A Realist Approach to Copyright Law's Formalities

Michael W. Carroll

American University Washington College of Law, mcarroll@wcl.american.edu
A REALIST APPROACH TO COPYRIGHT LAW’S FORMALITIES

Michael W. Carroll†

I. INTRODUCTION ........................................................................................................ 1511

II. REINVIGORATING PUBLIC FORMALITIES ................................................... 1516

III. REGULATING PRIVATE FORMALITIES .......................................................... 1525

A. A REVIEW OF PRIVATE FORMALITIES SYSTEMS ...................................... 1527

1. Formalities Administered in Support of Rightsholder Representation .................. 1527

2. Third-Party Depositories and Registries: A YouTube Case Study ......................... 1530

3. Private Registries .................................................................................................. 1531

B. PROPOSED GOVERNMENTAL RESPONSES .............................................. 1533

IV. CONCLUSION ...................................................................................................... 1535

I. INTRODUCTION

Whither formalities in copyright law? In 1989, the United States removed formal requirements for obtaining copyright protection within its borders1 so that the United States could become a party to the Berne Convention for the Protection of Literary and Artistic Works.2 Authors’ rights triumphalists in

---

1. See Berne Convention Implementation Act of 1988, Pub. L. No. 100-568, 102 Stat. 2853 (1988) (amending a number of sections of Title 17, United States Code, to remove requirements of placing copyright notice on published copies, depositing a copy, and registering a claim to copyright prior to commencing suit for infringement).

certain quarters greeted this decision as an important step forward. Three The United States prospectively abandoned its longstanding policy of administering copyright as an opt-in system for authors and publishers and subsequently also agreed to “restore” copyrights to foreign authors who would have received a United States copyright but for their failure to comply with these formal requirements. Four The triumphalist narrative views the United States’ adoption of these international obligations as an acceptance of a deontological approach to copyright requiring a strict formalism in judging what counts as a copyright formality and what is permissible under Berne.

This formalistic understanding of the anti-formalities obligation under Berne article 5(2), as subsequently incorporated into the World Trade Organization’s Agreement on Trade-Related Aspects of Intellectual Property Rights (“TRIPS”), aims to shrink the policy space for deploying or regulating formal requirements imposed on authors in the exercise or enjoyment of their rights under copyright. However, this formalist view is under pressure as the costs of automatic copyright become more manifest in this era of digital networks and increasing globalization. A range of scholars

5. See sources cited supra note 3; see also Mihály Ficsor, Collective Management of Copyright and Related Rights in the Digital, Networked Environment: Voluntary, Presumption-Based, Extended, Mandatory, Possible, Inevitable?, in COLLECTIVE MANAGEMENT OF COPYRIGHT AND RELATED RIGHTS 48 (Daniel Gervais ed., Kluwer 2006) (arguing that the anti-formalities provision would prohibit a presumptive compulsory license subject to an opt-out provision).
7. See Ficsor, supra note 5, at 48 (arguing that the anti-formalities provision would prohibit a presumptive compulsory license subject to an opt-out provision).
8. See, e.g., STEF VAN GOMPEL, FORMALITIES IN COPYRIGHT LAW 1–8 (outlining the legal uncertainties and challenges caused by the lack of formalities in the digital age) (Kluwer 2011); LAWRENCE LESSIG, FREE CULTURE 292–93 (Penguin Press 2004) (suggesting that copyright owners should have some small burden at least to signal the renewal of their protection); Séverine Dusollier, (Re)Introducing Formalities in Copyright as a Strategy for the Public Domain, in OPEN CONTENT LICENSING: FROM THEORY TO PRACTICE 75, 103–05 (explaining the need for an efficient formality system designed to maximize the commercial purpose of copyright) (Lucie Guibault & Christina Angelopoulos eds., 2011); James Gibson, Once and Future Copyright, 81 Notre Dame L. Rev. 167, 212–41 (2005) (proposing policy changes to help authors protect their work in the digital age through new types of public or private formalities); Jane C. Ginsburg, The U.S. Experience with Mandatory Copyright Formalities: A Love/Hate Relationship, 33 Colum. J.L. & Arts 311, 317 (2010) (suggesting a policy change
and policymakers has begun to explore ways to expand the policy space in which to fashion and deploy copyright formalities.\textsuperscript{9}

This Article joins in the general move in favor of increased public formalities, but argues in the tradition of legal realism that this formalist overhang has constrained the policy discussion about reintroducing formalities more than it should. In doing so, this Article assumes familiarity with the debates about legal formalism and legal realism,\textsuperscript{10} and relies upon


9. See, e.g., Dusollier, supra note 8, at 103–05 (suggesting two-tier approach to formalities granting additional benefits to registered works); Gibson, supra note 8, at 212–41 (proposing policy changes to help authors protect their work in the digital age through new types of public or private formalities); Ginsburg, supra note 8, at 317 (suggesting a policy change toward formalities for the recordation of title transfers that would help authors more securely transfer their work); LESSIG, supra note 8, at 292–93 (suggesting that copyright owners should have some small burden at least to signal the renewal of their protection); Sprigman, supra note 8, at 545–68 (proposing possible new-style formalities that push back toward a utilitarian past without rejecting Berne); VAN GOMPEL, supra note 8, at 288–96 (suggesting that formalities be reintroduced in regards to copyright owners’ economic rights).

10. As many readers know, “legal formalism” and “legal realism” are labels used to map a variety of jurisprudential approaches to the interpretation and application of law. See generally Brian Leiter, Legal Formalism and Legal Realism: What Is The Issue?, 16 LEGAL THEORY 111 (2010) (providing an overview of the approaches and analysis of some of the disagreement surrounding them); see also Steven M. Quevedo, Comment, Formalist and Instrumentalist Legal Reasoning and Legal Theory, 73 CALIF. L. REV. 119 (1985) (providing a good history of the two approaches). For present purposes, a few simple observations should suffice to establish a baseline from which one can measure interpretation and understanding of Berne’s anti-formalities provision and formalities themselves as tending more toward formalism or realism.
the familiar analysis of the public/private distinction\(^{11}\) and the formalist/functionalist\(^{12}\) approaches to interpreting and applying law. When applied to the present context, the public/private distinction largely obscures the numerous privately administered systems of formalities that authors in many creative fields comply with and rely upon.\(^{13}\) Formally, Berne and

