allow any software incorporated on a computer to become patent eligible.[262] However, even if a software is placed on a computer, it must be something more than "merely storing or executing" steps.[263] Therefore, under the proposed act, software inventions and technology would have a clear step-by-step guideline to determine eligibility.[264]

257. VIDAL, *supra* note 7, at 35.

258. International Business Machines (IBM), Comment Letter on Patent Eligibility Jurisprudence Study 3 (Oct. 4, 2021), https://www.regulations.gov/comment/PTO-P-2021-0032-0078 [https://perma.cc/Z364-VNLW].

259. Pomper & Ehrlich, *supra* note 194.

260. Patent Eligibility Restoration Act of 2022, S. 4734, 117th Cong. § 2(a)(1)(B) (2022).

261. *Id.*

262. Pomper & Ehrlich, *supra* note 194.

263. *Id.* (noting the "'do it on a computer' patents that the bill's opponents point to would fare the same under Senator Tillis' bill").

264. Harris, *supra* note 248. ("Many software inventions would easily meet this standard and be eligible.").

However, one problem does arise with the new language towards computer technology. The language "non-technological" and "technological" lack jurisprudence on what it means to establish a technological process.[265] This absent interpretation could lead to courts varying interpretations and potentially muddle waters again.

D. *Future for Patent Eligibility Jurisprudence*

As the 2nd Session of the 117th Congress ended on January 3, 2023,[266] Senator Tillis's Patent Eligibility Restoration Act of 2022 died due to its lack of release from the assigned committee.[267] Although disappointing to hopeful industry professionals, the lack of progress in the Committee was expected because of its introduction in August,[268] three months before a lame duck session.[269] Senator Tillis predicted this outcome as he admitted to the act being a basis for further discussions amongst industry professionals.[270] He hoped instead to spark conversation regarding the current state of patent eligibility and have people come to the table with solutions and ideas.[271] Currently, there still remains uncertainty regarding the state of patent eligibility jurisprudence.

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265. Barnes, *supra* note 202; Godoy, *supra* note 168.

266. *Dates of Sessions of the Congress*, U.S. SENATE, https://www.senate.gov/legislative/DatesofSessionsofCongress.htm#2021 [https://perma.cc/DB24-C9H5].

267. *See generally The Legislative Process*, U.S. HOUSE OF REPRESENTATIVES, https://www.house.gov/the-house-explained/the-legislative-process [https://perma.cc/4FHD-M5AY] (explaining the process of how a bill goes through a committee to be put to a vote or debate).

268. Tillis, *supra* note 8.

269. Due to the adoption of the Twentieth Amendment in 1933, the convening date for a new Congress began on "January 3 of odd-numbered years, shortening the time between an election and the beginning of the next Congress to just two months." *Lame Duck Sessions (1940-Present),* U.S. SENATE, https://www.senate.gov/legislative/LameDuckSessions.htm [https://perma.cc/QTL3-S995]. The "lame-duck session" begins "[w]hen Congress is in session after a November election and before the beginning of the new Congress." *Id.*

270. *See* Quinn & McDermott, *supra* note 195 (emphasizing the bill is a "starting point" and Senator Tillis will continue discussing the bill with other people to make it better in the future); *accord* Handler & Setty, *supra* note 204 (discussing how industry professionals believed the bill would not pass in months, but optimistic towards the future years).

271. Quinn & McDermott, *supra* note 195.

1. Would the Supreme Court Grant Certiorari to Resolve Section 101 Issues?

The Supreme Court has not granted certiorari to a patent eligibility case since *Alice* in 2014.[272] Even if the Court would accept a case, there is potential for continued disorder of patent eligibility jurisprudence.[273] It seems more likely to see continued action by Congress or the USPTO in resolving these conflicts that would provide necessary change.[274] As emphasized in *Flook*, the Court should "proceed cautiously when . . . asked to extend patent rights," as Congress has the burden for legislative change.[275] However, it is still up to the courts to interpret those changes.

2. Looking into the Future

The United States has fallen out of the top ten leaders of innovation in 2021.[276] This less dominant role is attributed to the battle between the United States and China for intellectual property rights, which ironically has "undermine[ed] support for the open innovation system."[277] This decline is also attributed to the unpredictability within the patent system.[278] As a result of the convoluted struggle on patent eligibility, practitioners are turning elsewhere for answers.[279] Innovators and attorneys are unable to predict with certainty if their patent meets eligibility requirements, unlike

272. Brittain, *Axle Case*, *supra* note 167.

273. Setty, *supra* note 179.

274. *See id.* (providing insight into industry professionals views on who will be first to resolve patent eligibility confusion).

