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via email to: AIPartnership@uspto.gov

The Honorable Andrei Iancu
Under Secretary of Commerce for Intellectual Property &
Director of the United States Patent and Trademark Office
US Patent and Trademark Office
600 Dulany Street, Suite 10D44
Alexandria, Virginia 22314

Re: Comments in Response to *Request for Comments on Patenting Artificial Intelligence Inventions* (Federal Register / Vol. 84, No. 166 / August 27, 2019)

Dear Director Iancu,

As Chair of the Section of Intellectual Property Law of the American Bar Association (the "Section"), I am writing on behalf of the Section to provide the Section's Comments responding to the Request for Comments ("RFC") on Patenting Artificial Intelligence ("AI"), which were promulgated by the US Patent & Trademark Office (the "USPTO" or the "Office") in Federal Register, Vol. 84, No. 166, August 27, 2019. The views expressed herein are presented on behalf of the Section of Intellectual Property Law. They have not been approved by the House of Delegates or the Board of Governors of the American Bar Association (ABA) and, accordingly, should not be construed as representing the position of the Association.

The Section expresses its strong support for the Office's effort to "gather[] information on patent-related issues regarding artificial intelligence inventions for purposes of evaluating whether further examination guidance is needed to promote the reliability and predictability of patenting artificial intelligence inventions,"[1] and is encouraged by the Office's dedication to proactively identifying and addressing the emerging and complex issues of IP law. The Section deeply appreciates this opportunity to provide written responses to the Office's RFC, and would support any of the Office's future or continuing efforts to further develop the discourse surrounding this important and evolving topic.

[1] 84 Fed. Reg. at 44889.

AI Inventorship & Ownership. As a preliminary matter, the Section has recently adopted two relevant resolutions that should be brought to the Office's attention. In the RFC, the Office notes the distinction between those AI inventions that "*utilize* AI" and those AI inventions "that are *developed by* AI."[2] Responses to several RFC questions can hinge, at least in part, on the differences between these two categories of AI inventions. The Section's resolutions indicate that:

> (1) the Section opposes, in principle, recognizing an artificial intelligence as an "inventor" under US patent law; and
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> (2) the Section opposes, in principle, recognizing an artificial intelligence as an assignee, licensee, or other type of party having an ownership or possessory interest to a patent or vested with the rights granted under Title 35.

Where appropriate, these resolutions inform the Section's responses to the RFC. Like the Office, the Section is dedicated to continually reviewing and refining its discourse and conclusions.

Defining "Artificial Intelligence." Another preliminary matter is the absence of a recognized legal and/or technical definition of "AI."[3] "Experts in the field debate what exactly constitutes artificial intelligence," and the definitions "vary widely" based on some particular focus.[4] The Law Dictionary defines AI as "software used to make computers and robots work better than humans. The systems are rule based or neural networks. It is used to help make new products, robotics, human language

[2] *Id*. (Q1).

[3] Dimiter Dobrev, *A Definition of Artificial Intelligence*, arXiv preprint arXiv:1210.1568, arXiv.org, Cornell Univ. (2004), *available at* https://arxiv.org/abs/1210.1568 ("It is surprising that [the problem for defining the notion of Artificial Intelligence] can be still open."); Tabrez Y. Ebrahim, *Data-Centric Technologies: Patent and Copyright Doctrinal Disruptions*, 43 Nova L. Rev. 287, 294–295 (2019) ("There is no single definition of artificial intelligence, which is a term that was first introduced in 1956 at an academic research conference. The connotation of artificial intelligence has changed over time and with rapid technological development. The lack of a precise or commonly accepted definition has made artificial intelligence seem like a *black-box*."); Rex Martinez, *Artificial Intelligence: Distinguishing Between Types & Definitions*, 19 Nev. L.J. 1015, 1016 (2019) ("[T]here is no general legal definition for what constitutes AI outside of a specific application, such as in the context of autonomous automobiles or electronic agents trading in the markets.").

[4] Some definitions focus on human thought process and thinking, "others address human behavior," and other definitions "emphasize thinking or acting rationally as the ideal concept of intelligence. Generally, "scholars have considered all computer systems that satisfy any of these definitions to constitute artificial intelligence." Nancy B. Talley, *Imagining the Use of Intelligent Agents and Artificial Intelligence in Academic Law Libraries*, 108 Law Libr. J. 383, 386 (2016).

understanding, and computer vision."[5] Colloquial dictionaries define "AI" in terms of a general descriptor for a category of technologies and products capable of simulating human thought or action.[6] In short, AI is generally defined as "the capability of a machine to imitate intelligent human behavior."[7] Recent commentaries have expressed similar understandings, where the term "AI" is a description of technologies with attributes or features that mimic human behaviors.[8] Whatever the definition, the Section stresses "the distinction between sophisticated programs and machines actually capable of thinking and decision making."[9] For the purposes of the Comments here, the Section adopts a working *understanding* of the term "AI" to refer to technologies that are capable of autonomy, human-like intelligence, and/or human-like learning.[10]

The Section, however, is not affirmatively adopting or otherwise supporting a particular definition for AI at this time, as it remains an evolving and fluid *area* of technology. The Section does not wish to adopt a definition for a term that describes an

[5] *Artificial Intelligence*, The Law Dictionary, https://thelawdictionary.org/artificial-intelligence/

[6] *See, e.g., Artificial Intelligence*, Oxford English Dict. Online (September 2019) ("The capacity of computers or other machines to exhibit or simulate intelligent behavior; the field of study concerned with this."); *Artificial Intelligence*, Merriam-Webster Online Dict. (October 2019) ("1: branch of computer science dealing with the simulation of intelligent behavior in computers; 2: the capability of a machine to imitate intelligent human behavior").

[7] Lisa Morgan, *4 Types of Machine Intelligence You Should Know,* Information Week (Apr. 10, 2018), *available at* https://www.informationweek.com/big-data/ai-machine-learning/4-types-of-machine-intelligence-you-shouldknow/a/d-id/1331480.