---

11. Legal discourse that distinguishes between “public” and “private” does so in more than one way, but the most common is the distinction between governmental and non-governmental actors, as reflected in the terms “public law” and “private law,” for example. See generally Morton J. Horwitz, The History of the Public/Private Distinction, 130 U. Pa. L. Rev. 1423 (1982). This version of the distinction has been subject to withering critique. See, e.g., Duncan Kennedy, The Stages of the Decline of the Public/Private Distinction, 130 U. Pa. L. Rev. 1349, 1357 (1982) (“Following out these lines of similarity and difference, one simply loses one’s ability to take the public/private distinction seriously as a description, as an explanation, or as a justification of anything.”). Why, for example, should a corporation, whose legal “personality” is dependent upon government, be treated as a “private” entity? Numerous critical scholars have also demonstrated the ways in which the “private” sphere is properly the subject of public policy. See, e.g., Gerald Turkel, The Public/Private Distinction: Approaches to the Critique of Legal Ideology, 22 LAW & SOC’Y REV. 801, 802 (1988).

12. See generally Felix Cohen, Transcendental Nonsense and the Functional Approach, 35 COLUM. L. REV. 809 (1935) (using, for example, the legal question of the geographic location of a corporation for jurisdictional purposes as a question amenable to illustrate the approach). Formalist versus functionalist approaches to legal interpretation lead to interesting results when applied to the question of what triggers Article 5(2) of the Berne Convention and its TRIPS cousin, Article 9.1 (which incorporates almost all of Berne into TRIPS). See TRIPS Agreement, supra note 6, art. 9.1. A formalist approach would apply the provision only to public formalities, whereas a functionalist approach might impose liability on a member state if within its territory an author would have no practical choice but to participate in a system of private formalities to exercise or enjoy her rights economically. See VAN GOMPEL, supra note 8, at 206–08. This issue already has arisen with respect to compulsory participation in collective management. Id. With respect to the interpretation of “exercise” and “enjoyment,” some formalists would treat any formal condition on obtaining, licensing, or enforcing rights as a prohibited formality. See, e.g., Actes de la Conférence internationale pour la protection des droits d’auteur réunie à Berne du 8 au 19 Septembre 1884 43 (1884), discussed in SAM RICKETSON & JANE C. GINSBURG, INTERNATIONAL COPYRIGHT AND NEIGHBOURING RIGHTS: THE BERNE CONVENTION AND BEYOND ¶ 6.102 (2006) (“everything which must be complied with in order to ensure that the rights of the author with regard to his work may come into existence.”). Others might rely on a formal distinction between rights and remedies and apply the prohibition only to preconditions on obtaining or licensing rights. See eBay Inc. v. MercExchange, LLC., 547 U.S. 388, 392 (2006) (distinguishing between rights and remedies in the context of injunctive relief for patent infringement: “the creation of a right is distinct from the provision of remedies for violations of that right.”); Christopher Jon Sprigman, Berne’s Vanishing Ban on Formalities, 28 BERKELEY TECH. L.J. 1565, 1568–73 (2013). A functionalist could well conclude that even if subjecting an author’s ability to obtain, license, or enforce rights to a condition was a formality, if it were one that were trivially easy to comply with, it would not rise to the level of a formality that impairs an author’s ability to exercise or enjoy rights. See infra notes 64–69 and accompanying text.

13. See infra Part III (describing and discussing private formalities).
TRIPS, as instruments of public international law, regulate “public” formalities enacted through a Member State’s formal lawmaking processes. Yet Berne and TRIPS simultaneously leave open space for “private” formalities imposed by actors, such as Collective Management Organizations ("CMOs"), which rely in part on state power to function. Policy discussion concerning the role of copyright formalities should not be constrained by focusing only on the role of public requirements and public administration, but should also take account of the private actors who impose and rely upon formal requirements affecting the enjoyment and exercise of copyright.

Interestingly, recent developments at the World Intellectual Property Organization ("WIPO") support this argument and demonstrate a realist approach to eliding the public/private distinction. In support of its thematic project on intellectual property and the public domain, WIPO commissioned studies covering both public and private formalities systems to provide a realistic picture of copyright documentation in the digital environment.

As others writing in this volume have previously elaborated, formal requirements, such as publication-with-notice, registration, deposit, and

---

14. See id. and accompanying text. Throughout the latter nineteenth and the twentieth centuries, referring to formal requirements imposed by such private actors as “copyright formalities” would have been deemed incoherent because those requirements are on the other side of the public/private distinction from the Berne constraint.

15. See id. (discussing the role of private formalities).

16. The 45 Adopted Recommendations under the WIPO Development Agenda, WORLD INTELLECTUAL PROP. ORG. (2007), http://www.wipo.int/export/sites/www/ip-development/en/agenda/recommendations.pdf. For example, Cluster A. No. 9 of the Adopted Recommendations has brought a measure of legal realism to the organization’s interest in copyright formalities. See id.; see also infra notes 39–55 and accompanying text (discussing WIPO studies of private copyright documentation services and their interaction with public formalities systems). This is welcome news. Specifically, WIPO surveys and studies of copyright formalities recognize that private formalities are appropriately within the scope of Berne and that the interaction between public formalities and private formalities is a subject worthy of attention. See infra notes 39–55 and accompanying text.

17. According to WIPO:

As part of the Development Agenda thematic project on IP and the Public Domain a Survey of Private Copyright Documentation Systems and Practices: (a) Private Registries (b) Collective Management Organization’s Databases, is also under preparation. This would cover the use of copyright documentation, including in the form of RMI, by entities such as collective management organizations or the Creative Commons System, and would examine how these systems identify, or might contribute to identifying, content that is protected or in the public domain.

renewal or maintenance, serve a variety of functions that align with copyright law’s principal economic goal of providing authors, publishers, and their investors with potential profits for culturally appealing works. In particular, formalities require rightsholders to provide potential transacting partners with sufficient information to identify the copyright owner so that conversations about licensing or acquiring rights may begin. Realizing that Berne article 5(2) and TRIPS article 9(1) have removed formalities from public law, the realist perspective shifts the policy focus to how those subject to copyright regulation can create private substitutes for those public formalities. From this perspective, the space once occupied by a formalities system administered by public officials has been privatized rather than abandoned.

