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PATENTLY INEQUITABLE

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Though the patent prosecution process may be perceived as culturally blind, it is constructed from an almost exclusively majoritarian viewpoint. As a result, inventors leveraging marginalized cultural capital to invent may be held to a different standard than those leveraging majority cultural capital. Structural and procedural aspects of patent prosecution systems worldwide can deny equity to non-white, non-Christian inventors who leverage their lived experiences to invent. This article concentrates on one such structural aspect: subject matter categorization.

From Black hair care industries to religion-based inventions, those in marginalized communities bear the additional burden of explaining their culture to a fictitious reasonable person constructively ignorant of their culture and traditions. These examples draw attention to the greater inequitable messaging of the patent system, which necessarily derives from these inequitable structural and procedural dynamics. There is an inherent failure to objectively classify and evaluate patent applications, resulting from the failure to develop a shared epistemic reality to draw on people’s experiences.

We must revise classification systems to ensure examiners, practitioners, and inventors are both more aware of these presently occurring systemic injustices, and more able to share the burden currently overborne by marginalized populations.

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INTRODUCTION

Patent law suffers from fundamental invisible inequities baked directly into the prosecution system.² Although all inventors should receive patent protection for inventions that are new, non-obvious, and disclosed adequately,³ the current processes and procedures at the United States Patent and Trademark Office (USPTO) fail to create an equitable patent process.⁴ The patent system runs on power of the perceived majority, ignorant of the experiences of minority inventors and inadvertently creating a disparate prosecutorial process for people of different races, religions, and national origins. The patent system is not developed to equitably serve inventors leveraging their non-majority cultural capital.⁵ These development issues stem from the beginning stages of patent prosecution itself: the classification system.

At the first stage of patent prosecution, a patent office sorts a patent application by subject matter into art units⁶ and sends it to an examiner

² Patent prosecution refers to the time between when an entity applies for a patent through the time the patent issues or the application is abandoned. Although this article mainly focuses on issues relevant to the U.S. patent system, I believe decisions to center majority (and often white, Euro-centric) culture at the detriment of minority culture permeate patent offices on a global scale.

³ Christian Sternitzke, *Patents and Publications as Sources of Novel and Inventive Knowledge*, 69 SCIENTOMETRICS 551, 554-555 (2009).

⁴ Kevin Mack, *Reforming Inequitable Conduct to Improve Patent Quality: Cleansing Unclean Hands*, 21 BERKELEY TECH. L.J. 147, 147-149 (2006); Jordana Goodman, *Sy-STEM-Ic Bias: An Exploration of Gender and Race Representation on University Patents*, 87 BROOK. L. REV. 853 (2022); W. Michael Schuster, R. Evan Davis, Kourtenay Schley & Julie Ravenscraft, *An Empirical Study of Patent Grant Rates as a Function of Race and Gender*, 57 AM. BUS. L.J. 281 (2020); JESSICA C. LAI, PATENT LAW AND WOMEN: TACKLING GENDER BIAS IN KNOWLEDGE GOVERNANCE (Routledge ed., 2022); Colleen V. Chien, *Increasing Diversity in Innovation by Tracking Women, Minority, and Startups Innovators that Patent and Supporting Experimentation in Inclusive Innovation*, SANTA CLARA UNIV. LEGAL STUD. RSCH. PAPERS No. 01-19 1 (June 30, 2019); Kara W. Swanson, *Race and Selective Legal Memory: Reflections on Invention of a Slave*, 120 COLUMBIA L. REV. 1077 (May 2020).

⁵ Cultural capital is a resource derived from a culture, such as knowledge, which can enable or foster social and educational advancement. Non-majority cultural capital refers to cultural capital held by a group that does not comprise more than 50% of a given population. *The Changing Nature of Cultural Capital*, in 29 HIGHER EDUC.: HANDBOOK OF THEORY & RSCH. 153 (Michael B. Paulsen ed., 2014).

⁶ *Patent Classification*, U.S. PAT. & TRADEMARK OFF., <https://www.uspto.gov/patents/search/classification-standards-and-development> (last visited July 24, 2023).

specializing in that subject matter. For example, at the USPTO, the examiner examines the application on behalf of the United States government and grants a patent for an invention if it is novel⁷, non-obvious to a Person Having Ordinary Skill In The Art (PHOSITA)⁸, and described such that any person skilled in the art can make and use that invention without undue experimentation.⁹ They will search databases to find prior art – information publicly disclosed before the inventor filed the patent application – and compare this prior art to the patent application disclosure.¹⁰ If the examiner rejects the application (in a document known as an office action), the applicant must successfully respond to the rejection and persuade the examiner that either the original application or a revised application meets patentable standards to get a patent.¹¹

Scholars have long recognized that, by only accounting for limited characteristics like age and education level, the reasonable person standard discounts “female and non-white perspectives”¹² and can serve “as a vehicle for importing discriminatory views into the heart of the legal standard.”¹³ This, as the late Dan Burk suggested, patent law serves as a knowledge management system, and we must take into account the costs and benefits of codification – including the benefits and detriments of the inherent modularity of recorded information systems.¹⁴ He further discussed how patent systems can explicitly decide “the kinds of technology we would prefer to promote”¹⁵ and such decisions embedded in a theoretically

⁷ 35 U.S.C. § 102.

⁸ 35 U.S.C. § 103.

⁹ 35 U.S.C. § 112. This is among a myriad of other requirements, including subject matter eligibility (35 U.S.C. § 101), which will not be discussed in this article.

¹⁰ MPEP § 904 (9th ed. Rev. 07.2022, Feb. 2023); MPEP § 2103 (9th ed. Rev. 07.2022, Feb. 2023).

¹¹ *Responding to Office Actions*, U.S. PAT. & TRADEMARK OFF., <https://www.uspto.gov/patents/search/classification-standards-and-development> (last visited July 24, 2023).

¹² Samantha Stephey, Reasonable for Whom? A Consideration of the Appropriate Reasonableness Standard where Battered Woman Syndrome Evidence is Relevant to a Duress Defense, 52 Univ. Balt. L. Rev. 507, 509 (2023); cf. Sandra F. Sperino, *Retaliation* <https://digitalcommons.wcl.american.edu/cgi/viewcontent.cgi?article=1526&context=jgspl> Stephanie H. Weigel, *The Reasonable Person Standard: Psychological and Legal Perspectives*, 17 ANN. REV. OF L. & SOC. SCI. 123 (2021); Alan D. Miller & Ronen Perry, *The Reasonable Person*, 87 N.Y.U. L. Rev. (May 2012), Laura A. Heymann, *The Reasonable Person in Trademark Law*, College of William & Mary L. School (2008).

¹³ Mayo Moran, *The Reasonable Person: A Conceptual Biography in Comparative Perspective*, 14 Lewis & Clark L. Rev. 1233, 1233 (Dec. 15, 2010).

¹⁴ Dan L. Burk, *The Role of Patent law in Knowledge Codification*, 23 Berkeley Tech. L.J. 1009, 1013 (2008).

¹⁵ Dan L. Burk, *Do Patents Have Gender?* 19 J. Gender, Social Policy & the Law 881, 918 (2011).

objective standard “indicate underlying gendered assumptions”¹⁶ of the patent system. I build on these ideas, showing how the patent system’s classification system begins to exclude cultural knowledge and creates a system promoting majority culture-derived inventions at the expense of marginalized communities and their inventions.

I go beyond the standard story of patent prosecution by using case studies to highlight prosecutorial inequities. The examples of inventions relating to Black hair care and Jewish ritual objects show how patent prosecution proceedings – especially in classification – can frustrate, intimidate, and erase people from the inventive population.¹⁷

In my first case study, I highlight how Bruce Boyd and Brigitte Gopou’s hair styling invention transformed the Black haircare industry.¹⁸ However, because the USPTO miscategorized their hair styling invention as a cleaning product, Mr. Boyd and Ms. Gopou never received the patent protection their invention deserved.