[8] *See, e.g.,* Mizuki Hashiguchi, *The Global Artificial Intelligence Revolution Challenges Patent Eligibility Laws*, 13 J. Bus. & Tech. L. 1, 6 (2017) ("Artificial intelligence is defined as 'the ability of machines to do things that people would say require intelligence.' The phrase sometimes refers to intelligent machines themselves." (emphasis added)); 108 Law Libr. J. at 387 ("Artificial intelligence encompasses both concepts of human intellectual activity as well as specific tasks, including solving mathematical theorems and playing chess. The literature describes artificial intelligence as everything from relatively simple computer programs and conversational agents to sophisticated robots." (emphasis added)); *see also*, *In Re Ashley Madison Customer Data Security Breach,* 148 F.Supp.3d 1378, 1379 (MDL 2015) ("extensive use of artificial intelligence 'bots' and other mechanisms to mimic fake users" (emphasis added)).

[9] 19 Nev. L.J. at 1024 ("From [the mid-1950's], computer scientists developed systems with the ability to play chess, action-plan, schedule tasks, and other complex tasks. However, it became clear that these systems were developed to mimic the behavior of human intelligence, not necessarily to exercise human intelligence. And this clarity highlights the distinction between sophisticated programs and machines actually capable of thinking and decision making.").

[10] *Id*. at 1017 ("[T]here needs to be a key distinction made between complex and sophisticated programs and systems, and systems that are capable of autonomy or human-like intelligence. Understanding this key distinction allows for an accurate definition of AI to be used across applications.").

area of study to color its views on unforeseen future patent claims that, at that future time, should be patentable but for today's constraining definition of "AI."

The Section's question-by-question Comments in the RFC are below. Again, we appreciate this opportunity to contribute to this important topic.

I. What are elements of an AI invention?

> Q1: Inventions that utilize AI, as well as inventions that are developed by AI, have commonly been referred to as "AI inventions." What are elements of an AI invention? For example: The problem to be addressed (*e.g.*, application of AI); the structure of the database on which the AI will be trained and will act; the training of the algorithm on the data; the algorithm itself; the results of the AI invention through an automated process; the policies/weights to be applied to the data that affects the outcome of the results; and/or other elements.

A. Elements of AI Invention

"Although most have shied away from defining AI, there are various frameworks that attempt to define and characterize it."[11] For example, according to one well-recognized definitional framework, "[t]o be considered artificial intelligence [] a computer system or robot must meet certain benchmarks: it must (1) communicate using natural language, (2) store information, (3) engage in automated reasoning (*i.e.*, logic) to evaluate stored information to answer inquiries, (4) adapt to new situations and extrapolate patterns, (5) contain computer vision, and (6) include robotics functions."[12] Even if such a framework is not a satisfactory definition for "AI," it highlights concepts and keywords that signal possible elements of an "AI invention."

Given both the multifaceted and evolving character of AI technologies, the term "AI invention" is not well-defined, at least for now, by a preset, concrete collection of elements. Rather, the elements of an AI invention will be some combination of features that underlie, engender, and/or utilize the simulation aspects of the AI invention. That is, the elements of the invention are those concepts that define the simulation aspects of the AI invention.

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[11] Elizabeth Fuzaylova, *War Torts, Autonomous Weapon Systems, and Liability: Why A Limited Strict Liability Tort Regime Should Be Implemented*, 40 Cardozo L. Rev. 1327, 1341 (2019).

[12] 108 Law Libr. J. at 387.

In another framework, "AI has been organized into four categories: (1) system thinking as human; (2) system acting as human; (3) rationally thinking system; and (4) rationally acting system." 40 Cardozo L. Rev. at 1341; *see also* 19 Nev. L.J. at 1025.

Below is a proposed list of elements for an AI invention, which have been synthesized from the concepts/keywords pulled from various definitional frameworks, scholarship, and the examples provided by the Office in the RFC. The list is not intended to be exhaustive; nor does it purport to be authoritative.[13] The "elements" of an AI invention may include one or more of the following:

1. **Data Ingestion.** Algorithms and/or hardware functionality for receiving data in one or more formats.

This element groups together (i) how systems may receive data/inputs with (ii) several notions of what defines an AI mentioned above (*e.g.*, communicating using natural language; implementing computer vision; and digesting large volumes of data).[14] Inventive subject matter can focus on, or otherwise include, hardware and/or software underlying the manner by which an AI system receives information for relevant operations. Examples can include: "sensory" perception (*e.g.*, computer vision; auditory or speech recognition);[15] database queries/mining;[16] natural language processing;[17] automated web scraping/crawling;[18] retraining algorithm inputs;[19] and user-inputs.

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[13] 84 Fed. Reg. 44889 (Q1).

[14] *See* 40 Cardozo L. Rev. at 1341 (listing well-recognized definitional framework for "AI"); McKenzie Raub, *Bots, Bias and Big Data: Artificial Intelligence, Algorithmic Bias and Disparate Impact Liability in Hiring Practices*, 71 Ark. L. Rev. 529, 532 (2018) ("machine learning and big data work together under the umbrella of artificial intelligence technology").

[15] **Sensory Perception**. *See, e.g.,* US Patent Publ. No. 2019/0026586 (Jan. 24, 2019) ("Portable Substance Analysis Based On Computer Vision, Spectroscopy, And Artificial Intelligence"); US Patent 10,410,182 (Sept. 10, 2019) ("Visualizing Vehicle Condition Using Extended Reality"); US Patent 9,302,393 (April 5, 2016) ("Intelligent Auditory Humanoid Robot And Computerized Verbalization System Programmed To Perform Auditory And Verbal Artificial Intelligence Processes"); US Patent No. 10,440,490 ("Switching Binaural Sound").

[16] **Database Queries/Mining**. *See, e.g.,* US Patent Publ. 2019/0266160 (Aug. 29, 2019) ("Automatically Connecting External Data To Business Analytics Process"); US Patent 10,311,128 (June 4, 2019) ("Analytic System For Fast Quantile Computation With Improved Memory Consumption Strategy").

[17] **Natural Language Processing**. *See, e.g.* US Patent Publ. No. 2012/0117092 (May 10, 2012) ("Systems And Methods Regarding Keyword Extraction"); US Patent Publ. No. 2019/0294680 (Sept. 26, 2019) ("Multi-Turn Cross-Domain Natural Language Understanding Systems, Building Platforms, And Methods").

[18] **Automated Data Capture (Web-Scraping/Crawling)**. *See, e.g.,* US Patent 10,394,878 (Aug. 27, 2019) ("Associating Still Images And Videos"); US Patent 10,423,710 (Sept. 24, 2019) ("Browser Plug-In With Document Modification And Feedback Capability").