Specifically, this Article argues that public officials have space to improve the functioning of formalities in the copyright system in two ways: (1) using the available flexibility within the existing international framework to increase the role of publicly administered formalities; and (2) recognizing the private formalities systems run by CMOs, as well as working to improve interoperability and transparency in these systems through a mixture of public/private cooperation and public regulation. On both fronts, public officials should consider the role of technical standards as a regulatory force in both public and private systems of formalities and should work to ensure that standards of decision making reflects public values.

Most of the existing and emergent literature focuses on improving the role of publicly-administered formalities, so this Article will offer only a few recommendations in this regard. Instead, the Article primarily focuses on the role and regulation of private formalities and the importance of technical standards in minimizing the costs and maximizing the benefits that digital technologies offer in the design and implementation of copyright formalities.

II. REINVIGORATING PUBLIC FORMALITIES

This Part critiques the formalist narrative about public formalities and provides additional support for those who argue that public officials could lawfully reintroduce some mandatory public formalities at the national level.

---

18. See, e.g., VAN GOMPEL, supra note 8, at 15–51.
19. See id. at 18–19.
20. See, e.g., id. at 206–08.
21. Id.; see also Pallante, supra note 8, at 1421 (referring to desirability of making recordation in Copyright Office database interoperable with private recordation databases administered by collecting societies).
22. See sources cited supra note 9.
within the constraints of the Berne/TRIPS anti-formalities provisions. The formalist narrative largely overlooks the beneficial functions formalities can and have performed, even if historically implementations have had some shortcomings. This narrative also overstates the constraints that a human rights construct of authors’ rights would impose on expansion or reintroduction of public formalities. Relatedly, the formalist interpretation of the Berne/TRIPS anti-formalities provisions, as grounded in the human rights construct, is at odds with the history at both the national and international levels. Recent scholarship makes clear that these provisions are better understood as reflecting a reaction to the complexities of a patchwork of varying national formalities rather than a complete rejection of formalities. This scholarship also clarifies that the Berne/TRIPS constraints are not as far-reaching as has been commonly assumed. In particular, opportunities exist to reintroduce public formalities that would take advantage of new technologies for streamlining their administration and technologies that could help perform a filtering function with respect to works published on the Internet. Consequently, it is a propitious time for public officials to think creatively about how public formalities might be expanded, refashioned, or reintroduced to better enable copyright law to promote its policy objectives.

One goal for granting authors copyright, or at least economic rights in their works of authorship, is to support a transaction structure in which authors have the opportunity to be rewarded for works that have popular appeal. This transaction structure relies on some of the functions that copyright formalities traditionally played in providing notice about the identity of the author(s), the work(s), and other information relevant to potential parties to a transaction concerning the exclusive rights in the

23. See Sprigman, supra note 8, at 545–68 (recognizing shortcomings of rigid formalities requirements and proposing a more flexible alternative system); Pallante, supra note 8 (articulating benefits of fairly designed formalities).
24. See, e.g., VAN GOMPEL, supra note 8, at 267–80 (demonstrating that personality-based rights can be, and are, subject to formalities in Europe); see also Sprigman, supra note 8, at 543 (“The degree to which formalities are inconsistent with natural rights-based copyright is easily overstated.”).
25. See infra notes 31–36 and accompanying text.
26. See infra note 34.
27. Id.
28. See Harper & Row Publishers, Inc. v. Nation Enters, 471 U.S. 539, 558 (1985) (“In our haste to disseminate news, it should not be forgotten that the Framers intended copyright itself to be the engine of free expression. By establishing a marketable right to the use of one’s expression, copyright supplies the economic incentive to create and disseminate ideas.”); see also Sprigman, supra note 8, at 523–24, 528 (arguing in part in support of renewed formalities to support exchange of transaction-related information).
work(s).\textsuperscript{29} On its own terms, the formalist narrative is thus problematic at its core because some kind of notice and registration function is \textit{required} for authors to receive the full economic benefits that copyright is designed to supply. Moreover, at least in the United States, the law grants private economic benefits to authors in order to achieve a larger, public goal.\textsuperscript{30} This observation alone should put one in a more generous interpretive posture concerning the potential to implement public formalities under the international framework.

Two other observations further buttress this point. First, the formalist narrative overreads human rights obligations by confusing legal entitlements with options to obtain or exercise legal entitlements.\textsuperscript{31} Human rights law does not assert a general principle that prevents a government from treating civil and political rights as an option to obtain and exercise rights rather than as a grant \textit{ab initio} in all cases.\textsuperscript{32} For example, the right to vote is considered among the most central political rights that citizens of a democracy possess, and yet governments routinely require potential voters to comply with a formality—registration—before they may exercise or enjoy this right.\textsuperscript{33}

Second, the formalistic narrative is at odds with the history of Berne’s anti-formalities obligation and how this obligation should be interpreted in light of this history. Recent work by Stef van Gompel, Daniel Gervais, and others\textsuperscript{34} demonstrates that the authors of anti-formalities provisions

\begin{footnotes}
\footnote{29. \textit{See}, \textit{e.g.}, VAN GOMPEL, supra note 8, at 47–49 (describing the role formalities may play in supplying information).

30. \textit{See} Twentieth Century Music Corp. v. Aiken, 422 U.S. 151, 156 (1975) (“The immediate effect of our copyright law is to secure a fair return for an ‘author’s’ creative labor. But the ultimate aim is, by this incentive, to stimulate artistic creativity for the general public good.”).

31. \textit{See} Sprigman, supra note 8, at 543 (“The degree to which formalities are inconsistent with natural rights-based copyright is easily overstated.”).

32. \textit{See}, \textit{e.g.}, VAN GOMPEL, supra note 8, at 267–80 (demonstrating that personality-based rights can be, and are, subject to formalities in Europe).


\end{footnotes}
responded to a situation in which authors and publishers faced overly cumbersome copyright formalities, operating in an increasingly international market for copyrighted works. Some authors’ rights triumphalists strategically downplay or ignore this history. However, deploying deontological arguments for utilitarian purposes is generally self-defeating. Attempts to treat the anti-formalities provisions of Berne as recognition of authors’ human rights rather than as a situationally pragmatic response to administrative difficulties follows this pattern.

Recent scholarship has built upon the premise that some level of formalities is required to support a structure for transactions pertaining to exclusive rights in works of authorship, and that the international prohibition on certain public formalities as a precondition of the author’s exercise and enjoyment of rights is based on pragmatic objections that can be revisited in light of changed circumstances. This scholarly interest in a more vigorous approach to public formalities is welcome because the current system of public formalities leaves considerable room for improvement.