In my second case study, I review the case of the Shkedi family, who applied for patent protection on a new kosher ink for Jewish ritual objects.¹⁹ The examiner rejected their initial claims because the examiner considered their reference to “kosher” to be indefinite (despite including a definition in the application). This case shows how lacking a religion-specific art unit creates patent prosecution procedures unable to recognize the validity of all speech communities in the U.S. equitably.

I make no claim that these are the only contributors to inequity in patent prosecution. From obviousness to enablement standards and from doctrine of equivalents determinations to rationales to combine references, fictitious person standards in patent law are constructed to fill gaps where subjectivity is introduced.²⁰ The examples herein highlight a hypothesized larger problem in applying subjectivity through a majoritarian lens.

¹⁶ *Id.* at 919.

¹⁷ The examples herein focus on utility patent applications, but the inequitable themes discussed herein likely apply to design patents as well. *See, e.g.*, U.S. Design Pat. No. 1,000,000S (Sept. 26, 2023) (showing a narrow design patent for a dispensing comb); *see also* U.S. Design Pat. No. 715,513 (Oct. 14, 2014) (a narrow design patent for a menorah, a candelabra used in Jewish rituals).

¹⁸ *See* Section II A, *infra*.

¹⁹ *See* Section II B, *infra*.

²⁰ *KSR Int’l v. Teleflex Inc.*, 550 U.S. 398 (2007); *Nautilus, Inc. v. Biosig Instruments, Inc.*, 572 U.S. 898 (2014) (reasonable certainty); *Acceleration Bay LLC v. Take-Two Interactive Software Inc.* Delaware D.C. 612 F. SUPP. 3D 408 (2020) (“The most familiar framework for evaluating equivalence is whether the accused product performs substantially the same function in substantially the same way to obtain substantially the same result.”).

I am not arguing that patents should be distributed more freely or less freely, nor do I argue for or against the merits of patent inventorship. I do not ask for a bar of obviousness, written description, or enablement to be raised or lowered for certain groups at the USPTO. I advocate for the theoretical promise of patenting – where everyone (not just professional technicians) has the right to profit from their inventive work.²¹ I argue that patent standards should apply equitably, regardless of an invention’s reliance on majority or minority cultural capital.²² This starts with revising the classification system.

The remainder of this article proceeds as follows. In Part I, I provide a background in patent prosecution and classification processes. In Part II, I highlight two cases where missing art units and misclassification resulted in inequitable patent prosecution processes. These cases show how the current approach to patent examination and prosecution prioritizes Westernized culture²³ and inequitably excludes cultural language and knowledge when defining characteristics of an ordinary fictitious person. Part III proposes structural solutions to remedy these imbalances and build a more knowledgeable, worldly, and equitable patent system through classification system revisions.

I. INEQUITABLY CONSTRUCTING PATENT PROSECUTION

Inequities in subjective evaluations can permeate the entire patent prosecution process. From the categorization process and finding prior art, to determining whether the application meets patentable standards, the examiner and the USPTO construct an “intentional and normative” version

²¹ See e.g., B. Zorina Khan, *The Democratization of Invention: Patents and Copyrights in American Economic Development, 1790-1920* (2005).

²² Equity is not a self-defining topic and encompasses many definitions. See e.g., Kali Murray, *Status, Subject, and Agency in Innovation*, EMORY L.J. ONLINE 49 (2023) (discussing access, inclusion, and empowerment manifestations of equity. Deeper theoretical discussions and a precise definition of equity are both outside the scope of this paper. Equity issues highlighted in this paper are not identical in the contexts of Jewish patents, Black hair care patents, and traditional knowledge biopiracy. The ways they are not identical raise interesting theoretical questions about equity – especially with respect to the cultural knowledge imputed to the PHOSITA and known by the “average” patent examiner. Additionally, the way that they *are* parallel also raise interesting concerns about equity, and those parallels are explored herein.

²³ “Culture is a notoriously difficult term to define.” Alessandra Bucci, *Global Marketing*, Chapter 3: Evaluating Cultural and Social Environments. I most align with the Boas definition of culture – “Culture is an integrated system of symbols, ideas and values that should be studied as a working system and an organic whole” (Kuper 1999). “one should never differentiate high from low culture, and one ought not differentially valorize cultures as savage or civilized.” *What is Culture?* Libre Social Sciences (2000).

of the facts in a case “designed to induce particular modes of thinking and to legitimize particular exercises in power.”²⁴

Pierre Bourdieu discussed the subject of cultural capital, which can be leveraged to access prestige and power of an economically or socially dominant class in society.²⁵ Throughout this paper, I expand this definition of cultural capital in light of current literature to include all people’s knowledge, skills, and education gained from both academic and non-academic experiences.²⁶ Dominant cultural capital includes knowledge, skills and education shared by the dominant (often majority) social group, whereas nondominant cultural capital would be shared by a smaller group of individuals within a dominant culture.²⁷ I will use the terms majority and non-majority (or marginalized) cultural capital throughout this article when possible, rather than dominant and non-dominant, to align with the current objectives to not imply that one culture should necessarily be viewed as superior to another.²⁸

“A patented invention reflects and shapes the culture within which it arises.”²⁹ Patent offices worldwide use a centralized taxonomic process to sort the filed patent application into a technology subject matter-specific art unit.³⁰ “[C]lassification specialists assign to the application a primary technology class and several search classes...to identify directly the application’s field of invention.”³¹ These art units were formed before the patent application was submitted, much like the Dewey Decimal system has subject matter classifications fixed before a book is written. Art units are periodically updated to “account for the continually evolving nature of

²⁴ Isaak Dore, *Foucault on Power*, 78 UMKC L. REV. 737, 744 (2010) (referencing Foucault and Nietzsche).

²⁵ Pierre Bourdieu, *The Forms of Capital* (1986).

²⁶ David Throsby, *Cultural Capital*, 23 J. CULTURAL ECON. 3, 4 (1999).

²⁷ Ugur Aslan, ‘*Mediating Cultural Capital’ In-Between Dominant/Non-Dominant Cultural Capital: A Case of Misirli Ahmet*, 16 YEDI: SANAT, TASARIM VE BILIM DERGISI 23, 24 (2016) (discussing how the term “lower” and “higher” in relation to cultural capital; in such light, I have revised the definition for the purposes of this paper); Prudence L. Carter, ‘*Black” Cultural Capital, Status Positioning, and Schooling Conflicts for Low-Income African American Youth*, 50 SOC. PROBS. 136, 136 (Feb. 2003).

²⁸ Inkeri Rissanen, *School-Musim Parent Collaboration in Finland and Sweden: Exploring the Role of Parental Cultural Capital*, 66 SCANDINAVIAN J. OF ED. RES. 1 (2000), available at <https://www.tandfonline.com/doi/full/10.1080/00313831.2020.1817775>.

²⁹ Shuba Ghosh, “Identity and Invention: The Culture and Ethics of Personalized Medicine Patenting” CAMBRIDGE UNIVERSITY PRESS (2012) at 266.

³⁰ *Id.* at 904; Joan Goodbody, *Patent Classification Through the Ages*, U.S. PAT. & TRADEMARK OFF., <https://www.uspto.gov/sites/default/files/documents/Timeline.pdf> (last visited July 24, 2023).

³¹ Saurabh Vishnubhakat, *The Field of Invention*, 45 HOFSTRA L. REV. 899, 904 (2017).

technology and systems for classifying technology,”³² but must be contextualized as products of the community cultures that created them.