[19] **Data Inputs For Retraining**. *See, e.g.,* US Patent Publ. 2019/0279088 (Sept. 12, 2019) ("Training Method, Apparatus, Chip, And System For Neural Network Model"); US Patent 10,355,790 (July 7,

2. **Data Structure and Data Conditioning.** Algorithms and/or hardware for storing, validating, standardizing, and/or optimizing ingested data for compatibility, training, and/or analytics.

This element groups together (i) storing information, (ii) the structure of the implementation database, (iii) the structure of the training database, and (iv) updating/managing one or more databases. An AI system may have two conceptual databases: one for implementation, and one for learning and retraining. Database management (*e.g.*, updating or storing) and data standardization (*e.g.*, APIs) are generally known concepts outside of AI technology, though database structures or configurations can be patent-eligible.[20] AI technologies, however, often handle these databases differently or require improved database structures, which present opportunities for inventive subject matter.

For example, AI inventions may establish or utilize an AI's capability to handle "unstructured" data pulled from any data source. In conventional systems, metadata is used to contextualize database entries. But that is not how humans communicate; humans contextualize information through pattern recognition and other experiences and knowledge. An AI invention may establish or benefit from algorithms capable of ingesting and contextualizing data in order to employ unstructured data. As another example, an AI invention may establish or benefit from how data representing the AI's experience are stored, structured, and/or updated.

Generally, in this element, inventive subject matter can focus on, or otherwise include, hardware and/or software data schemas, APIs, database structures, database management, and data validation.

- **USPTO Example: Structure Of The Training Database.** The "database" may be an initial set of data, or a "rolling" set, for various iterations of learning or training, as well as a resultant set, perhaps structured (characterized, labeled) differently or dynamically at each iteration. In some systems there may some randomness in data, including timing and sequence of consideration, that do not result in precisely determined "results"; even with convergence, there may be different modalities/convergence points.

3. **Data Analytics & Intelligence/Thought.** Algorithms and/or hardware needed to perform the core computational functionality of the technology

2016) ("Transmission Device With Impairment Compensation And Methods For Use Therewith"); US Patent 10,353,685 (July 16, 2019) ("Automated Model Management Methods"); US Patent 10,410,626 (Sept. 10, 2019) ("Progressive Classifier").

[20] *See Enfish, LLC v. Microsoft Corp.*, 822 F.3d 1327 (Fed. Cir. 2016).

for either simulating human intelligence and/or thought, or conducting analysis of large volumes of data with adaptive techniques.

This element represents an AI system's capabilities to "engage in automated reasoning (*i.e.*, logic) to evaluate stored information to answer inquiries," which may be characterized as or otherwise encompass the "algorithm itself," and "the policies/weights to be applied to the data." The inventive subject matter may include algorithms that, for example, simulate or perform cognitive intelligence, decision making, predicative analytics, and/or pattern-based analytics. The inventive subject matter can be vast, and may overlap with other elements in some respects, but it will generally capture algorithmic processes that underlie some output (*e.g.*, big data or predictive analytics), or enable the ultimate application/use case of the AI system (*e.g.*, autonomous vehicle). Examples may also include aspects of probabilistic modeling, neural networks, regression modeling, and big data analytics (or predictive analytics).[21]

- **USPTO Example—The Algorithm, Policies/Weights.** How an AI invention (*e.g.*, initial, intermediate, and resultant data/algorithms) interacts (including "policies/weights") with the "real" or filtered or synthetic or augmented world—sensors, displays, servo, and other output signaling—to the extent that they can be characterized as an improvement in technology over generic functions executed by generic computers—are the best candidates for patenting under current law. There is plenty of room for innovation in AI applications to automated operation and communication of vehicles and other IoT instrumentalities. Note that, at least here, the algorithms are distinct "elements" from the output or intended implementation.

4. **Machine Learning & Self-Adjustments.** Algorithms and/or hardware automated training and/or self-optimization.

This element captures a key notion of an AI invention, in which the AI system can "continue to 'learn' and adjust iteratively as new data are added."[22] Machine learning is a subset of AI technology that "applies statistical techniques to 'enable machines to improve at tasks with experience,'" which, in turn, "facilitate[s] computers and robots to solve problems."[23] "Machine learning is a way of training an algorithm,"

[21] The elements and their concepts can often be conflated, sometimes improperly, and other times appropriately or avoidably. For instance, one court construed "'predictive technologies' as 'data analytics, text mining, and/or similar machine learning and statistical modeling technologies,'" due to the patent's lack of clear boundaries between the terms. *See 24/7 Customer, Inc. v. LivePerson, Inc.*, 235 F.Supp.3d 1102, 1118 (N.D. Cal. 2016).

[22] *Ocean Tomo, LLC v. PatentRatings, LLC*, 375 F.Supp.3d 915, 956 (N.D. Ill. 2019).

[23] 71 Ark. L. Rev. at 531–32.

in which the algorithm provides an "ability to learn without being explicitly programmed."[24] Unlike "knowledge-based" algorithms, like analytics in conventional algorithms (which may include algorithms mentioned above), "which work when a computer scientist designs a list of decision rules for the algorithm to walk data points through, and can be visualized in the form of a flowchart[,] machine learning algorithms, on the other hand, extract those rules from their training data."[25] "At a high level, machine learning tools attempt to discern patterns within data, but with no pre-conceived concepts or requirements as to the structure of these data."[26]

Inventive subject matter can focus on, or otherwise include, hardware and/or software underlying the manner by which an AI system trains and/or retrains itself, which may include establishing or readjusting algorithms, weights, policies, data sources, and inputs. Examples can include aspects of deep-learning, neural networks, supervised or unsupervised training, self-optimization, and statistical estimation or probabilistic/predictive analytics.

- **USPTO Example: Training Algorithm.** Similar considerations apply to the "algorithm" as to the structure of the training database, discussed above. There is also the distinction between the algorithm that executes or guides the learning process and the "implementation" or "model" (sometimes a "black box" that is not observable in some details) that "results" and is used for AI applications. The model *itself* may be "evolving" with "experience."

5. **Use Case, Autonomy, and Implementation.** The solution, commercial application, outputs, "posing a question," and/or a problem to be solved.

This element includes the problem to be solved, the solution, and/or the particular commercial product or use case. A patent application need not always describe an ultimate use case or commercial product. Nor will the "problem to be solved" always fall into this particular element. That said, improvements to other elements of an AI invention are generally intended to gird or enable improved distinct use cases or address some overarching shortcoming in existing products or software.