WIPO’s Development Agenda supplies reasons for renewed attention to the beneficial functions that public copyright formalities perform. Specifically, with regard to registration, these include providing public means for: (1) asserting claims of authorship and ownership, (2) identifying works of authorship, (3) delimiting the public domain by supplying information relevant to the expiration of copyright, and (4) mapping creative activity


37. See, e.g., Sprigman, supra note 8, at 545–46 (explaining that technological innovation could make the reintroduction of formalities more feasible); Ginsburg, supra note 8, at 316–17 (describing types of formalities that can and do still exist under Berne); Gibson, supra note 8, at 212–41 (discussing need for formalities to balance legal entitlements in copyright law); Gervais, The Google Book Settlement and the TRIPS Agreement, supra note 34, at 3–5 (discussing the history of anti-formalities regulation in Berne and the extent to which formalities still exist in copyright law); VAN GOMPEL, supra note 8, at 193–214 (describing the current use of formalities under Berne).
within a territory. In a survey, WIPO reported that 48 members of the total 186 member states administered voluntary registries within their territory. Finally, these voluntary public formalities systems document only a very small fraction of the eligible works of authorship. The large majority of these systems are administered within the executive branch of government, usually by the Ministry of Justice or the Ministry of Culture. But, some small states, such as Armenia, Mali, Namibia, and Slovenia, delegate administration of their “public” system to CMOs or other private entities. Also, Italy and Japan have hybrid systems. Both outsource registration of computer programs to private entities, and Italy also delegates registration of audiovisual works to a CMO.

Further recognizing the coexistence of, and the potential benefits of interoperability among, public and private systems, the WIPO survey asked whether a member state’s public copyright registry interconnects with any other copyright data system. In the majority of cases, the answer is “No.” In only two cases, Algeria and Mali, is the public registry interconnected with a CMO database. Other examples of interconnection involve intragovernmental links among ministries.

The survey did not ask about interoperability between the public registries of member states, although it did inquire whether member states

41. See id. at 2–3. For example, in the United States, out of the millions of photographs posted to Flickr, and hours of video uploaded to YouTube, only 636,527 works of authorship were registered in fiscal year 2010. See U.S. COPYRIGHT OFFICE, FISCAL ANNUAL REPORT 3 (2010), available at http://www.copyright.gov/reports/annual/2010/ar2010.pdf (last visited July 18, 2013).
42. See WORLD INTELLECTUAL PROP. ORG., supra note 40, at 1.
43. See id.
44. See id.
45. See id.
46. See id. at 2.
47. Id.
48. See id.
49. See id.
would accord legal significance to foreign registrations. The survey reveals that the possibility of interoperability among public or private digital registration databases likely is a long way off. Sixteen member states store registration data in hard copy only, including Argentina, Brazil, Italy, and South Africa. At least five other member states are currently transitioning to a digital registration system. Even for systems that store digital records, only eleven countries enable public access over the Internet. Nevertheless, for present purposes, the key point is that even on the ostensibly “public” side of the formalities ledger, private parties have been delegated the responsibility to perform copyright registration.

The survey also reveals the vast room for improvement in making even voluntary registration systems better perform their function in supporting a transaction structure around copyrighted works. Greater standardization and other measures to promote interconnection and interoperability among public and private registration databases would almost certainly improve these systems’ overall effectiveness and attractiveness and induce greater participation by copyright owners.

Recent scholarship also illuminates the opportunities that the international framework leaves for reimagining and reinvigorating both mandatory and voluntary public formalities. The international framework permits a member state to impose mandatory formalities on its own nationals. As other contributors to this volume persuasively argue, the international framework also would permit imposition of mandatory formalities on all assignees and transferees of the author’s rights. Relatedly, formalities to maintain rights under copyright beyond the life-plus-fifty Berne minimum also would be permissible. Whether mandatory formalities that

---

50. See id. at 7.
51. Id. at 10.
52. Id.
53. Id. at 11.
54. Id. at 1–2.
55. See id. at 3–5 (showing that most countries lack ability to register transfer agreements, copyright licenses, or security interests).
56. See Sprieman, supra note 8, at 545–68 (suggesting need for interoperability across copyright and increased formalities).
58. See, e.g., Stef van Gompel, Copyright Formalities in the Internet Age: Filters of Protection or Facilitators of Licensing, 28 BERKELEY TECH. L.J. 1425, 1453–56 (2013).
59. See, e.g., The Public Domain Enhancement Act, H.R. 2601, 108th Cong., at 6, reintroduced as H.R. 2408, 109th Cong., at 6 (imposing a small tax as the price to maintain copyright protection beyond the Berne minimum); see also The Register’s Call for Updates to U.S. Copyright Law: Hearing Before the Subcomm. on Courts, Intellectual Prop., and the Internet of the H.
serve as a precondition to the availability of injunctive relief or enhanced monetary remedies would not run afoul of Berne because they apply only to remedies rather than rights is a more contentious question.60

The digital challenges and opportunities that fuel some of the renewed interest in copyright formalities in general also supply the basis for an additional argument concerning mandatory formalities. Digital technologies offer opportunities to make affixing notice to a work or registering an author’s claim to copyright in a database trivially easy in places with ready computer and Internet access.61 Metadata can be preconfigured to automatically associate with digital files, such as a document created in Microsoft Word, and creating account information in a digital database has become a routine precondition for participating in many aspects of digital life.62 These technological advances represent a radical change in circumstances from those that inspired the amendment to add the Berne prohibition in 1908.63

In other legal contexts, recognition of these changed technological circumstances has led to changed legal interpretations. Under traditional legal

---

60. Compare Sprigman, supra note 8, at 557 (“Nevertheless, authors who fail to comply with new-style formalities and thereby lose their previously existing right to exclude are likely not, as a category, deprived of any aspect of the ‘enjoyment and exercise’ of the economic rights appertaining to their copyright.”), with Jane C. Ginsburg, With Untired Spirits and Formal Constancy: Berne-Compatibility of Formal Declaratory Measures to Enhance Title-Searching, 28 BERKELEY TECH. L.J. 1583, 1593 (2013) (“Berne’s prohibition on formalities requires that the basic copyright remedies, such as injunctive relief and actual damages, remain available to foreign authors who have not locally registered their works or undertaken other locally-imposed declaratory measures.”).


62. NATIONAL INFORMATION STANDARDS ORGANIZATION, supra note 61, at 1–2 (defining metadata and describing its potential uses).