The art unit classification sorting process – the process of sorting patent applications into subject matter areas and assigning the applications to patent examiners specializing in that subject matter – sets the tone for a patent examination process. Patent offices use classification systems in three main ways: determining “(a) the proper classification of an application for examination, (b) a proper field of search, or (c) the required or “mandatory” classification(s) for an issuing patent grant.”³³ In patent prosecution, this classification helps to define the “art” in which the PHOSITA [Person Having Ordinary Skill In The Art] is deemed to have ordinary skill.”³⁴

These pre-existing art units serve as a “starting point when searching for prior art,” and the search classes show where the examiner should begin “to locate additionally potentially relevant prior art.”³⁵ This starting point can be effective in certain fields, but it can also damage the patent prosecution proceedings. For inventions reliant on non-majority cultural capital, the art units preconstructed by those having majority cultural capital can initiate an inequitable patent prosecution process.

We must start by recognizing the subjectivity in the classification process. Two classifiers from different backgrounds may classify the proposed

³² *Id.*

³³ *Handbook of Classification*, U.S. PAT. & TRADEMARK OFF. 9 (Mar. 2005), <https://www.uspto.gov/sites/default/files/web/offices/opc/documents/handbook.pdf>.

³⁴ Dan L. Burk & Mark A. Lemley, *Is Patent Law Technology-Specific?*, 17 BERKELEY TECH. L.J. 1155, 1188 (2002). Of note to litigators: the PHOSITA construction in litigation can, and often is, more tailored to the invention within the four corners of the patent document. Laura Pedraza-Fariña & Ryan Whalen, *The Ghost in the Patent System: An Empirical Study of Patent Law's Elusive “Skilled Artisan”*, 108 IOWA L. REV. 247, 249 (Nov. 2022) (noting that, according to recent studies, PHOSITA construction may not play an outcome-determinative role in patent dispute resolution). Even if PHOSITA construction is not outcome-determinative, the law is written in a way that it should be outcome-determinative in litigation and during prosecution. It should be noted that, in litigation, almost no attorney or judge uses the art unit classification when defining the PHOSITA – and the field of invention is also rarely discussed. Saurabh Vishnubhakat, *The Field of Invention*, 45 HOFSTRA L. REV. 899, 946 (2017). In patent prosecution, because of the structured nature of the art unit structure, the PHOSITA is more rigidly characterized by the predefined art units. *Overview of the U.S. Patent Classification System (USPC)*, U.S. PAT. & TRADEMARK OFF. I-3, [uspto.gov/sites/default/files/patents/resources/classification/overview.pdf](https://www.uspto.gov/sites/default/files/patents/resources/classification/overview.pdf) (last visited July 24, 2023). The consequences of the PHOSITA construction as described in this article are primarily directed to the construction during patent prosecution, not litigation.

³⁵ *Id.* at 904.

invention differently, depending on how they perceive the invention. The patent office determines art unit classifications. They also applications into classifications to be examined. The fate of a patent application can rest in which art unit it is sorted into³⁶ and, as shown below, biases in the sorting process can impact those who are inventing outside of the familiarity of the powerful sorters. The inventor has little say in either the classification formation or the sorting process.

Relying on the patent office's subjective decision, the examiner constructs a world of familiarity by searching databases and websites to find prior art that they deem to be in the same field of endeavor or reasonably pertinent to the problem being solved in the patent application.³⁷ After finding relevant art (according to the examiner), the examiner will craft an office action and will explain why they believe the patent application is allowable or not allowable based on the found prior art. Classification inherently restricts this world of familiarity and the resulting prosecution process.

Herein, I address two issues with the current classification system, which inevitably lead to inequitable patent prosecution. The first is misclassification, where a patent application is classified into an improper art unit because of a gap in intuitive understanding between the inventor and the classifier. The second is missing classification, where a patent application is sorted into the closest available art unit because, unlike an application relying on majority cultural capital, there is no parallel art unit for inventions relying on marginalized cultural capital.

An imbalanced power dynamic underlies both of these issues: the entity who can challenge the category. If an inventor decides that the patent application was misclassified and wants to try to re-categorize their invention due to a perceived misunderstanding, they likely have no option except to appeal. There is no procedure to appeal the classification process to form a new subcategory after filing. Although patent applications may shift classifications if the claims change substantially or if a classification is abolished during patent prosecution, only the examiner can choose to update the art unit classification of an invention.³⁸ Those with miscategorized inventions, or inventions without a proper category

³⁶ Austin Underhill, *These Are the 20 Hardest and Easiest Art Units*, IPWATCHDOG (May 21, 2015), <https://ipwatchdog.com/2015/05/21/hardest-easiest-art-units/id=57864/>.

³⁷ MPEP 2141; Jihwang Yeo & George E. Quillin, *Federal Circuit Clarifies The "Reasonably Pertinent" Analogous Art Standard*, FOLEY & LARDNER LLP (Nov. 30, 2020), <https://www.natlawreview.com/article/federal-circuit-clarifies-reasonably-pertinent-analogous-art-standard>; *Donner Technology, LLC v. Pro Stage Gear, LLC*, 979 F.3d 1353, 159 (Fed. Cir. 2020).

³⁸ MPEP § 903 (9th ed. Rev. 07.2022, Feb. 2023).

currently on record, must adapt to the category assigned to them at the USPTO. If the USPTO misclassifies more patent applications relying on minority cultural capital than majority cultural capital,³⁹ this could create systemically disparate experiences for inventors.

II. SORTING PROBLEMS: MISCLASSIFICATION AND MISSING CLASSIFICATION

A. *Hair Sponge and Inequitable Subject Matter Misclassification*

The patent prosecution history of Bruce Boyd and Brigitte Gopou highlights the misclassification classification issue firsthand. Their invention, directed to a hair styling tool for twists, starting dreadlocks, and other styles for very curly hair, was misclassified as a cleaning product. Their patent prosecution process suffered because of this misclassification.

Mr. Boyd’s and Ms. Gopou’s invention can quickly style hair, reducing the time to create a finger coiling-like style from hours to minutes.⁴⁰ Before debuting the invention at the Bronner Brothers Hair Show,⁴¹ a hair show specifically for styling Black hair, the inventors filed a U.S. patent application to protect both their product and the method of using the product on curly hair.⁴² The patent application claimed: “A handheld device for sculpting hair” and a method of sculpting hair.⁴³

The USPTO sorted their patent application for a hair styling tool into two art units: hair deformation (132/210) and a cleaning sponge (15/244.1).⁴⁴

³⁹ I will be studying quantification of misclassification in a future article. To clarify – randomized misclassification would indicate that every applicant is equally likely to be inadvertently disadvantaged in the prosecution process. Systemic misclassification would disparately impact inventors in one category, such as inventors of color or female inventors, or inventions relating to cultural capital derived from their perceived lived experiences.

⁴⁰ Bianca Lambert, *This Curl Sponge Twists Short, Natural Hair in Minutes*, BYRDIE (Mar. 25, 2022), <https://www.byrdie.com/curl-sponge-short-hair-tutorial-4692993>.

⁴¹ Brigitte Gopou, *How the Curl Sponge, the Best Short Hair Style Product Came to Be*, Nudred (Oct. 8, 2018), <https://nudred.com/blogs/news/how-the-curl-sponge-the-best-short-hair-style-product-came-to-be>.

⁴² Jordana Goodman & Khamal Patterson, *Access to Justice for Black Inventors*, 77 VAND. L. REV. 109, 140 (2024).

⁴³ U.S. Patent Application No. 10/925,126 (‘126 Application), Claims, 11 (filed Aug. 24, 2004).