[24] Ignacio N. Cofone, *Algorithmic Discrimination Is an Information Problem*, 70 Hastings L.J. 1389, 1395 (2019).

[25] *Id*. at 1394–95.

[26] Machine learning uses an iterative process, in which the system initially forecasts an outcome based on combinations of input variables. The system then determines the errors of its forecasts, and adjusts accordingly, iterating until these error terms are minimized. *Ocean Tomo,* 375 F.Supp.3d at 956.

Examples of inventive subject matter may include robotics,[27] autonomous vehicles,[28] and expert systems.[29]

B. Disclaimer of The Above List

The Section offers the list above merely to present and discuss typical features for courts, examiners, policymakers to consider when conceptualizing and characterizing AI technologies. However, the Section does not proffer the list as a legal taxonomy or fundamental legal test to be adopted into legislation. In the spirit of the RFC, the list above is, at most, a "first step" in that general direction.

II. What are the different ways that a natural person can contribute to conception of an AI invention and be eligible to be a named inventor?

> Q2: What are the different ways that a natural person can contribute to conception of an AI invention and be eligible to be a named inventor? For example: designing the algorithm and/or weighting adaptations; structuring the data on which the algorithm runs; running the AI algorithm on the data and obtaining the results.

Patent law should generally eschew legal frameworks that are idiosyncratic to a particular technical art. As such, laws and regulations should not evaluate "conception" or "contribution" differently for AI inventions. "Conception is the touchstone of inventorship, [so] each joint inventor must generally contribute to the conception of the invention."[30] "Conception is the formation in the mind of the inventor, of a definite and permanent idea of the complete and operative invention, as it is hereafter to be applied

[27] US Patent 10,239,208 (Mar. 26, 2019) ("Determination Of Robotic Step Path").

[28] US Patent 10,425,619 (Sept. 24, 2019) ("Vehicular Control System With Central Electronic Control Unit").

[29] *See, e.g., Vehicle Intelligence and Safety v. Mercedes-Benz*, 78 F.Supp.3d 884, 889–90 (ND Ill. 2015) (an expert system is "an advanced computer program (instruction set) that mimics the knowledge and reasoning capabilities of an expert in a particular discipline. Its programmers strive to clone the expertise of one or several human specialists to create a tool that can be used by a layperson to solve difficult or ambiguous problems . . . Expert systems differ from conventional computer programs, the chief functions of which include data manipulation, calculations, and information retrieval. In contrast, expert systems combine facts with rules that state relations between the facts to achieve a crude form of reasoning analogous to artificial intelligence. The two main components of an expert system are (1) the knowledge base, which differs from a database in that it contains executable program code (instructions) and (2) the inference engine, which interprets and evaluates the instructions and data in the knowledge base.").

[30] *Ethicon, Inc. v. United States Surgical Corp.*, 135 F.3d 1456, 1460 (Fed. Cir. 1998) (quotes omitted).

in practice."[31] "[F]or the conception of a joint invention, each of the joint inventors need not make the same type or amount of contribution . . . [rather], each [may] perform only a part of the task which produces the invention."[32] Although this framework is *highly* fact-specific, it is adequate for evaluating a person's "contribution" and "conception," and should not be specially adapted or tailored for AI inventions.

The Office provides several examples of actions that may or may not constitute inventive contributions or conception—*i.e.,* designing the algorithm and/or weighting adaptations; structuring the data on which the algorithm runs; running the AI algorithm on the data and obtaining the results.[33] It is possible that one or more of the listed examples could qualify as human conception, but it is highly factually dependent—which is no different from other technical art. It is not categorically apparent whether any one of these exemplary activities will qualify as a contribution to the conception of an AI invention. For instance, there may be conception if a person "designs the algorithm" that provides an available training data set to a "generic" pattern-identifying algorithm. However, if a person is simply tasked with "running the AI algorithm on the data and obtaining the results" where the "algorithm" and "data" have been supplied, then it is unlikely the "conception" is satisfied any more than when a "technician" merely builds and tests (*i.e.*, reduces to practice) any other invention. Nevertheless, the current framework is sufficient for addressing each of these examples.

First, a person who designs the algorithm is likely an inventor. A person has contributed to the invention if that person helped conceive of the algorithm's design. But that person would not be an inventor if the person "simply provide[d] the inventor with well-known principles or explain[ed] the state of the art without ever having a firm and definite idea of the claimed combination as a whole."[34]

Second, "structuring the data on which the algorithm runs" could also be an example of contribution. In *Enfish,* the Federal Circuit found that the structure of a database could be patentable.[35] The person who structured the data in *Enfish* would be an inventor of that structure. If that person would have contributed to the development of some AI algorithm designed to run on the data structure in *Enfish*, then that person would also be a co-inventor of the AI algorithm as well.

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[31] *Id*.

[32] *Id*. (quotes omitted).

[33] 84 Fed. Reg. 44889 (Q2).

[34] *Ethicon,* 135 F.3d at 1460 (quotes omitted).

[35] *Enfish,* 822 F.3d at 1337.

Third, "running the AI algorithm on the data and obtaining the results" is unlikely to qualify as a contribution. A person who "simply reduce[s] the inventor's idea to practice is not necessarily a joint inventor."[36] Assuming this example's purported invention is connected to "obtaining the results," the legal assessment for contribution is no different from other technical areas.

An AI's involvement does not change the calculus. At least for now, the extant framework for "conception" and "contribution" is workable for AI inventions. The "different ways that a natural person can contribute to conception of an AI invention" are as varied and fact-specific as in any other technical area. The fact that, for example, an inventor employs an AI as a tool for invention does not change the factual inquiry into whether the inventor's conceptions and actions amount to inventorship.

As a practical matter, as the US has moved towards a harmonized model of "industrial property," the issue of "conception" is perhaps becoming less important compared to the pre-AIA system, whose features included, for example, the interference process for determining "the first to invent" based on "first conception and diligence in reduction to practice."

With respect to AI inventions, the complexity will eventually surround pulling apart the AI's involvement from the human's creativity and problem-solving—particularly as the AI's involvement evolves into creativity and problem-solving. The contours of these issues will need to be addressed on a case-by-case basis, as unforeseen, factually-specific examples are addressed by the courts.

Additionally, a person may "contribute" by (as mentioned in Question #1) posing problems, intervening in the learning process either with direct human-entered inputs or other inventive feedback mechanism, as well as developing or introducing some other interaction between the AI and externalities ("real world" or simplified models).