63. See sources cited supra note 34 (discussing, inter alia, administrative burdens of registering in multiple jurisdictions).
principles, for example, a person’s inaction usually would not support a finding of an implied agreement or an implied license, as is true in copyright law. However, at least one court found that a web publisher’s choice to publish copyrighted works on the Web while forgoing the trivially easy formality of using the robots.txt exclusion header in the website’s metadata designed to stop search engines from copying the text for purposes of indexing and caching the website, formed the basis for finding that the publisher had licensed search engines to copy, index, and cache the contents of the web site. The extended collective licensing scheme adopted in Nordic countries has a similar opt-out provision, which some have suggested runs afoul of Berne article 5(2). Professor Daniel Gervais ably rebuts this suggestion.

By analogy, a dynamic interpretation of the Berne Convention would lead to the conclusion that, at least in countries with ready access to computers and the Internet, a mandatory notice or registration formality should not be read to affect an author’s ability to exercise or enjoy her rights under copyright. This would be especially true for formalities that affected the scope of rights or remedies available to an author based on steps that would be trivially easy and commonplace to take in the digital environment.

Finally, whether formalities are cast as mandatory or voluntary, recent work offers a fresh look at the filtering function that formalities can play.

64. See Restatement (Second) of Contracts § 69, cmt. a (1981) (“Acceptance by silence is exceptional. Ordinarily an offeror does not have power to cause the silence of the offeree to operate as acceptance.” (emphasis omitted)); see, e.g., William F. Klingensmith, Inc. v. District of Columbia, 370 A.2d 1341, 1343 (D.C. 1977) (finding that the defendant’s silence in response to a letter for the balance of a contracting job could not constitute a valid contract).


67. Id. at 482–85 (expressing some possible concerns over the interaction between Berne and the Nordic model; see also Fiesor, supra note 5, at 48 (arguing that an opt-out provision in extended collective licenses is inconsistent with Berne Art. 5(2)).

68. See Gervais, Collective Management of Copyright: Theory and Practice in the Digital Age, supra note 34, at 24–27 (arguing that not all mandatory formalities are illegal under Berne); accord Van Gompel, supra note 8, at 209–11 (concluding that opt-out models from statutory licenses are not prohibited formalities).

69. Thanks to my colleague Peter Jaszi for this suggestion.

70. Id.

71. In Kable v. Gonzales, the Ninth Circuit held that:
Traditionally, failure to adhere to formalities resulted in forfeiture of copyright. However, public formalities in the United States already filter the remedies available to owners of copyright in United States works, and this approach could be applied creatively to include scope as well.

A more nuanced approach to the filtering function would be especially valuable, as automatic copyright in the digital world has led to a continuous and growing eruption of copyrights. A useful place to start in this analysis is the report of the Copyright Principles Project, which suggests ways in which scope and remedies might be tailored based on whether rightsholders choose to register their claims to copyright in an updated digital registry. With a system for easy registration in place, a creator’s choice to not register would have consequences. Specifically, the report imagines formalities that would tier protection such that the scope of copyright in unregistered works could be limited to a prohibition against exact or near-exact copying that causes commercial harm. Other uses would likely be deemed fair. Remedies for infringement involving unregistered works would not include statutory damages or attorneys’ fees. In contrast, registration would likely provide rights of a broader scope, including the rights to exclude copying of nonliteral elements of a work of authorship and to stop some of the noncommercial uses likely to have market-impairing effects. The right to terminate a transfer of copyright after some period of years also could be limited to owners of copyright in registered works. A copyright owner

Renewal served as a filter that passed certain works—mostly those without commercial value—into the public domain. Along with formalities such as registration and notice (which have also been effectively eliminated), renewal requirements created an “opt-in” system of copyright in which protections were only available to those who affirmatively acted to secure them.

Kahle v. Gonzales, 487 F.3d 697, 699 (9th Cir. 2007).

72. See, e.g., Ginsburg, supra note 8, at 328–32.
74. See Pamela Samuelson et al., The Copyright Principles Project: Directions for Reform, 25 BERKELEY TECH. L.J. 1175, 1186 (2010):

The move to an automatic protection regime puts current law in tension with the principle that there should be reasonable ways for the public to get information about who owns which rights in which works and whether works are or are not available for use or are in the public domain.

Id. By way of full disclosure, this Author was a member of the Copyright Principles Project.

75. See generally id.
76. Id. at 1200.
77. Id.
78. Id. at 1200–01.
79. Id. at 1201.
could register at any time, but the benefits of registration would not be retroactive.\textsuperscript{80}

The emergent debate on reintroducing or enhancing public formalities is welcome. Advances in digital technologies are both the source of many problems associated with a lack of formalities as well as the potential source of solutions. In the modern context, public formalities could be designed to avoid the overly harsh consequences visited upon a small number of copyright owners under the historical all-or-nothing approach.\textsuperscript{81} Instead, notice and registration, and potentially recordation, deposit, or maintenance could all be accomplished for digital works with very little trouble for the rights owner.

New style formalities could be flexible in numerous ways, including being limited to works in digital form and not applying to authors in territories that currently lack ready and reliable access to the Internet. New style formalities would reclaim the public function of gathering and sharing information about creative works, enhancing productive transactions that benefit creators and audiences alike. Importantly, new style public formalities should be fashioned to interoperate with, and to improve the transparency of, the systems of private formalities discussed in the next Part. Interoperability would require agreements on common technical standards and on the type of information public registries should provide, compared to the information that should be treated as too commercially sensitive to be made public. One design would treat the public deposit/registry as the base layer of information, which could then be extended for use in private formalities systems, such as CMOs.

III. REGULATING PRIVATE FORMALITIES

The authors’ rights narrative about formalities overlooks the fact that the banishment of mandatory public formalities in the Berne Union in the early twentieth century coincided with the emergence of CMOs.\textsuperscript{82} These CMOs brought with them privately-administered formal requirements for authors to supply relevant information as a condition of receiving a share of the economic rewards administered by the CMO. Thus, it would be better to understand the death-of-formalities story less as a philosophical victory for

\textsuperscript{80}. Id.
\textsuperscript{81}. See, e.g., Ginsburg, supra note 8, at 328–32 (discussing the historical all-or-nothing approach to copyright).
\textsuperscript{82}. See Gervais, Collective Management of Copyright: Theory and Practice in the Digital Age, supra note 34, at 3–10 (providing the evolution of and process used by CMOs).
authors’ rights and more as a privatization or outsourcing story about administering a system of copyright formalities.