⁴⁴ See U.S. Patent No. 7,198,050 (issued Apr. 3, 2007). Some of these art units may seem extremely specific. With over 150,000 subclassifications to choose from, the USPTO does offer many hyper-specific subject matter categories for patent applications. See Overview of the U.S. Patent Classification System (USPC) USPTO I-3 (Dec. 2012), *available at* <https://www.uspto.gov/sites/default/files/patents/resources/classification/overview.pdf>.

The application is directed to a tool for deforming hair, not a cleaning tool. Despite never mentioning the word “clean” or “sponge,” the application was sorted into a cleaning art unit, meaning a PHOSITA is a person with ordinary skill in the field of cleaning sponges.⁴⁵ Not only is this an offensive sorting assignment for a Black hair product, but it created additional barriers for the inventors during the examination process.

During the examination process, the examiner rejected the application over cleaning product patents, including those describing soap sponge, deodorant applicators, and kitchen cleaners.⁴⁶ By using soap sponge, kitchen cleaners, and deodorant applicators as prior art, the examiner asserted that a PHOSITA would be familiar with soap sponges when developing the hair care product.⁴⁷

Despite the claims explicitly mentioning hair and the invention’s functionality to cause sections of “hair to be formed at substantially regular intervals,” neither of the cited references mentions hair.⁴⁸ The references do not discuss hair deformation, and the office action fails “to provide insight into [the examiner’s] thoughts in applying these references and extrinsic information to bridge the “gap in the reference.”⁴⁹

The examiner never cited a patent application relevant to the hair deformation art unit.⁵⁰ After citing several prior art references relevant to the cleaning sponge art unit, the applicants withdrew their claims directed to their hair sponge apparatus.⁵¹ On April 3, 2007, Mr. Boyd’s and Ms.

⁴⁵ The potentially racist implications of sorting a product meant for styling a Black person’s hair into a cleaning art unit, despite the lack of any indication within the application other than a potentially misconstrued depiction of a Black person in the drawings, is simultaneously troubling and outside the scope of this paper. I am using the term “sponge” to describe the invention because I am centering the inventors’ description of their invention (where they describe their invention as a sponge), rather than the attorney’s choice of language. See Jordana Goodman & Khamal Patterson, *Access to Justice for Black Inventors*, 77 VAND. L. REV. 109 (2024) for more explanation as to the differences in linguistic choice between the inventors and the attorney representing the inventors during patent prosecution.

⁴⁶ See ’126 Application, Non-Final Rejection (Feb. 3, 2006) (citing U.S. Pat. No. 1,943,365 and U.S. Pat. No. 2,588,773, describing soap sponges); ’126 Application, Non-Final Rejection (May 8, 2006) (citing U.S. Pat. No. 6,325,565 (a deodorant applicator) and U.S. Pat. No. 5,003,659 (a kitchen cleaner)).

⁴⁷ See ’126 Application, Non-Final Rejection (Feb. 3, 2006).

⁴⁸ See *id.*

⁴⁹ See *id.*; see also ’126 Application, Non-Final Rejection (Feb. 3, 2006).

⁵⁰ *Id.*

⁵¹ See U.S. Patent No. 7,198,050 (issued Apr. 3, 2007).

Gopou's patent issued only with claims directed to the method of using their hair sponge.⁵²

Because the applicants have a patent with only method claims, they must prove that a company *used* a knock-off hair sponge to assert direct infringement, not just that a company *manufactured* a knock-off hair sponge. In other words, a method patent is a more limited patent with more limited litigation options. If the applicants had received a patent on their product, they could have asserted their patent on any company that manufactured a hair sponge with spaced apart bores in the bottom surface. Though the applicants "have been very successful in litigation...there is no way to determine how much money could have been earned..." if the applicants had patent protection over their novel product.⁵³

The attorney who was prosecuting this case bears significant responsibility for its outcome. "Every interaction with another human can be tainted by bias,⁵⁴ and the patent process is no exception."⁵⁵ There is evidence that the attorney failed to put his clients' inventive language in the patent application, and instead chose to substitute his own description of the invention.⁵⁶ The attorney failed to amend the claims to include structural limitations, differentiating the product at hand from the cited prior art.⁵⁷ The attorney did not argue that the cited art was irrelevant.⁵⁸

However, more than one party can bear responsibility for the unfortunate outcome in this case. Not only must we train attorneys to be more culturally aware,⁵⁹ but we also must understand that the patent system construction disparately and negatively impacts marginalized inventors. If we wait for attorney training to fix every problem in biased patent prosecution, I fear we will not see equity in my lifetime. Simultaneously, we must remedy the fundamental structure and content of the examination process.

⁵² See *id.*; see '126 Application, Applicant Arguments/Remarks Made in an Amendment (Aug. 14, 2006).

⁵³ Jordana Goodman & Khamal Patterson, *Access to Justice for Black Inventors*, 77 VAND. L. REV. 109, 149 (2024)

⁵⁴ Karen Steinhauser, *Everyone Is a Little Bit Biased*, AM. BAR ASS'N (Mar. 16, 2020), https://www.americanbar.org/groups/business_law/resources/business-law-today/2020-april/everyone-is-a-little-bit-biased/ [<https://perma.cc/VFQ5-AE54>].

⁵⁵ Jordana Goodman & Khamal Patterson, *Access to Justice for Black Inventors*, 77 VAND. L. REV. 109, 119 (2024).

⁵⁶ *Id.* at 133.

⁵⁷ *Id.* at 135.

⁵⁸ *Id.*

⁵⁹ *Id.* at 150.

This case can be thought of as an example of cultural blindness at the USPTO, specifically in the realm of art unit classification. Classification “is at the basis of pattern recognition, learning, and sense-making.”⁶⁰ It can shape scientific thought⁶¹, future research⁶², and even appropriate level of government-sanctioned punishment.⁶³ Classification itself is subjective – grouping what one person or one groups perceives to be similar and excluding what is different.

This case of categorizing a Black hair product as a cleaning product represents a case of misclassification. It is a case where entities at the patent office viewed the hair sponge primarily as a cleaning product invention rather than a haircare invention. The worldview of the classifier likely shaped this decision. If the classifier has never been exposed to a sponge for styling hair – likely because it had not been invented before – the classifier may initially believe that the patent application should be categorized as all sponges before were historically categorized: as a cleaning product.⁶⁴ If, however, the classifier was more familiar with the world of Black haircare, I predict the misclassification would not have occurred.

The misclassification and resulting examination process may seem more egregious to some than others. Some may recognize that the cleaning category is not truly in an ordinary hair product inventor’s field of invention, nor is it “reasonably pertinent to the particular problem with which the inventor was concerned”⁶⁵, while others may see this as a logical subject matter search. This is a key issue because, in an obviousness determination, the examiner considers prior art reasonably pertinent to the field of invention, as well as all prior art from the field of invention – even if it is irrelevant to the problem addressed in the patent application at hand.

⁶⁰ François Lafond & Daniel Kim, *Long-Run Dynamics of the U.S. Patent Classification System*, 29 J. EVOLUTIONARY ECON. 631, 634 (Jan. 4, 2019).

⁶¹ Marta Paterlini, *There Shall Be Order*. 8 EMBO Rep. 814 (2007) (discussing Carl Linnaeus’s system of classifying animals).

⁶² Angmary Brito, María A. Rodríguez, Mansoor Niaz, *A Reconstruction of the Development of the Periodic Table Based on History and Philosophy of Science and Its Implications for General Chemistry Textbooks*, JRST ((Nov. 30, 2004), available at https://onlinelibrary.wiley.com/doi/abs/10.1002/tea.20044?casa_token=ovvAO-4IPdoAAAAA:60f8OG0TJxcbX2IANptV8O-WI854y4570-t8NoMdd11l4K0_aH62fTmlKL1ST4QTouQ6K_di_r5aFA (discussing Mendeleev’s contribution to the periodic table).

