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CONSTRUCTION

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## Contentious Construction

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Language can serve various purposes. For some, it is merely the way humans communicate with each other. For others, it is a set of rules on how to arrange words to permit communication. And for a select few, the creation of new languages is an expressive activity through which ideas about language, both human and computer, are conveyed.

While U.S. copyright protection “subsists . . . in original works of authorship fixed in any tangible medium of expression,”<sup>1</sup> academics have debated whether constructed languages in general—languages that are invented or intentionally devised<sup>2</sup>—and computer languages in particular fit naturally into the copyright system.<sup>3</sup> On the one hand, commentators recognize that “[t]he involvement of a creator with her constructed language does not end when the first book or article describing the language is published.”<sup>4</sup> Instead, the creator is interested in how the language is distributed and developed by subsequent users.<sup>5</sup> In other words, she (like any author) intuitively possesses a sense of ownership over the work that she has created.<sup>6</sup>

On the other hand, not all effort in creating a new work is entitled to copyright protection.<sup>7</sup> Some commentators have argued that languages, even if they are original and creative, should not receive copyright protection because language is akin to an unprotectable idea that is free for anyone to use.<sup>8</sup> This debate has raged particularly large in considering the copyrightability of computer languages, which some in the academic community believe should be per se uncopyrightable or as minimally protected as possible.<sup>9</sup>

Despite this academic debate, until recently, the U.S. courts had not had the opportunity to consider the issue. That changed when two cases began making their way through the U.S. court system.

*SAS Institute Inc. v. World Programming Ltd.* concerns the SAS System, “an integrated suite of business software products” that allow users to “access, manage, and analyze data by writing programs in a programming language” called “SAS Language,” and World Programming’s competing system that, among other components, copied the SAS Language.<sup>10</sup>

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In contrast to the software issues raised in *SAS, Paramount Pictures Corp. v. Axanar Productions, Inc.* concerned the creation of a short film titled *Star Trek: Prelude to Axanar* and a feature film titled *Axanar*, which are “set in the Star Trek universe twenty-one years before *The Original Series*.”<sup>11</sup> Paramount alleged that Axanar copied several elements from Paramount’s *Star Trek* works, including the Klingon language.<sup>12</sup>

This article addresses the debate through a fresh lens in light of recent judicial opinions. Without staking out a position, it summarizes the differing views on critical questions of copyright law related to constructed languages: First, whether constructed languages qualify as “original works of authorship” under the Copyright Act. Second, whether such works would be sufficiently fixed to warrant copyright protection. Third, whether constructed languages are ideas or expression. And finally, how constructed languages might be infringed and whether unauthorized use of a constructed language would constitute fair use.

### **Is a Constructed Language an “Original Work of Authorship”?**

The first question warranting consideration is whether constructed languages constitute “works of authorship.” Many commentators have asked whether computer languages satisfy the definition of “computer program” in the Copyright Act<sup>13</sup>: “a set of statements or instructions to be used directly or indirectly in a computer in order to bring about a certain result.”<sup>14</sup> The interest is understandable as computer programs clearly are copyrightable.<sup>15</sup>

However, it does not appear that commentators have considered whether a constructed language would qualify as a non-computer program literary work. While the Copyright Act does not define the term “work of authorship,” it does provide as one of its nonexhaustive examples “literary works.”<sup>16</sup> Literary works are “expressed in words, numbers, or other verbal or numerical symbols or indicia, regardless of the nature of the material objects . . . in which they are embodied.”<sup>17</sup> No commentator has analyzed whether a computer language, or any constructed language for that matter, would satisfy this definition (even if it might not satisfy the narrower definition of a computer program).<sup>18</sup>

By contrast, commentators appear to agree that constructed languages could be sufficiently original to be copyrightable, even if some specific computer languages may not satisfy the originality requirement.<sup>19</sup> There are two possible reasons for the dearth of literature on this subject. First, after *Feist Publications*, only independent creation and a “minimal degree of creativity” are required for a work to be original.<sup>20</sup> Given the acknowledged creativity of most well-known examples of such languages,<sup>21</sup> commentators may believe that constructed language would satisfy that threshold. Second, the determination of originality is fact-specific,<sup>22</sup> meaning that each language will stand on its own merit and not be subject to a per se originality rule.<sup>23</sup>

### **What Is the Fixed Work?**

Another issue requiring attention is whether a language is fixed. There certainly are dictionaries of words and grammar books for the Klingon art language.<sup>24</sup> Do those books constitute a fixation or multiple fixations of Klingon? Do computer language specifications constitute a fixation of a computer language? Or is a language fixed through its use in novels or, in the case of computer languages, in computer programs?

Some commentators have argued that such fixation is impossible. To them, one of the only ways that a language could be fully fixed is for the author to create “a list of all possible sentences in that language” because it would be “doctrinally suspect” to provide copyright protection for expressions that are not yet fixed.<sup>25</sup> This view, however, has been critiqued by other commentators.<sup>26</sup>

Instead, commentators have suggested that fixation occurs when a language is used in a work written in that language.<sup>27</sup> For example, computer languages would be fixed when “they are embodied in computer programs. The program, stored on a . . . tangible medium, defines the computer language which it translates or requires for interaction with it.”<sup>28</sup>

A different approach would be to draw an analogy to the protection of characters that appear across multiple fixed works. In the Ninth Circuit, such characters and their attributes are protectable if they satisfy a three-part test: (1) the character must generally have “physical as well as conceptual qualities,” (2) the character must be “sufficiently delineated” to be recognizable as the same character whenever it appears, and (3) the character must be “especially distinctive” and “contain some unique elements of expression.”<sup>29</sup> One might argue that a constructed language that satisfies this test also would be protectable, regardless of whether the language is fixed in a single work.