From this perspective, the theme of reform(alizing) copyright means that current public policy must reclaim an increased role in establishing, administering, or regulating new and existing systems of copyright formalities. Work done in this vein draws attention to the privately administered formalities and their interaction with publicly administered systems and what a “highly asymmetric international scenario” this interplay created.\footnote{See Copyright Registration and Documentation, supra note 38 (describing studies of public and private registration and documentation systems as part of work under the Development Agenda Thematic Project on Intellectual Property and the Public Domain).} For example, one project in support of the Development Agenda at the World Intellectual Property Organization\footnote{The WIPO Development Agenda refers to a package of forty-five proposals adopted by the WIPO General Assembly in 2007. See Development Agenda for WIPO, supra note 38; see also Copyright Registration and Documentation, supra note 38.} illustrates the policy opportunity of using public and private copyright formalities to promote access to “orphan” works and works in copyright’s public domain.\footnote{See Development Agenda for WIPO, supra note 38; see also Copyright Registration and Documentation, supra note 38.} Recognizing that privately administered formalities systems occupy much of the field, policymakers should focus their attention on the degree to which these systems are interoperable, transparent, and effective.

Until recently, these private systems had been subject to little or no public oversight.\footnote{See Proposal for a Directive of the European Parliament and of the Council on Collective Management of Copyright and Related Rights and Multi-Territorial Licensing of Rights in Musical Works for Online Uses in the Internal Market, Article 18, available at http://ec.europa.eu/internal_market/copyright/docs/management/com-2012-3722_en.pdf (proposing greater transparency and oversight of CMOs); see also Anne-Catherine Lorrain, EU Presidency Proposes Compromise on Draft Directive on Collective Management of Copyright, COMMUNIA (May 22, 2013), http://www.communia-association.org/2013/05/22/eu-presidency-proposes-compromise-on-draft-directive-on-collective-management-of-copyright (analyzing the transparency issues in the directive and offering suggestions); Gervais, Collective Management in Theory and Practice in the Digital Age, supra note 34, at 14–18.} This lack of oversight is beginning to change, particularly with respect to the transparency of CMOs.\footnote{See Tanya M. Woods, Working Toward Spontaneous Copyright Licensing: A Simple Solution for a Complex Problem, 11 VAND. J. ENT. & TECH. L. 1141, 1155–57 (2009) (claiming the Santiago agreement that required CMOs to report certain information was a “step in the right direction, [even though] it was plagued by complex practical and legal problems”).} Public officials can and should do more to ensure better integration between public and private formalities systems and to ensure that these systems operate to serve the ultimate public interest that copyright law aims to promote. This Part maps these private
formalities systems and then outlines a public policy strategy for improving their operation within the larger copyright economy.

A. A REVIEW OF PRIVATE FORMALITIES SYSTEMS

Privately-administered formalities systems are heterogeneous but fall roughly into three groups: (1) registries and related systems administered by organizations that either own rights under copyright or related rights or, more often, act as transactional agents for rightsholders; (2) third-party registries or copyright documentation services that do not solely rely upon input from rightsholders to gather and organize information about works of authorship and their rightsholders (e.g., YouTube’s Content ID registry); and (3) organizations that compete directly with public formalities systems to provide rightsholders with copyright documentation services, such as notice (e.g., watermarking), registration, or deposit.

1. Formalities Administered in Support of Rightsholder Representation

The longstanding and, until recently, most economically significant systems of private formalities are those administered by CMOs. These CMOs have legal authority to grant licenses or collect royalties on behalf of authors or other rightsholders.88 While one could argue that the Venetian guilds or the Company of Stationers were the original collective management organizations, these groups as authors’ collectives originated in France in the 18th century.89

Authors generally have a choice about whether to register with a CMO, although in some countries, membership is mandatory.90 To become part of the CMO’s registry and receive royalties collected by the CMO, an author must supply identification and contact information at a very minimum.91 The author may supply information about the works submitted to the CMO’s repertory, or CMO employees may independently gather that information.92 The CMO then matches this data with usage data to compensate rightsholders.93

89. See id.
90. See WORLD INTELLECTUAL PROP. ORG., supra note 40, at 1.
91. See Gervais, Collective Management of Copyright: Theory and Practice in the Digital Age, supra note 34, at 8.
92. Id.
93. See id. (“From an operational standpoint, CMOs are essentially data collecting and processing entities.”).
Representing rights in a repertory of works, CMOs usually operate territorially and hold less than the full set of exclusive rights in a particular work of authorship. As a result, within a specific territory, more than one CMO may have an interest in a particular work of authorship, and this is certainly true across territories. CMOs then engage in cross-border cooperation through reciprocal representation agreements and by federating in umbrella organizations. The largest of these umbrella organizations are (1) the International Confederation of Societies of Authors and Composers ("CISAC"), which federates 231 CMOs in 121 countries to represent the interests of over three million creators and rightsholders, and (2) the International Federation of Reproduction Rights Organisations ("IFRRO").

These organizations’ private formalities systems support a substantial transaction structure. In 2010, CISAC member organizations collected €7.545 billion, the bulk of which derived from licensing of public performance rights. Unlike some of the public formalities systems described in Part II, CISAC members invested considerable energy in using digital technology to improve the exchange of transaction-related information among member organizations. In a report to WIPO, a CISAC consultant detailed CISAC’s adoption of technical standards for identifying authors, rightsholders, works of authorship, and related transaction-relevant data to automate exchanges of information among member organizations. As a result, CISAC developed CIS-net, the product of a ten-year development cycle to improve

94. See id. at 6–8; see also Sérine Dusollier & Caroline Colin, Peer-to-Peer File Sharing and Copyright: What Could be the Role of Collective Management?, 34 COLUM. J. L. & ARTS 809, 818–20 (2011) (outlining the limits and different types of CMOs); Enrico Bonadio, Collective Management of Music Copyright in the Internet Age and the EU Initiatives: From Reciprocal Representation Agreements to Open Platforms, in WORLD LIBRARY AND INFORMATION CONGRESS: 78TH IFLA GENERAL CONFERENCE AND ASSEMBLY 2–3 (2012) (discussing collective licensing in the international music industry).
95. See Gervais, Collective Management of Copyright: Theory and Practice in the Digital Age, supra note 34, at 6–8.
96. Id. at 7.
standardization and interoperability among the member organizations’ respective private formalities systems.101