⁶³ Crimes classified as misdemeanors are given different punishments than crimes classified as felonies, but some may be classified differently depending on the state government decision. *See generally*, Eisha Jain, *Proportionality and Other Misdemeanor Myths*, 98 B.U. L. Rev. 953 (2018).

⁶⁴ *See e.g.*, U.S. Patent No. 5,311,634 (issued May 17, 1994).

⁶⁵ MPEP § 2141 (9th ed. Rev. 07.2022, Feb. 2023).

For those working in the Black hair space, this invention was simultaneously innovative and intuitive in the hair care world. As soon as Bruce Boyd brought his invention to the Bronner Brothers Hair Show – a multicultural beauty show – it sold out.⁶⁶ People in that community recognized that this was a beauty product. A kitchen sponge (or deodorant applicator) would not have worked in the same way; if they did work in the same way, there is no reason for the original customers to have purchased the hair sponge at the show. However, those who have never styled very curly hair may look at this product and the claims and draw parallels to inventions they already use in their daily lives – like kitchen sponges.

Like the famous “My Wife and My Mother-in-Law” optical illusion adopted by William Ely Hill⁶⁷, each actor in the patent prosecution process is limited by their initial viewpoint, seeing only what their cultural background influences them to see. If they are more familiar with sponges, they will see a cleaning product and classify the invention accordingly. If they are more familiar with hair products, they will see a hair product and classify it accordingly. As it is, USPTO classifiers may have difficulty seeing past their initial perspective based on both their own cultural biases and exposures, as well as the stringencies of the classification process. Inventors may also not see how a USPTO classifier may look at their invention differently than the original intent in the application. This could spell classification disaster for some inventors - especially when the invention stems from a minority culture and most classifiers have a majority cultural background.⁶⁸

B. Kosher Ink and Missing Classification

In addition to issues stemming from misclassification, missing classification presents a second patentability barrier for marginalized inventors.

Patent law states that the claimed invention must be described such that any person skilled in the art can make and use the invention without undue experimentation.⁶⁹ This fictional standardized person skilled has a nuanced, standard vocabulary that does not need further explanation. Chemical engineers explain their chemical engineering inventions to those skilled in

⁶⁶ Brigitte Gopou, *How the Curl Sponge, the Best Short Hair Style Product Came to Be*, Nudred (Oct. 8, 2018), <https://nudred.com/blogs/news/how-the-curl-sponge-the-best-short-hair-style-product-came-to-be>.

⁶⁷ Yasemin Saplakoglu, *What You See in This Famous Optical Illusion Could Reveal How Old You Are*, LIVE SCI. (Sept. 21, 2018), <https://www.livescience.com/63645-optical-illusion-young-old-woman.html>.

⁶⁸ Even if the classifiers were more diverse, improper classification may still occur for inventions stemming from minority culture due to current category constraints.

⁶⁹ 35 U.S.C. § 112.

chemical engineering arts, not to a person in the general U.S. population. If the fictional skilled person in the art unit does not understand a term of art used in the specification or during the examination process, the specification could fail for its indefiniteness or lack of enablement.⁷⁰

The linguistic breadth and depth of this fictional person is outside the hands of the inventors – there is a set number of art unit classifications at the USPTO, and some have better-tailored vocabularies than others. If an inventor is unfortunate enough to not share their vocabulary with the fictional skilled person in the sorted art unit (either objectively or from the examiner’s perspective), the inventor is more likely to face rejection.

This is exactly what happened when members of the Shkedi family (“applicants”) filed a patent application for their Jewish scroll and ink invention that is resistant to damage.⁷¹ It used a flexible, water-resistant kosher black ink to create a better and more durable parchment scroll.⁷² Using the term kosher led to issues in patent prosecution.

The USPTO classified the Shkedi family’s application into the religious artifact art unit (428/3) and the print ink (C09D11/107) art unit.⁷³ The PHOSITA, therefore, was as an ordinary person familiar with religious artifacts and print ink.⁷⁴

The patent application originally claimed “a religious artifact including...kosher parchment and Hebrew religious text written with kosher black ink.”⁷⁵ It defined characteristics typical of kosher inks - water resistant, not tacky, and “can be scraped off and removed from said surface without leaving a visible ink residue on said surface and without causing substantial damage to said parchment.”⁷⁶ The specification also defined kosher ink as ink that has kosher ingredients, a black color, ink that does not soak into the parchment, adheres to the parchment, and can be scraped off without substantially damaging the parchment.⁷⁷ The application added a further definition for kosher, stating that kosher is defined as “in compliance with the tenets of the Jewish religious laws...of at least one of the various Jewish groups.”⁷⁸

⁷⁰ John P. Iwanicki, *Tips on How to Properly Construe Patent Claims*, GENETIC ENG’G & BIOTECHNOLOGY NEWS 10, 10 (Dec. 2008).

⁷¹ U.S. Patent Application No. 12/121,025 (filed May 15, 2008) (’025 Application).

⁷² *See id.*

⁷³ *Id.*

⁷⁴ *Id.*

⁷⁵ ’025 Application.

⁷⁶ *Id.*

⁷⁷ *Id.*, Specification, 2-3.

⁷⁸ *Id.* at 2.

This was not enough, according to the examiner, for a PHOSITA of religious artifacts or print ink to understand the word “kosher.” The first office action began with an indefiniteness rejection, meaning the examiner believed the person skilled in the art cannot “determine the metes and bounds of the claim so as to understand how to avoid infringement.”⁷⁹ The examiner said that, even though “kosher” is defined in the specification, the term ‘kosher’ is indefinite, as it has no precise, standard definition and different Jewish groups have different opinions as to what constitutes ‘kosher.’⁸⁰ That is, even though the applicant tried to bridge the lexical gap between his culture and the examiner’s culture by including a definition, the examiner unilaterally determined that the attempt was unsuccessful.

For six years, the applicants tried to use other words – like “not tacky” or “can be scraped off and removed from said surface without leaving a visible ink residue” as a substitute for the word “kosher.”⁸¹ They could not find a phrase that successfully complied with the examiner’s (likely correct) understanding of the facts at hand: the PHOSITA in the religious artifacts and print ink art units did not have enough information to understand the claim.

Ultimately, the applicants failed to get their patent granted and the application went abandoned in 2015.⁸² Dio lanetzach (literally “forever ink”), the ink created by the inventors and described in the patent application, is sold internationally.⁸³ Without a patent, the Shkedis have no means to prevent anyone from making and using their ink, although those skilled in Jewish ink manufacturing could copy the recipes in the publicly available patent application to make the ink.⁸⁴

Though the average person familiar with religious artifacts may not understand the term of art, a person familiar with *Jewish* religious artifacts would understand the metes and bounds of the term “kosher,” especially with definitions of kosher and kosher ink.⁸⁵

⁷⁹ See ’025 Application, Non-Final Rejection (Mar. 2, 2011).

⁸⁰ *Id.* at 2.

⁸¹ See *id.*

⁸² ’025 Application, Abandonment (May 4, 2015).

⁸³ דיו לנצח, DIO LANETZACH, <http://dio-lanetzach.blogspot.com/2009/01/dio-lanetzach.html> (last visited July 26, 2023).

⁸⁴ Interview with Eliran Shkedi, (July 7, 2023) (“If the recipe were kept as a trade secret, Jewish scribes (sofers) likely could not replicate their ink even if sold internationally.”).