III. Do current patent laws and regulations regarding inventorship need to be revised to take into account inventions where an entity or entities other than a natural person contributed to the conception of an invention?

> Q3: Do current patent laws and regulations regarding inventorship need to be revised to take into account inventions where an entity or entities other than a natural person contributed to the conception of an invention?

Patent laws and regulations would need to revised to recognize AI inventorship, assuming policy called for permitting AI-*created* inventions to be patentable. But as

[36] *Ethicon,* 135 F.3d at 1460 (quotes omitted).

previously noted, the Section generally opposes recognizing AI inventorship. Therefore, even though laws and regulations would need to be revised to recognize AI inventorship, they should not be.

Current statutory and case law frameworks would not recognize AI-*created* inventions and only permit patenting by inventions involving human conceptualization. Foundational to the US patent system is safeguarding the rights and privileges of an ***inventor***.[37] Inventorship is tightly linked to a human's mental act of "conception."[38] "[Conception] is the formation ***in the mind of the inventor***, of a definite and permanent idea of the complete and operative invention."[39] Consequently, AI-inventions are patentable *only* where there is a human who is eligible as an inventor. Therefore, Congressional legislation would be necessary to effectuate patents protecting AI-*created* inventions.

Nevertheless, AI-inventorship should not be codified or otherwise recognized. In order to recognize AI-created inventions, the US would have to abandon, as a policy matter, the basic notion of granting the monopoly reward for human ingenuity. Rather, inventions could be the result of automated iterations of inventive question/answer trials, which, eventually, a computer might pose to itself and solve. Ultimately, the Section believes that "automated invention" would not serve the policy ends of US patent law—*e.g.*, rewarding human ingenuity.

IV. Should an entity or entities other than a natural person, or company to which a natural person assigns an invention, be able to own a patent on the AI invention?

> Q4: Should an entity or entities other than a natural person, or company to which a natural person assigns an invention, be able to own a patent on the AI invention? For example: should a company who trains the artificial intelligence process that creates the invention be able to be an owner?

As an initial matter, the Section is cautious of expressing a view that is too broad, and extends beyond the purposes of this RFC. The definition of "entity or entities

[37] *See* U.S. Const. Art. I, § 8, cl. 8 ("promote the Progress of Science and useful Arts, by securing . . . Inventors the exclusive Right to their respective Writings and Discoveries."); *Bd. of Trust. of Leland Stanford v. Roche Sys.*, 131 S. Ct. 2188, 2195 (2011) ("Although much in intellectual property law has changed in the 220 years since the first Patent Act, the basic idea that ***inventors*** have the right to patent their inventions has not." (emphasis added)).

[38] *Burroughs Wellcome Co. v. Barr Laboratories, Inc.*, 40 F. 3d 1223, 1227–28 (Fed. Cir. 1994) ("Conception is the touchstone of inventorship, the completion of the mental part of invention.").

[39] *Id*. at 1228 (emphasis added).

other than a . . . company to which a natural person assigns invention" is essentially boundless and might prompt overly broad responses. The Section has limited its response to this question to a narrower scope in the spirit of this RFC—*i.e.*, an AI, a natural person, and recognized forms of legal entities. Other unforeseen or (as of yet) undefined entities are the subject for another day.

To the extent this question contemplates ownership by an AI *itself*, the Section generally opposes recognizing an AI as an owner or other type of rights-holder. AI ownership is not only undesirable as policy matter, it is also unworkable. For instance, the US and its constituent sovereignties would have to recognize that an AI may own property. This raises broader questions of "personhood" of an AI, which are outside the purview of patent law.

In nearly all other foreseeable scenarios under consideration for AI inventions, the extant ownership regime generally serves desirable policy outcomes, and the mechanisms of assignment by a human-inventor to an autonomous legal entities (*e.g.*, corporations, LLCs) remains workable.

Turning to the example offered by the Office in the RFC, the exemplary question posed by the Office is an issue of "conception" and "contribution," rather than ownership. The Section believes these issues are satisfactorily addressed within those legal frameworks. In particular, certain AI-training efforts may qualify as "conception" (as offered in response to Question #2), and such conception may be made by a person who works for a company that "trains" an AI instrumentality (or specifies that training) or jointly conceives with another person who conceived another aspect. As such, the issue, here, is one of conception, not ownership. Put another way, even if a company trained an AI process (either its own or one belonging to a third-party) and that AI process then creates some invention, there can be no patentable invention without human conception, in which case there are patent rights to own. An instrumentality need not be considered an inventor any more than a polymerase chain reactor and gene sequencer.

V. Patent eligibility considerations unique to AI inventions?

> Q5: Are there any patent eligibility considerations unique to AI inventions?

There are several critical items challenging AI inventions with respect to patent-eligibility. First, AI inventions are highly vulnerable to the post-*Alice* conflation of patent-eligibility, under 35 U.S.C. § 101, and prior art, under 35 U.S.C. §§ 102 and 103. Second, the definitional distinctions between "AI inventions" and otherwise complex computing processes are murky and misunderstood, and lend themselves to improper outcomes under § 101. Although detailed discussion of § 101 policy is better served in another forum, with respect to AI inventions the Section believes the § 101 challenges

to AI inventions are best addressed by reframing the discussion of patent-eligibility in terms of "preemption," rather than continuing to nuance the current *Alice* framework. Policy discourse should focus on balancing (i) prohibitions on improper preemption against (ii) properly-scoped protection.[40]

In the first issue, AI inventions are highly susceptible to an *Alice* analysis that "describe[es] the claims at such a high level of abstraction and untethered from the language of the claims."[41] On the one hand, it is important for applicants to provide ample descriptions of their novel technology in terms of the computing operations, rather than, for example, strictly in terms of results and benefits. It is also critical for the appropriate level of detail to make its way into the claims. On the other hand, AI inventions will suffer under a regime where the *Alice* test is applied in such a way that an examiner or judge's one sentence encapsulation of the claims is compared against a brief synopsis of the claims from another case. It is likely that many AI inventions will be easily characterized as, for example, "a method of organizing human activity" or "an idea in itself." While many computing inventions have faced these challenges, they might be particularly acute for AI inventions. The very premise of AI technology, underlying an AI invention, is the ability to simulate a human's capabilities for abstraction (*e.g.*, pattern-recognition; intuitive contextualization; probabilistic thought, rather than deterministic calculation; adaptive/predictive intelligence) in problem solving or performing some task. The concepts or features expressed in a claim for an AI invention might feel familiar or even intuitive to a human. When an *Alice* test is applied to a claim without a clear partition between § 101 and § 103, improper conclusions based on hindsight or vague correspondences to known technologies might creep into the analysis. Likewise, an examiner or judge could easily, though mistakenly, characterize the claims as some "mental process" or determine that the claims lack an "inventive concept."