This standards development activity took place without any significant coordination with the administrators of public formalities’ system or other parallel standards developments by other private administrators of formalities systems.102 For example, a common problem for all formalities systems is determining how to disambiguate parties that have the same or very similar names. Rather than adopt a single standard across platforms to solve this problem, the developers of CIS-net chose one solution,103 while the ORCID project for disambiguating the identities of research authors adopted a different one.104 Luckily, both CIS-net and ORCID use open protocols that enable interoperability,105 but at the price of additional processing that possibly could have been avoided. The deeper point here is that the natural default position for administrators of private formalities systems is to fashion their own solutions to common problems rather than absorb the costs of coordinating with administrators in ostensibly unrelated domains. Whether this approach is in the public interest with respect to the overall functioning of copyright’s transaction structure is a question that deserves attention from public officials.

101. Nuttall states:
   In 2000 a number of Author’s Societies had created “FastTrack”, a technical alliance aimed at creating a network connecting the key documentation nodes to improve data flow and information exchange. In 2005, FastTrack GDDN (Global Documentation and Distribution Network) was expanded to all CISAC members and was renamed “CIS-Net powered by FastTrack”. CIS-Net is now the backbone of all Musical Works Documentation exchange.

Id. at 30.

102. See id. (demonstrating development of CIS-Net done without coordination with administrators of public formalities systems).

103. See id. at 31–32 (discussing CIS-net’s use of Interest Party Information database and Common Search Index to provide unique codes).

104. See What is ORCID?, ORCID, http://orcid.org/content/initiative (last visited July 27, 2013) (“ORCID is an open, non-profit, community-driven effort to create and maintain a registry of unique researcher identifiers and a transparent method of linking research activities and outputs to these identifiers.”).

105. See NUTTALL, supra note 100, at 8–9; ORCID Open Source Project Now Available!, ORCID, https://orcid.org/blog/2013/02/21/orcid-open-source (Mar. 2, 2013, 12:19 AM) (explaining choice to release source code openly to improve interoperability with external services).
2. Third-Party Depositories and Registries: A YouTube Case Study

Many discussions of copyright formalities share the implicit premise that the author or rightsholder must supply information or take certain actions to comply with the formalities. Some examples of hybrids have emerged that rely on some input from a rightsholder in addition to data generated by the administrator of the private formalities system.

The most economically significant version of this phenomenon is Google’s Content ID system, used by YouTube for both enforcement- and transaction-related activities. Rightsholders supply reference files (deposit), metadata about those files (registration), and policies on what they want YouTube to do if it finds a match between the reference file and a user-uploaded file (recordation, at least for policies that allow for licensing).

YouTube creates a “hash,” a unique digital identifier, for each reference file and then runs uploaded videos through an algorithm that looks to match the data pattern encoded in the hash with the data in the uploaded file. According to YouTube’s website, Content ID’s database has more than fifteen million reference files that are matched against the more than 250 years of video that Content ID scans every day. More than one third of YouTube’s “monetized views” derive from Content ID matches.

Although this Article has focused on the role of registries in a formalities system, notice and deposit are also functions that private formalities systems perform. YouTube is a depository both through its Content ID program and also as place for rightsholders to make their content available. Although there are other options for sharing video over the Internet, YouTube’s huge audience arguably makes it necessary for certain authors or rightsholders to deposit a copy of their audiovisual works in order to meaningfully enjoy or exercise their rights under copyright. In addition, the Content ID hash functions as a form of automated notice. Although YouTube currently uses the Content ID hash internally, such automated notice potentially could be used or relied upon by other parties if this data were publicly available.

107. Id.
108. See id. (explaining how Content ID functions).
111. Content ID, infra note 106.
The Content ID registry functions as part of a private formalities system insofar as YouTube offers rightsholders the opportunity to take the formal step of contacting YouTube, supplying identity and contact data, and entering into a compensation agreement with YouTube. This formal step is a necessary precondition for a rightsholder to participate in revenues generated by certain uses of Content ID.

It is possible that other advertising-dependent platforms that rely on user-generated content, such as Pinterest, would also have an interest in developing content registries like YouTube for similar purposes. It is also likely that these developments will take place without any appreciable coordination with, or oversight by, public officials, including the administrators of public formalities systems. Rightsholders should expect that additional third parties, like YouTube, will use these digital technologies to generate databases of works of authorship and any interested parties. Those third parties will not require, and will likely not even seek, rightsholder participation. Furthermore, rightsholders can also expect that a formal step will be required for them to receive the benefit of the revenues generated by these databases. This procedure has been used to generate third party social network databases, and there is no reason to think that the same techniques could not be used to create copyright databases.

3. Private Registries

Finally, a number of private companies perceive a gap in the market for voluntary registration and deposit services. As the WIPO-sponsored survey of public formalities’ systems demonstrates, a number of countries do not offer publicly-administered registration services, and only a small portion of those countries make their records available over the Internet. Seeking to compete directly with or complement public voluntary systems, these primarily digital services fill gaps in the public systems by accepting deposits from any territory, in multiple formats, at prices that allow user-generated

112. Id.
113. See Andrew Ross Sorkin, A Database of Names, and How They Connect, N.Y. TIMES, Feb. 12, 2013, at B1.
115. See supra notes 40–55 and accompanying text (describing lack of digital and network capacity for most public formalities systems).
works to be registered. They also use digital technologies, including hashes, to identify rightsholders and works.

WIPO commissioned a survey of these private documentation services to map the current state of this emerging market. The survey found that a range of general purpose registries have entered the market. Some of the general purpose registries target users of Creative Commons licenses, who may find registration useful to support the attribution requirement in such licenses. Other general-purpose registry targets include domain-specific services such as the Writers Guild of America, West Registry.

Because the law in many countries gives evidentiary or other legal effect to participation in public formalities systems, private systems remain at a competitive disadvantage with respect to certain classes of rightsholders. Nonetheless, the continued proliferation of these services suggests that there is sufficient perceived latent demand such that these systems are likely to persist. Although some level of competition, even standards competition, may be desirable at this point in the digital era, this competition led to a situation in which fragmented, uninteroperable private formalities systems fail to provide many of the public benefits that could be achieved through greater interoperability and transparency.