⁸⁵ ’025 Application. Although the definition can include some variability since something can be considered “in compliance with the tenets of the Jewish religious laws” of one Jewish group, but not another, such variation is well known among commonly recognized Jewish groups. In the particular application of Torah scroll and mezuzah ink, the small

Kosher is a broad term similar to halal, meaning “proper” or “fit.”⁸⁶ Most Jewish synagogues – from Reform to Orthodox – use Torahs and mezuzahs (ritual objects written with kosher ink on kosher parchment scrolls)⁸⁷ that meet the same kosher criteria.⁸⁸ In other words, though Reform Jews may follow different dietary rituals than Orthodox Jews – and Orthodox Jews may consider Reform Jews’ diets unkosher⁸⁹, their Torahs (and the parchment scrolls with ink that they’re made from) are indistinguishably kosher.⁹⁰ In other words, the term “kosher” when it refers to a scroll or ink has the same connotation regardless of Jewish sect.⁹¹

If the art unit for Jewish religious artifacts existed, I hypothesize that the Shkedis would have been able to overcome the examiner’s rejection – or would have never received it at all – because the constructed PHOSITA would have been familiar with the term “kosher” and its proper context.

distinctions in Jewish religious laws would not affect each group’s interpretation of the term “kosher ink.”

⁸⁶ *Kosher and Halal*, TEXAS A&M UNIV. COLL. OF AGRIC. & LIFE SCIS., <https://meat.tamu.edu/ansc-307-honors/kosher-halal/> (last visited July 25, 2023).

⁸⁷ A Torah contains the first five books of the Hebrew Bible and is written on parchment paper. *How is the Torah Made?*, CHABAD.ORG, https://www.chabad.org/library/article_cdo/aid/339590/jewish/How-Is-the-Torah-Made.htm (last visited July 25, 2023). Dovid Zaklikowski, *The Mezuzah Scroll and Case*, CHABAD.ORG, https://www.chabad.org/library/article_cdo/aid/256923/jewish/The-Mezuzah-Scroll-and-Case.htm (last visited July 25, 2023).

⁸⁸ Some Reform or Conservative synagogues may purchase Torahs that were written by women, but these women follow the same rituals as their male counterparts when writing the Torah and the resulting products are likely identical. Kosher ink is pitch black and is made of Gum Arabic, tannic acid, and ferrous sulfate or copper sulfate. Askotzky Kosher parchment is produced from the hide of a kosher animal, is and is scored with an engraving instrument on the side of the parchment closest to the flesh of the animal. Rabbi Moshe Heinmann, *Wireless Security: A Mezuzah Primer*, STAR-K (2022), <https://www.star-k.org/articles/kashrus-kurrents/9254/wireless-security-a-mezuzah-primer/>. Additionally, the letters must be clearly readable, even after the scroll is unrolled and rerolled several times for religious purposes. The letter cannot crack or smudge. Rabbi Lazer Gurkow, *Every Jew is a Letter in the Torah*, ISRAEL NAT’L NEWS (May 24, 2023), <https://www.israelnationalnews.com/news/371868>.

⁸⁹ Malcolm Tatum, *What is the Difference Between Orthodox and Reform Judaism*, LANGUAGEHUMANITIES (July 16, 2023), <https://www.languagehumanities.org/what-is-the-difference-between-orthodox-and-reform-judaism.htm>.

⁹⁰ *How is the Torah Made?*, CHABAD.ORG, https://www.chabad.org/library/article_cdo/aid/339590/jewish/How-Is-the-Torah-Made.htm (last visited July 25, 2023).

⁹¹ This is likely not true if a Reform and Orthodox Jewish person was asked to define their diet as “kosher.”

In this case, the examiner shows that “ideas and language of an inventor are often...highly subjective.”⁹² Interpretation of this language, especially if the examiner does not share the cultural capital necessary to interpret a word, can certainly impact the examination process. The examiner subjectively constructs the PHOSITA’s linguistic skills and knowledge vocabulary. The examiner determines what words are known to the public and to any person skilled in the art, and they do so like any human being – with a biased interpretation of commonality and ambiguity based on their lived experiences.

The Shkedis were three observant Jewish men who had developed a product for use in the Jewish community.⁹³ Using their community language standards, they attempted to describe their invention to meet the standards of the USPTO. The examiner denies the inventor’s reality – that the word kosher is used in daily life and known to the relevant community.

At best, the examiner is showing that there is a cultural language lacuna (or lexical gap) in the examination process.⁹⁴ A lexical gap happens where one language lacks a word that exists in another language.⁹⁵ Patent prosecution at the USPTO is conducted in English and, if a word exists in the inventor’s vernacular, but not in English, the inventor is forced to define the word so that a native English speaker would understand the word. If on the other hand, the word exists in English and the applicant is using the common language definition of the word in their patent application, the applicant does not need to offer a definition.⁹⁶

A cultural language lacuna goes one step further. The term “kosher” is not a Hebrew word. It derives from the Hebrew word “kasher” meaning “to be pure.”⁹⁷ The term “kosher” is used in common parlance in English-speaking Jewish communities – and even Urban Dictionary defines the term as

⁹² Fred H Bamberger, *Translating the U.S. Patent Office*, 46 MODERN LANGUAGE JOURNAL 33, 34(1962), available at <https://www.jstor.org/stable/320502?seq=2>.

⁹³ Interview with Eliran Shkedi.

⁹⁴ Cf. Lea Shaver, *Copyright and Inequality*, 92 Washington U. L. Rev. 117 (2014) This parallels other areas of intellectual property law, such as copyright, where copyright protection is an ineffective incentive system to produce works in languages “spoken predominantly by poor people.”

⁹⁵ Latipov Sherzod & Kosimov Abdulkhay, *Examples for Lexical Gaps in English*, 3 ANALYTICAL J. EDUC. & DEV. 160, 160 (Mar. 3, 2023).

⁹⁶ Mark A. Lemley, *The Changing Meaning of Patent Claims Terms*, 104 MICH. L. REV. 101, 102 (Jan. 1, 2005). The PHOSITA understands the plain meaning of a word.

⁹⁷ Ansley Hill, *Kosher Food: Everything You Need to Know*, HEALTHLINE (2022), <https://www.healthline.com/nutrition/what-is-kosher#definition>.

“legitimate.”⁹⁸ The examiner’s rejection presents a cultural language lacuna: someone (whether the examiner or a constructed PHOSITA) did not have the requisite learned vocabulary to fully understand how kosher applied to the invention at hand, even if the inventors and a person in the Jewish community likely would have filled that language gap. If a Jewish cultural language component was factored into a vocabulary construction, this indefiniteness rejection may not have occurred. In other words, if there was a Jewish religious artifact art unit, the PHOSITA would have been constructed as a person familiar with the term “kosher.”

In similar cases, the USPTO has rejected patent applications directed to Shari’ah-compliant financial practices because a person skilled in the art would not understand the term “Shari’ah”⁹⁹, as well as an application directed to “kosher casein polypeptide” because “the concept of kosher animals is vague and may differ from region to region of the world.”¹⁰⁰

The examiner requires the inventor to provide definitions of terms commonly used in their cultural language, such that a majority-culture PHOSITA could understand those terms. This burden is not borne by every person attempting to patent a religious artifact invention. Rosary beads, communion cups, Christmas trees, artificial Christmas trees, and Christmas tree decorations all have their own art units.¹⁰¹ The only corresponding art unit for Jewish-related inventions is a kosher slaughtering device.¹⁰²

This case demonstrates the unfair burden borne by those whose cultural capital is not accounted for in their invention’s assigned art unit – especially because their rightful art unit does not exist. Inventors typically invent using their own lived experiences and, the smaller the group that shares that lived experience, the smaller the number of inventive solutions derived from that lived experience – even if everyone in the society had an equitable opportunity to invent and file.

Theoretically, the classification system was built to be “exhaustive of all patentable subject matter under patent laws.”¹⁰³ Ideally, the scheme is built so that every new invention has a classification tailored to its subject matter.