275. Parker v. Flook, 437 U.S. 584, 595–96 (1978).

276. Michelle Jamrisko et al., *South Korea Leads World in Innovation as U.S. Exits Top Ten*, BLOOMBERG (Feb. 2, 2021, 6:00 PM), https://www.bloomberg.com/news/articles/2021-02-03/south-korea-leads-world-in-innovation-u-s-drops-out-of-top-10?leadSource=uverify%20wall#xj4y7vzkg [https://perma.cc/JBL8-XGPB].

277. *Id.*

278. *See* VIDAL, *supra* note 7, at 30 ("[A] decrease in patent applications filed in certain technologies or a lowering of the United States' ranking as a global innovation leader as evidence of the negative impact of the current jurisprudence on innovation."); *see also* Matthew Bultman, *U.S. Patent Eligibility Muddle Sets It Apart From Other Countries*, BLOOMBERG L. (Nov. 12, 2021, 4:01 AM), https://news.bloomberglaw.com/ip-law/u-s-patent-eligibility-muddle-sets-it-apart-from-other-countries [https://perma.cc/2XYU-GMJF] (stating unpredictable patent eligibility standards "have driven investors away from companies developing new technologies").

279. *See* Bultman, *supra* note 278 (discussing how the current state of patent law in the United States has driven investors away to other countries or other forms of protection).

in Europe, where limited issues arise concerning eligibility.[280] However, these issues do not seem to come from the USPTO, who have released helpful guidance on Supreme Court decisions, but from the courts themselves.[281]

When looking to the future, it seems patent eligibility jurisprudence will continue to have a divide unless Congress, USPTO, or the Supreme Court interject.[282] Changes in patent eligibility jurisprudence are necessary "to restore the United States to a position of global strength and leadership" for innovation.[283] With the start of the 1st Session of the 118th Congress, there is hope that Senator Tillis will propose further legislative reform and the Congress will enact it or other reform.[284]

IV. CONCLUSION

Mandated through the Constitution, "Congress shall have the power . . . [t]o promote the Progress of Science and useful Arts, by securing for limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries."[285] Since the founding of our nation, innovation has grown exponentially and has remained a vital role in the economy through the use of intellectual property.[286]

However, in the last decade, the Supreme Court has established precedent, which has led to a confused state of patentable subject matter eligibility.[287] Although given the chance to resolve these issues through various Federal Circuit appeals, the Supreme Court has declined to

280. *See id.* (London attorney Sean Leach stated, "he can predict with a reasonable degree of certainty what eligibility issues, if any, might arise with a particular patent application at the European Patent Office.").

281. *See id.* (highlighting how "[t]he U.S. and European patent offices have converged on eligible subject matter," but the U.S. courts are not following the office's guidance); VIDAL, *supra* note 7, app. D (providing USPTO guidance on patent subject matter eligibility).

282. *See* Setty, *supra* note 179 (describing how the uncertainty emanating from the PTO and the Supreme Court has necessitated congressional action to fix patent law).

283. Tillis, *supra* note 8.

284. *Id.* (emphasizing how passing patent eligibility reform is a main goal for the senator this term).

285. U.S. CONST. art. I, § 8, cl. 8.

286. *See Executive Summary*, U.S. CHAMBER OF COM. FOUND. 1, https://www.uschamberfoundation.org/enterprisingstates/assets/files/Executive-Summary-OL.pdf [https://perma.cc/CWY3-ZD8K] (highlighting how "from the steam engine to the search engine," America's ability to innovate has progressed the economy for centuries).

287. VIDAL, *supra* note 7, at 2.

entertain any patent eligibility claims.[288] As a result of this muddled jurisprudence and complaints from industry professionals, Congress and the USPTO have reinvigorated efforts to restore patent eligibility and create useful guidance.[289] Senator Tillis's proposed legislation brought forth a necessary discussion regarding industry views: abrogating precedent and reforming subject matter eligibility.

When looking towards the future, there is an essential change needing to occur in patent jurisprudence. There is hope the future can bring forth change in the law and reinstate the United States as a powerhouse of innovation.[290] Allowing inventors to gain their small monopoly through patent law keeps the balance between encouraging innovation and stimulating the economy.[291] If the waters remain muddy, no one will be able to reap the benefits inherent in patent law.

288. Brittain, *Axle Case*, *supra* note 167.

289. VIDAL, *supra* note 7, at 2; Tillis, *supra* note 8.

290. *See* Tillis, *supra* note 8 (noting there is bipartisan agreement in Congress that steps need to be taken to reestablish the United States as the global leader in the field of innovation).

291. *See* 1 JOHN W. SCHLICHER, PATENT LAW, LEGAL AND ECONOMIC PRINCIPLES § 2:10 (2d ed. 2015) ("Patent law improves the private returns to investments in research and development seeking new technology.").