116. See RICOLFI ET AL., supra note 114, at 18–21 (describing competitive strategies of private registries).
117. See id.
118. Id.
119. Id. at 18–23 (describing general purpose private registries).
120. By way of full disclosure, this Author is a Member of the Creative Commons Board.
121. RICOLFI ET AL., supra note 114, at 21–22.
122. Id. at 23–24; see generally Catherine Fisk, The Role of Private Intellectual Property Rights in Markets for Labor and Ideas: Screen Credit and the Writers Guild of America, 1938-2000, 32 BERKELEY J. EMP. & LAB. L. 215, 267–74 (2011) (explaining and providing the reasons for the screenwriter’s copyright registry).
123. See WORLD INTELLECTUAL PROP. ORG., supra note 40, at 5; see also RICOLFI ET AL., supra note 114, at 41–43 (noting statutory advantages that voluntary public formalities systems enjoy over private documentation systems).
124. RICOLFI ET AL., supra note 114, at 18. Ricolfi states:

As a matter of fact, it is difficult for users to search more than a single copyright registry at once and the number of searches to exclude that a work has been registered somewhere grows with the number of registries. Moreover, the research performed for this study clearly demonstrated that even just finding the registries themselves could be challenging, particularly if one tried to find all of them and not just the most popular ones. Hence, registry fragmentation generates additional costs for users.

Id.
B. PROPOSED GOVERNMENTAL RESPONSES

This survey of private formalities demonstrates that Berne Article 5(2)'s prohibition did not remove formal requirements for authors to exercise or enjoy their rights under copyright altogether, but rather reallocated these formalities to the private sector. This shift in perspective supports greater engagement with systems of private formalities by public officials to ensure that the ultimate public policy objectives of copyright law are being served by these private formalities.

Engagement by public officials should be wide-ranging. It should include some formal regulation, as well as the use of the government’s convening authority. The convening authority could focus attention on finding common solutions to common problems and could induce participation in voluntary public-private partnerships to increase interoperability between public and private formalities systems. To serve the overall goals of formalities in the copyright economy, public officials should focus their efforts on improving the effectiveness of formalities in two ways. First, they should encourage socially beneficial transactions concerning works of authorship, both commercial and non-commercial. Second, they should seek to reduce frictions caused by automatic, long-lasting copyrights, either by filtering some works out of the system altogether or by reducing the social costs of copyrights whose rightsholders have little or no interest in using productively.

This goal of improving effectiveness in formalities can best be achieved by increasing interoperability among formalities systems and by increasing their transparency. Transparency has two meanings here. One meaning is to make public much of the information held by private formalities systems. The second meaning is to increase the accountability of the internal operating procedures of those who administer private formalities systems. These

125. This approach has more general support in the United States. See, e.g., Aneesh Chopra & Patrick Gallagher, Public-Private Standards Efforts to Make America Strong, OFFICE OF SCI. AND TECH. POL’Y, WHITE HOUSE (Jan. 31, 2012, 3:12 PM), http://www.whitehouse.gov/blog/2012/01/31/public-private-standards-efforts-make-america-strong (“The Administration recognizes the importance of the Federal Government working with the private sector to address common standards-related needs and taking on a convening or active-engagement role when necessary to ensure a rapid, coherent response to national challenges.”).

126. See, e.g., Greater Supervision on Collecting Societies as from 1 July 2013, GOV’T OF THE NETHERLANDS (June 3, 2013), http://www.government.nl/news/2013/03/06/greater-supervision-on-collecting-societies-as-from-1-july-2013.html (describing new Dutch law requiring collecting societies to publicly disclose “the fees, licence conditions, discount schemes, management costs and additional positions of [their] managers”).
subsidiary goals aim to supply informational liquidity to the market for transactions related to copyright-protected works. They also should increase administrative efficiency, providing more value to be shared between producers and users of these works.

While promoting interoperability, public officials should seek to encourage innovation in the use of digital technologies to improve the functioning of copyright formalities systems. Using its convening authority, the government could bring together the most forward-thinking administrators to identify standards that best perform the functions a formalities system requires. A great deal of creative thought and energy has gone into creating the CIS-net and the private general purpose registries, for example, and a public convening could be used to evaluate whether these standards generalize for other uses. Where standardization is too difficult to achieve, public officials should seriously consider the use of regulatory authority to require or strongly encourage that competing standards be bridged to achieve interoperability.

In a similar vein, public officials should seek to enter into partnerships with administrators of private formalities systems to achieve interoperability between public and private formalities systems. On this point, the concept of extensibility is essential. The function of public formalities systems is likely more limited than that of many of the private systems. It would make sense for public systems to provide a base layer of information that could then be readily extended to include additional metadata about works of authorship, authors, rightsholders, and others with a legally cognizable interest in works of authorship.

Regulation, however, cannot be avoided. The practices of CMOs require greater public oversight. Some of the more problematic issues do not always involve CMOs’ functions as administrators of private formalities systems, but even when problems derive primarily from agency disloyalty, these are often aided and abetted by the absence of interoperability and


In summary, the collective management of rights at the European level is in a state of chaos. Instead of cooperating through bilateral agreements to optimize the licensing of copyright at the international level, as they previously did, national CMOs in Europe are currently involved in litigation to prevent each other from issuing pan-European licenses of their respective repertoires.

Id.
transparency in the administration of the private formalities system.128 Public officials already have begun to respond. The European Commission proposed a draft Directive that would regulate CMOs that administer rights in musical works.129 More could be done to make the data held in CMOs’ private formalities systems more publicly available. In sum, once it is recognized that formalities are alive and well in the copyright system through these systems of private formalities, a range of reasonable public responses as described above follows.

IV. CONCLUSION

Building on the emerging literature concerning a reformalization of copyright law, this Article’s main goal is to suggest that the theme of reformalizing copyright should be seen as an effort to reclaim formalities from exclusive private control. This would enable formalities to better serve copyright’s public purpose to provide public benefits rather than resurrect copyright rules interred by the Berne Convention (as of 1908) and the TRIPS Agreement. Private formalities have their place, and in the digital environment, reinvigorated and reimagined public formalities should be designed to interoperate with systems of private formalities. Finally, this Article also offers additional support for those who argue that the constraints imposed by article 5(2) of the Berne Convention and its incorporation into the TRIPS Agreement via article 9(1) leave room for national governments to be far more creative in the use of formalities, certainly with respect to domestic authors and transferees of all nationalities.