⁹⁸ *Kosher*, Urban Dictionary, <https://www.urbandictionary.com/define.php?term=kosher> (last visited July 27, 2023) (“To be genuine and/or legitimate.”; “She consulted lawyers to make sure everything was kosher.”).

⁹⁹ *See, e.g.*, U.S. Patent Application No. 11/083,844 Non-Final Rejection Page 2 July 23, 2007.

¹⁰⁰ U.S. Patent Application No. 12/649,489 Non-Final Rejection Page 3 June 15, 2012

¹⁰¹ *See* CPC art unit A44C 23/00; A47G 33/002; A47G 33/04; A47G 33/06; A47G 33/08

¹⁰² *See* CPC art unit A22B 3/12.

¹⁰³ *Handbook of Classification*, U.S. PAT. & TRADEMARK OFF. 9 (Mar. 2005),

<https://www.uspto.gov/sites/default/files/web/offices/opc/documents/handbook.pdf> at 1.

Realistically, the classification system is built off a system created in 1900¹⁰⁴ – before computers, before hair dryers, before penicillin, and certainly during a time where women and people of color were treated as second class citizens at best. With fewer resources to pursue patent protection, as well as structural racism and overt sexism throughout the patent prosecution, it is very likely that patent applications directed to solving problems related to the daily lives of women and people of color went unfiled or misappropriated.¹⁰⁵ These issues, still relevant today,¹⁰⁶ likely contribute to the underrepresentation of art unit classes tailored to minority cultural capital-related inventions and viewpoints around classification in general.

III. REMEDYING SYSTEMIC INJUSTICE

This section offers both small and visionary changes to create systemic and structural change at the USPTO. I recognize that the potential of adding more red-tape and bureaucracy may create unintentional consequences, especially in an already complicated government agency. In philosophy, ideal theory “argues that institutions are well ordered when they are just and known to be just...”¹⁰⁷ There is no way to know whether these improvements will definitively lead to a better system, but I am sure that there is injustice in our current patent prosecution methods, and I emphasize the importance of making strides to attempt to correct these injustices.

A. *Changing the Classification System*

At its core, the art unit classification system sets the tone for the prosecution process. The art unit assignment dictates the examiner who will be reviewing the application for obviousness, written description, and enablement. Although examiners are actively discouraged “from relying on their own technical skill in evaluating inventions,”¹⁰⁸ their biases and world view will still influence how they see an invention and proceed through the

¹⁰⁴ *Id.*

¹⁰⁵ Kara W. Swanson, *Centering Black Women Inventors: Passing and the Patent Archive*, 25 STAN. TECH. L. REV. 305, 361 (2022).

¹⁰⁶ Jordana Goodman, *Addressing Patent Gender Disparities*, 376 SCI. 706, 706 (May 12, 2022); Jordana Goodman & Khamal Patterson, 77 *Access to Justice for Black Inventors*, VAND. L. REV. 109, 112 (2024).

¹⁰⁷ Gopal Sreenivasan, *What is Non-Ideal Theory?* NYU Press Scholarship Online 233, 233 (May 2012) <https://academic.oup.com/nyu-press-scholarship-online/book/15291/chapter-abstract/169822582?redirectedFrom=fulltext>.

¹⁰⁸ Rebecca S. Eisenberg, *Obvious to Whom? Evaluating Inventions from the Perspective of PHOSITA*, 19 BERKELEY TECH. L.J. 855, 888 (2004) (citing *In re Lee*, 277 F.3d 1138, 1345 (Fed. Cir. 2002)).

patent prosecution process. Even if they can divorce their lived experience biases in the patent prosecution process, the examiner still uses the classification system as a primary means of prior art searching and contextualizing the expertise of the PHOSITA.

According to Kaplan's Law of the Instrument, "[g]ive a small boy a hammer, and he will find that everything he encounters needs pounding."¹⁰⁹ To change the classification system to include another category, examiners and practitioners must recognize that an invention does not neatly fit into a preexisting category.

If everyone believes all filed inventions neatly fit into the categories and need no further nuance, there will never be discussion about a new category or subcategory. Some will recognize that certain inventions have better subject matter classifications than others – and even match on both an academic education and cultural level. However, recognizing that some inventions need another category (or subcategory) or are more likely to be misclassified than others can be a difficult leap, especially if there is a certain quantity threshold required to create a new classification category.

There are many ways to reform the current art unit classification system, with some being significantly more disruptive and time consuming than others. In the short term, I propose adding subclassifications to art units with inventions reliant on minority cultural capital. Although the USPTO recently worked with the European Patent Office to launch the Cooperative Patent Classification system¹¹⁰ (later adopted by the China National Intellectual Property Administration and the Korean Intellectual Property Office),¹¹¹ adding about 100,000 new subdivisions to patent coding, but it did not fix the Western biases in the original USPC system. It added even more Christian-centric art units¹¹² without adding non-Christian religious art units, continuing the notion that the patent system is built for without consideration for minority cultural capital.¹¹³ With international patent prosecution systems increasingly relying on this globalized classification

¹⁰⁹ ABRAHAM KAPLAN, *THE CONDUCT OF INQUIRY: METHODOLOGY FOR BEHAVIORAL SCIENCE* 28 (Chandler Pub. Co., 1964).

¹¹⁰ Joan Goodbody, *Patent Classification Through the Ages*, U.S. PAT. & TRADEMARK OFF., <https://www.uspto.gov/sites/default/files/documents/Timeline.pdf> (last visited July 24, 2023).

¹¹¹ *Id.*

¹¹² i.e., crosses and crucifixes for personal wear (A44C 25/00); artificial Christmas trees (A47G 33/06).

¹¹³ Structure of sorting systems further entrenching colonialist norms will be explored in a future work.

system, we should be even more careful to not impose only majority worldviews and inventive views onto the patent system.

More art units, however, will not create a long-term solution— and I fear that art unit expansions may create an illusion that the problem is solved. Moreover, it may be impossible to create culture-specific art units without excluding some cultures from the process. It is likely that inventions deriving from minority cultural capital are improperly sorted into art units more frequently than inventions deriving from majority cultural capital, and this is a problem that must be studied and addressed in future research.

In the long term, patent offices should evaluate the basic categorization structure and suggest large-scale reformations to make categorization more equitable. They can explore assignment of examiners to art units, such that the background of examiners can better match both the cultural and academic components of inventions submitted to the art units.¹¹⁴ This will address both the missing and misclassification issues addressed herein.

Development of a better art unit classification system would benefit inventors like Boyd and Gopou and the Shkedi family by ensuring that their applications are reviewed with cultural capital knowledge. This re-imagining of the classification system may mean that inventors may have a harder time obtaining a patent, while other times they may have an easier time than they would in the current system. The argument herein is not to improve the minority representation of inventors as patent applicants; the point instead is to ensure that when minority patent applicants apply, they are treated equitably for their inventive contributions.

Therefore, I propose the addition of an art unit review process for inventions deriving from minority cultural capital. Much like the Intellectual Property Office of New Zealand (IPONZ) giving special consideration “around the use and registration of intellectual property that contains an element of Māori culture,”¹¹⁵ other patent offices should begin to account for cultural considerations in their patent procedures. The IPONZ recognizes that traditional knowledge may not be patentable, but commercial benefits that derive from this knowledge should be given in a balanced way to acknowledge this contribution. Although the Patents Māori Advisory Committee seems to be primarily concerned with whether patenting an invention would offend those who are Māori, the simple act of

¹¹⁴ I will address examiner training and cultural education in a future paper.

¹¹⁵ Protecting Intellectual Property with a Māori Cultural Element, NEW ZEALAND INTELLECTUAL PROPERTY OFFICE (June 2016) *available at* <https://www.iponz.govt.nz/assets/pdf/maori-ip/protecting-ip-with-a-maori-cultural-element.pdf>.

considering cultural aspects of an invention puts the New Zealand system far ahead of the United States patent system in terms of cultural incorporation.