The Section appreciates the Office's recent Guidance documents regarding § 101 examination, published in January 2019 and October 2019.[42] In the January Guidance, the Office sought to mitigate against improper comparisons between pending claims against prior case law by establishing "groupings" of abstract ideas. The latest

[40] "As a matter of policy, the ABA supports the principle that laws of nature, physical phenomena, and abstract ideas standing alone are not eligible for patenting as a process; however, we believe that a process currently meets the requirements of section 101 where the claimed process as a whole is limited to a specific application of a law of nature, natural phenomenon, or abstract idea." Scott Partridge, *Statement Of The American Bar Association For The Subcommittee On Intellectual Property, Committee On The Judiciary United States Senate, on "The State of Patent Eligibility in America: Part II,"* at p. 1–2 (June 5, 2019), *available at* https://www.judiciary.senate.gov/imo/media/doc/Partridge%20Testimony.pdf (*citing* American Bar Association Resolution 101A, adopted Feb. 11, 2013).

[41] *Enfish,* 822 F.3d at 1337.

[42] *See* 84 Fed Reg. 50 (January 7, 2019); 84 Fed. Reg. 55942 (October 18, 2019).

October Guidance "affirms that the USPTO is no longer taking the case-comparison approach to determining whether a claim recites a judicial exception and instead uses enumerated groupings of abstract ideas."[43]

In the second issue, the distinctions between *Alice* and *McRO* highlight the import of appreciating the differences between AI or AI-like technology and mere complex software. The claims in *Alice* described the results of software capable of mitigating "settlement risk."[44] This was an example of complex software, implementing complex algorithms, on large volumes of data. By contrast, in *McRO* claims for a method of automatically adjusting computer graphics were patent-eligible, where the claims recited a method for automatically animating lip synchronization and facial expressions of characters in computer graphics animation.[45] The Federal Circuit explained that the claimed automation method applied a series of "specific" and "concrete rules" that transformed information into a certain format that was used to animate the characters. The decision in *McRO* makes it clear that "processes that automate tasks that humans are capable of performing are patent-eligible if properly claimed" in way that focuses on specific application and avoids preemption.[46] The complex software in *Alice* boiled down to formulas for spreadsheets and calculators, which a human could theoretically set aside given an infinite amount of time or a significantly reduced data set. Not so with the invention in *McRO*. The Federal Circuit rightly recognized that algorithms that underpin AI inventions will simulate human behaviors, yet still yield improvements to the technology. So unlike claims for complex software, in AI inventions whether an algorithm seemingly approximates human behavior cannot be a controlling standard. At least for AI inventions, the focal point should be on preemption, as demonstrated by the Federal Circuit's reasoning in *McRO*.[47] Otherwise, AI inventions will suffer under the morass of the *Alice* standard,

[43] *See* John Rogitz, "USPTO Issues Additional Subject Matter Eligibility Guidance," *IPWatchdog* (Oct. 20, 2019), *available at* https://www.ipwatchdog.com/2019/10/20/uspto-issues-additional-subject-matter-eligibility-guidance/id=114944/.

[44] *Alice Corp. Pty. Ltd. v. CLS Bank Int'l*, 134 S. Ct. 2347, 2351–52 (2014).

[45] *McRO, Inc. v. Bandai Namco Games Am. Inc.,* 837 F.3d 1299, 1303 (Fed. Cir. 2016).

[46] Mizuki Hashiguchi, *The Global Artificial Intelligence Revolution Challenges Patent Eligibility Laws*, 13 J. Bus. & Tech. L. 1, 13 (2017).

[47] Although the Federal Circuit did not treat preemption as dispositive in *McRO*, it was a significant consideration that allowed the court to arrive a decision that kept the door open for AI inventions simulating behavior. 837 F.3d at 1315 ("The concern underlying the exceptions to § 101 is not tangibility, but preemption.").

because AI inventions can often be characterized as an operation capable of being performed by a human with the words "apply it" added.[48]

VI. Disclosure-related considerations unique to AI inventions

> Q6: Are there any disclosure-related considerations unique to AI inventions? For example, under current practice, written description support for computer-implemented inventions generally require sufficient disclosure of an algorithm to perform a claimed function, such that a person of ordinary skill in the art can reasonably conclude that the inventor had possession of the claimed invention. Does there need to be a change in the level of detail an applicant must provide in order to comply with the written description requirement, particularly for deep-learning systems that may have a large number of hidden layers with weights that evolve during the learning/training process without human intervention or knowledge?

Although the Section believes the current § 112 framework is workable and sufficient, the Section is concerned about the framework's implementation during examination and litigation. The written description for an AI invention, like the definitions and descriptions of "AI" as a technical field of study, can easily devolve into a black box. This issue is not unique to AI inventions, as it is regularly addressed in existing software inventions. And just as in existing software inventions, well-known processes need not be described in detail, whereas the to-be-rewarded "conception" or invention (such as offered in response to Question #2) should be described in such detail to show "possession" and to enable the POSITA's practice.

As an example, for general deep learning neural networks, the written description need not disclose the number of hidden layers or neurons employed because they are unnecessary and may be referred to functionally. In contrast, for some types of neural networks, such as convolutional neural networks, the hidden-layer designs for a particular perception problem will be unique/novel and should be described in detail sufficient to satisfy § 112.

On the other hand, during enforcement, a poorly constructed description of the novel aspects of the invention, and their relation to known technology, can make it difficult to pin down the embodiments and limitations framing an infringement theory. Sometimes there is a disconnect between the patent attorney who is charged with claiming as broadly as possible and describing mix-and-match "embodiments" in manner that is non-limiting on the claims, and the inventor who often believes that certain details need not be spelled out. In some circumstances, the attorney and/or

[48] *See Alice*, 134 S. Ct. at 2358 ("Stating an abstract idea while adding the words 'apply it with a computer' simply combines those two steps, with the same deficient result.").

inventor intentionally draft claims and/or the specification in a way that is non-committal or even vague as to what the actual invention is. In either case, later defendants suffer from amorphous infringement theories. Given the nature of AI inventions, patents for AI inventions could be easily deployed for abusive litigation. So even though the extant § 112 are sufficient in principle, it is particularly critical for the USPTO to aggressively police the § 112 disclosure standards.

VII. How can patent applications for AI inventions best comply with the enablement requirement?

> Q7: How can patent applications for AI inventions best comply with the enablement requirement, particularly given the degree of unpredictability of certain AI systems?

The rules regarding enablement under § 112 are sufficient with respect to AI inventions. The response to Question #6, *supra*, applies equally here. That is, for AI inventions, the potential shortfall is not in the legal standards, but in the examiner corps' vigilance.

For AI inventions, another concern regarding "unpredictability" is that the enablement standard is adequate given the fluidity of AI inventions. The enablement standard has been workable for patents covering similarly "unpredictable" technologies, such as "fuzzy logic" systems. Even though a patent should enable a POSITA to build the claimed AI system, many patented inventions do not actually "work" in a variety of technical arts. Often times, whether an AI invention "works" or operates as contemplated is a matter of its data set. But whether a relevant data set is part of the claimed AI invention is not very different from any other system in which a particular data set is part of the invention. That the data set may change, and the results may vary or converge (or not), at different modalities or fail to adequately model or approximate reality, should not affect either enablement or utility.

VIII. Does AI impact the level of a person of ordinary skill in the art? If so, how? For example: should assessment of the level of ordinary skill in the art reflect the capability possessed by AI?

> Q8: Does AI impact the level of a person of ordinary skill in the art? If so, how? For example: should assessment of the level of ordinary skill in the art reflect the capability possessed by AI?

No, for AI inventions involving human contributions, there is necessarily a POSITA. An AI employed by a human inventor is a mere instrumentality. So even if the AI is "autonomous" in some respect, the AI will remain an agent. Any resulting invention should still be considered relative to a POSITA who will have available to him/her known AI technology and technicians to implement the conception. To the

extent that an AI-*created* invention is entirely autonomous so as to exceed human contributions, then there is no patent-eligible inventor.

IX. Are there any prior art considerations unique to AI inventions?

Q9: Are there any prior art considerations unique to AI inventions?

There are three prior art considerations related to AI inventions, though they are not "unique" to AI inventions. The first is that AI is vulnerable to conflating patent-eligibility and prior art, and the second is written description and "black box" entanglements. Both of these have been previously discussed. A third issue is the complications in prior art searching.

These three complications often intersect for AI inventions when considering prior art issues. Most current commercial applications of AI technologies use core approaches explored in the literature for decades and have only relatively recently been enabled by increased processor power. That said, tweaks to those approaches in many cases are inventions to be rewarded. A perennial difficulty with software patents has been the lack of transparency of algorithms (and their interchangeability for specified functions) making it difficult to locate prior art (even in the ACM or IEEE libraries). This difficulty may persist for AI inventions, which today are largely viewed as having "black box" cores—specified by inputs and outputs, including recursion. Where there is an important tweak, an inventor should identify it to meet the disclosure requirements under § 112 (*see* response to Question #6). As in most cases, only when the patent is asserted will there be a more thorough search for prior art.

X. Are new forms of intellectual property protections needed for AI inventions?

Q10: Are there any new forms of intellectual property protections that are needed for AI inventions, such as data protection?

A new form of protection should not be considered for protecting an AI-inventor, because AI *itself* should not be awarded a monopoly or other enforceable right.

AI inventions may, however, struggle with protection in several ways. Patents do not protect data compilations, such as AI training sets, a programmer's particular expression of source code, or other types of proprietary information that may be competitively advantageous and constitute a trade secret. Many innovative (if not inventive) applications of AI suffer from lack of access to a broader database.[49] This data is jealously and already effectively guarded by their collectors—not entirely for

[49] A more complete database yields better (*e.g.*, more precise; less biased) operations/output.

protection of the privacy of individuals. Even publicly-facing information, like web-postings and search results, are protected from "scraping" under "property" theories, such as the Computer Fraud and Abuse Act and/or arguments that competitors may get a "free ride," though it is arguable that large data collectors are themselves getting a disproportionate benefit where they have, for example, collected their datasets by observing data packets transported over the internet and read at least in part at every node and indexed for "free email." Rather than break up these data collectors, competition, innovation and alternatives to information bubbles may be encouraged by some controlled sharing of that information.[50]

Another concern, as mentioned earlier, is whether a party can somehow protect the training performed on a white label AI product. For example, IBM's Watson product can be licensed in certain circumstances to companies who then train their Watson instance for a particular knowledge domain in order to service a specific industry.[51] Again, the Section concludes that "new" forms of IP are not necessary. The various technologies can be adequately protected by licenses, non-disclosure agreements, and extant frameworks for "inventorship" and "contribution." To the extent new data outputs are produced by the company's implementation, after training, that data is adequately protected under trade secret.[52] Furthermore, if any party wishes to grant licenses to their datasets, but keep the data secret or controlled, there are technological solutions for "exposing" datasets for external "consumption," while maintaining the secrecy of the underlying library, as well as digital rights management (DRM) software.

XI. Are there any other issues pertinent to patenting AI inventions that we should examine?

> Q11: Are there any other issues pertinent to patenting AI inventions that we should examine?

1. The "Inventiveness" / "Obviousness" Of AI Output

Inventorship is not always premised on the sophistication necessary to arrive at a solution. It is possible for good fortune or a minimally sophisticated understanding of

[50] *See* S. Lohr, "How Should Big Tech Be Reined In? Here Are 4 Prominent Ideas," *N.Y. Times*, Aug. 20, 2019, https://www.nytimes.com/2019/08/20/technology/big-tech-reined-in.html?searchResultPosition=1 ("Unlock the Data").

[51] *See, e.g.,* Anthony Sills, "ROSS and Watson tackle the law," *IBM: AI For The Enterprise* (January 14, 2016), *available at* https://www.ibm.com/blogs/watson/2016/01/ross-and-watson-tackle-the-law/.

[52] *See Kewanee Oil Co. v. Bicron Corp.,* 416 US 470, 483 (1974) ("Also, it is hard to see how the public would be benefited by disclosure of customer lists or advertising campaigns; in fact, keeping such items secret encourages businesses to initiate new and individualized plans of operation, and constructive competition results.").

the art to give rise to an inventor's experimentation, particularly when AI tools are employed. The question then becomes whether the purported inventor actually invented the subject matter, and whether there is some threshold amount of "inventiveness" needed to show that the invention was not somehow obvious. This is an issue currently under consideration in Europe, though EPO law requires "inventiveness" to satisfy an "inventive step" standard, which is not found in US law.[53] "Inventive step" is most closely analogous the US concept of "non-obvious."