Eventually, when inventors submit an application, the USPTO may introduce a checkbox, indicating that the invention relies on non-academic cultural capital and the inventor would like this to be part of the evaluation process.¹¹⁶ Trained individuals may then review the document and provide a cultural supplement to the examiner to help assist in examination, or may be on-call to assist an examiner before an office action is sent to the applicant to reduce racist or improper rejections.

Much like the current appeal process for rejections during prosecution, the applicants could write an appeal explaining why they believe their invention is better suited to a different art unit. They might even use support from international classifications when available. If those working for the classification process are overwhelmed, the examiner could respond to this appeal either 1) agreeing with the applicant that, in light of the explanation, this deserves to be in a different art unit or 2) disagreeing with the applicant and showing their art unit has handled similar inventions in prior years. Trained individuals can evaluate appeal and determine whether the application should move to a different art unit. The patent office could also keep records of allegations and determinations of improper classification to help improve classification in the future.

B. Who Makes The Changes?

To assist in the reconfiguration of the classification system and review cultural considerations, I propose that USPTO should partner with museum professionals and existing government entities like the Advisory Council on Historic Preservation,¹¹⁷ the National Endowment for the Humanities,¹¹⁸ or the National Education Association.¹¹⁹ These entities can help examine

¹¹⁶ This is particularly important when the inventor uses phrases from their minority cultural capital lexicon to describe their invention and when the inventor is unsure if those familiar only with majority cultural capital would be able to understand their description. This does not necessary absolve the inventor of their responsibility to create a readable, understandable patent application, but rather indicates to the USPTO that the application may deserve closer scrutiny before rejecting on enablement or indefiniteness grounds. I also expect that use of this box may lead to abuse by some bad actors, but a pilot program is well worth exploration.

¹¹⁷ Advisory Council on Historic Preservation, *available at* <https://www.achp.gov/>.

¹¹⁸ About the National Endowment for the Humanities, NATIONAL ENDOWMENT FOR THE HUMANITIES, *available at* <https://www.neh.gov/about>.

¹¹⁹ National Education Association, *available at* <https://www.nea.org> (having a mission to “create a more just and inclusive society.”).

issues of disparate treatment of inventions meant to help women, people of color, those belonging to a minority religious group, and other marginalized populations. Only through this examination will we learn how to quantify disparate impact for certain inventions, as well as how to close the impact gap.

In the long term, and especially to ensure that the USPTO does not overburden these other agencies, I propose that the USPTO establish a small, DEI-focused group mirroring the Office of the Chief Economist (OCE).¹²⁰ What the OCE has done for economic research in patents can and should be duplicated with a parallel office examining DEI initiatives, with expertise in sociology and anthropology. To make a significant difference in the application and construction of United States patent law, the USPTO employee force must diversify both in purpose and in background.¹²¹

To be clear: sociologists and anthropologists can and will introduce their own biases into this process. No one should fully replace the examiner as the final arbiter of overcoming the subjective gaps in the patent prosecution process, and no one should fully control the definitional scope of culture or cultural artifacts within race, religion, or ethnicity. However, this department's assistance with highlighting a potential cultural bias could greatly improve the patent prosecution process for some inventors.

Coupled with modifications to current practices in the patent prosecution process, this department would add diversity of thought and expertise in cultural education necessary to make patent prosecution more equitable.

This parallels the structure of the World Bank, where anthropologists help to shape the institution by helping to identify projects to make societies more inclusive, cohesive, and accountable¹²² and help to build "social development concerns into the Bank's operational directives."¹²³ Though certainly there are drawbacks in practice when adding in anthropologists, who can import their own biases,¹²⁴ the overall advantage to having a

¹²⁰ Stuart J. H. Graham & Galen Hancock, *The USPTO Economics Research Agenda*, 39 J. TECH. TRANSFER 335 (Mar. 1, 2013).

¹²¹ This aligns with the work of Sarah Burstein, arguing that the technical IP Bar requirement disadvantages women and people of color. See Britain Eakin, *Technical IP Bar Requirements Needless, Panelists Say*, Law360 (Nov. 10, 2022), available at <https://www.law360.com/articles/1546419/technical-ip-bar-requirements-needless-panelists-say>.

¹²² D. Mosse, *Localized Cosmopolitans: Anthropologists at the World Bank*, Semantic Scholar at 2 (2006), available at <https://www.semanticscholar.org/paper/Localized-cosmopolitans%3A-anthropologists-at-the-Mosse/6c17b79603fc8632341bee1fe18e6631e67faa37>.

¹²³ *Id.*

¹²⁴ *Id.*

department prioritizing equity at the USPTO outweighs this concern. The USPTO can add limitations in scope and authority, as discussed below, to address these concerns.

I fully recognize that the USPTO does not have unlimited funds to resolve the issues articulated in this paper. The government determined that it was important enough to invest in a research department to study economic issues at the USPTO in 2010 for the benefit of scholars, researchers, and inventors. DEI research stands to provide similar benefits and, as a consistently fully funded office that does not rely on tax-payer funding, the USPTO can afford to invest in DEI research.¹²⁵ This research spending should be tempered by the predicted efficiency and quality of a resulting patent prosecution proceeding and I will address the three pillars of money, time, and quality¹²⁶ in all of my proposals herein.

This being said, in a hearing before the Senate committee on the judiciary subcommittee on intellectual property in 2019, Melissa Wasserman demonstrated that spending significantly more money in examination (approximately \$660 million) would save money on later litigation expenses and overall prosecution costs.¹²⁷ Just because a program costs money does not mean that the program will end up creating a debt on the system it is enacted upon. Moreover, even if all calculations were incorrect and these programs would end up costing the USPTO money, the government should be able to allocate some of its resources to improve equity in society. This, I propose, is a worthy investment, and could be disseminated to other less resourced patent offices throughout the world.

CONCLUSION

Objectiveness during patent prosecution is just as fictitious as the PHOSITA itself. The patent system's legal framework is constructed around majority culture at the exclusion of minority culture. This construction, stemming from both implicitly biased structures at the patent office and biased applications of patent laws, creates an unjust patent

¹²⁵ *Budget and Financial Information Congressional Budget Justifications Fiscal Year 2024 USPTO Budget*, U.S. PAT. & TRADEMARK OFF., <https://www.uspto.gov/about-us/performance-and-planning/budget-and-financial-information> (last visited July 27, 2023).

¹²⁶ Vivek Madurai, *Quality, Time and Money*, MEDIUM (Mar. 25, 2018), <https://medium.com/@vivekmadurai/quality-time-and-money-39278f990092>.

¹²⁷ *Promoting the Useful Arts: How Can Congress Prevent the Issuance of Poor Quality Patents? Testimony of Melissa F. Wasserman*, Hearing before the Senate Committee on the Judiciary Subcommittee on Intellectual Property (Oct. 30, 2019), *available at* <https://www.judiciary.senate.gov/imo/media/doc/Wasserman%20Testimony.pdf>.

system where decisions are based on what the majority culture is familiar with, regardless of the cultural connections of the invention itself.

The patent system is far from equitable. Legal inequities are entrenched at the USPTO in a similar fashion to the systemic inequities of the greater legal system. The examples of these injustices – from hair devices to kosher parchment scrolls – show that these inequities, like all inequities of the greater legal system, should be examined further.

I do not ask for anything more or less than equity. To promote science and the useful arts, we must create a system that encourages equitable reward for innovation, regardless of an invention's reliance on majority or minority cultural capital.

Patent systems can improve their current methods used to classify patent applications to better align with their stated equity goals. If we truly intend to create a fair patent system and promote equitable representation of inventors, the patent office can and must harness the tools and resources already at their disposal.