2. Data Rights

As previously discussed, there may be ownership, inventorship, and/or authorship concerns related to datasets used to train an AI and/or data produced by an AI. Although new forms of intellectual property are unwarranted, existing regimes should be examined. In any event, the extant US patent system is not implicated, as it offers adequate and workable frameworks for protecting *inventors*.

XII. Are there any relevant policies or practices from other major patent agencies that may help inform USPTO's policies and practices regarding patenting of AI inventions?

> Q12: Are there any relevant policies or practices from other major patent agencies that may help inform USPTO's policies and practices regarding patenting of AI inventions?

In short, a recent report to the EPO noted "that none of the relevant jurisdictions [US, Japan, China, Korea, Germany, France, UK, and Switzerland] allow[] for AI systems to be considered as inventor under their patent law regimes."[54] Nor would they permit AI to own patents. The same report discouraged changing European laws to allow for either circumstance. As such, extant US laws and the recent ABA-IPL resolutions comport with major jurisdictions.

- EPO

The European Patent Convention ("EPC") and the laws of major European jurisdictions do not recognize AI as inventors or owners of patents.[55] The EPO

[53] Dr. Noam Shemtov, *A Study On Inventorship In Inventions Involving AI Activity*, Commissioned by the European Patent Office, at 8 (February 2019) ("EPO Study").

[54] *Id*. at 5.

[55] This includes the EPO/EPC, UK, Germany, France, UK, and Switzerland. *Id*. at 7 ("Following an analysis of the EPC framework, it was concluded that, should a patent application be filed designating an AI system as inventor, it is likely to be found deficient under Article 81 and Rule 19 EPC and, if not remedied, may be refused under Article 90 EPC.").

presently opposes the prospects of recognizing any changes to make it possible for AI to be named an inventor or owner.[56]

A major distinction from at least the European system is that traditionally and statutorily the U.S. looks at a claim "as a whole" rather than an improvement over a recited base. The claim as a whole may be better for independent inventors who may have less extensive knowledge of a particular industry than incumbent members of that industry to identify improvements. Against this favor, the independent or smaller competitor may find more difficulty in resisting an overly broad claim—with no focus on a claimed improvement. A focus on the "conceived" inventions in AI as offered in response to Question #2 would help in this regard—and be consistent with current law under *Alice* – and generally consistent with the "technical solution" to a "technical problem" approach we have seen in Europe. [Any experience with other agencies or more with Europe would be helpful.]

- JPO

Japanese patent law does not contain a statutory definition of "inventorship," which is strictly a creature of court jurisprudence.[57] The courts have nevertheless established a relatively consistent understanding of inventorship. Although the focus is more heavily placed on level of intellectual effort and activity, it is does rise to a "sweat of the brow" doctrine. "[W]hat is needed are acts of a creative nature bringing about the claimed invention. Mere administrative activities, even if of utmost importance, will not suffice for that purpose. The acts in question need to be of a 'creative' nature, assessed on a claim-by-claim basis."[58] "[I]n the context of AI systems, again it is clear that a scenario that involves an invention without a human actor being identified as an inventor is not likely to arise in the foreseeable future." [59]

"For the description requirement of AI inventions, it is generally required that there is some correlation between input and output data."[60] "[D]irectly indicating the correlation in the description is not necessarily required, and detailed description of the

[56] *Id*. at 8 ("It has been submitted that, as mentioned above, the concept of the inventor in inventions involving AI activity should continue to carry the same meaning as it does in relation to more traditional inventions: a person who made an intelligent or creative contribution to the conception phase of an invention.").

[57] *Id.* at 14.

[58] *Id.* at 15.

[59] *Id.* at 15.

[60] Toru Matsuoka and Masataka Saito, "How the JPO handles AI-related applications," *IAM* (March 26, 2019), *available at* https://www.iam-media.com/law-policy/jpo-ai-examples.

correlation might be omitted if the correlation is apparent to a person skilled in the art," and likewise "it is enough to show the correlation indirectly by using the experimental results of an AI system for proving that the AI system has learned the correlation through machine learning, even if an applicant cannot analyze the correlation specifically."[61] This generally captures the disclosure requirements of the US, but extends beyond US law by contemplating how data/results can be referenced.

- KIPO

Korean patent law does not statutorily define "inventor." "Korean case law defines an inventor as a 'person who has substantially engaged in the creative process of an invention.'"[62] An inventor is any person who contributed to a "creative" feature of a claim element.[63] Like several jurisdictions, a claim-by-claim analysis is used to determine whether a person employed an adequate "creative" contribution to the claim.

- SIPO (China)

Under Chinese law, an "inventor" is a person who made creative contributions to an invention's substantive features.[64] The "substantive features" refers to the novel aspects of the claimed invention.[65] "Creative contributions" appears to refer "to innovative intellectual work carried out in relation to the aforementioned substantive features."[66] Taken together, a person is an inventor when their intellectual efforts contributed to the novel aspects. This is similar to other jurisdictions, including the US. And like the US, this legal conceptualization of inventorship would prohibit AI inventors.[67]

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[61] *Id*.

[62] EPO study at 15.

[63] *Id*.

[64] Implementing Regulations of the Patent Law of the People's Republic of China, (Promulgated by Decree No. 306 of the State Council of the People's Republic of China on June 15, 2001, amended for the first time in accordance with the Decision of the State Council on Amending the Implementing Regulation of the Patent Law of the People's Republic of China on December 28, 2002, amended for the second time in accordance with the Decision of the State Council on Amending the Implementing Regulation of the Patent Law of the People's Republic of China on January 9, 2010, and effective as of February 1, 2010), *available at* https://www.wipo.int/edocs/lexdocs/laws/en/cn/cn078en.pdf

[65] Shanghai No. 1 Intermediate People's Court (2011) Hu-Yizhong-Minwu(zhi)-Chu-Zi No.1.

[66] EPO Study at 13.

[67] *Id*. at 13.

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The ABA-IPL Section appreciates the opportunity to provide feedback to the Office on the Request. ABA-IPL looks forward to further dialog with the Office with regard to the issues raised above.

Sincerely,

George W. Jordan III
Chair, ABA Section of Intellectual Property Law