### **Is a Constructed Language an Idea or an Expression?**

A subject of considerable discussion is whether a constructed language is merely an “idea,” “system,” or “method of operation”—to which § 102(b) of the Copyright Act confirms copyright protection does not extend<sup>30</sup>—or whether it is the expression of such ideas, which are protected by copyright law.<sup>31</sup> Proponents of the protection of constructed languages argue that creating a new language involves an expressive, creative process. Developing such languages requires crafting the vocabulary, grammar, and syntax.<sup>32</sup> If, in doing so, there are multiple ways to express the underlying idea of the language, courts may find that it is protectable.<sup>33</sup> Indeed, Professor Steve Posner admits that it is possible to view a computer language “as an instruction set that enables the user to create and manipulate screens, files, file structures and executable programs. With such a view, nearly every language becomes an expression of the idea, because nearly all languages have those capabilities.”<sup>34</sup>

By contrast, some academics argue that a language is a system—i.e., “a systematic means of communicating ideas or feelings by the use of conventionalized signs, sounds, gestures or marks having understood meanings.”<sup>35</sup> They argue that computer language is just a “system of vocabulary and grammar rules.”<sup>36</sup> Similarly, those advocating against protection of art languages have described their “vocabulary and grammar rules” as providing “instructions for a speaker to articulate thoughts and ideas,” which they argue are unprotectable.<sup>37</sup>

To the extent that these advocates suggest that a constructed language is an unprotectable system because it performs a function, they must wrestle with recent court cases. In *American Dental Ass'n v. Delta Dental Plans Ass'n*, for instance, the Seventh Circuit held that a dictionary “cannot be called a ‘system’ just because new novels are written using words, all of which appear in the dictionary.”<sup>38</sup> To the contrary, it found that a work may be “put to many uses” and still be protectable expression.<sup>39</sup> Likewise, the Federal Circuit in *Oracle America, Inc. v. Google Inc.* rejected the idea that an otherwise expressive work becomes unprotectable if “it is also functional.”<sup>40</sup> As the court explained in the context of computer code, to hold otherwise would mean that “no computer program is protectable,” a result that “contradicts Congress’s express intent to provide copyright protection to computer programs, as well as binding Ninth Circuit case law finding computer programs copyrightable, despite their utilitarian or functional purpose.”<sup>41</sup>

Similarly, while ideas and rules may not be protectable,<sup>42</sup> courts have cautioned that the idea of a work or the rules of a game should be described “in fairly abstract terms.”<sup>43</sup> Doing so ensures that room is left for the “particular expression of that idea” to be “copyrightable.”<sup>44</sup> Indeed, “Section 102(b) does not extinguish the protection accorded a particular expression of an idea merely because that expression is embodied in a method of operation at a higher level of abstraction.”<sup>45</sup> Thus, to the extent that a constructed language includes ideas, systems, or methods of operation, a court may find the expression of those concepts protectable. The U.S. courts, however, have avoided this issue by concluding that the plaintiffs in cases tacitly raising this subject had permitted others to use their computer languages,<sup>46</sup> leaving litigants with little guidance as to the application of the idea/expression dichotomy to constructed languages.

### **How Do You Infringe a Constructed Language?**

If constructed languages are copyrightable, the inevitable question is what constitutes an unauthorized act of reproduction or distribution, or the creation of derivative works. The standard test for determining infringement in copyright cases is whether there is “substantial similarity between defendants’ work and the protectible elements of plaintiffs’.”<sup>47</sup> Yet, while it has been argued that the use of a language can be one of the elements showing substantial similarity between two works,<sup>48</sup> no court has decided whether the unauthorized use of a language, by itself, would constitute copyright infringement.<sup>49</sup>

Similarly, no court has analyzed the four fair use factors to determine whether the unauthorized use of a constructed language would be permitted by 17 U.S.C. § 107. Commentator Michael Adelman, however, has concluded that “most derivative uses of constructed languages would seem to fall squarely within the fair use limitation on copyright.”<sup>50</sup> As to the first fair use factor—“the purpose and character of the use”—he addresses the use of art languages for “analysis, literary criticism, and poetry by students,”<sup>51</sup> but does not address use of constructed languages for substitutive, commercial purposes as may be more common of computer languages. As to the second factor—“the nature of the copyrighted work”—he acknowledges that, while constructed languages that are derivative of other languages or intended for “widespread, factual communications” would be less protectable, “*a priori* languages, with their imaginative morphologies and syntaxes,” or art languages intended to “complement . . . a narrative

work” may receive more protection.<sup>52</sup> Adelman, however, does not address whether a “substantial investment of time and labor . . . in anticipation of a financial return”<sup>53</sup> would cause the second fair use factor to tip toward the copyright holder.

As to the third fair use factor—“the amount and substantiality of the portion used”—he recognizes that “scholarly articles or poems” may use less of a work than “derivative works written in Loglan or Klingon,” which “would be made up almost entirely of copyrighted material.”<sup>54</sup> Finally, as to the fourth factor—“the effect of the use on the potential market for or value of the copyrighted work”—Adelman argues that “dictionaries, grammar books, scholarly analysis, and artistic compositions in a constructed language would only draw more people to the original source material.”<sup>55</sup> This analysis, however, ignores the copyright holder’s interest in creating his or her own companion materials.<sup>56</sup> Ultimately, a decision as to fair use of any given constructed language will be decided on its particular facts.

### Conclusion

In summary, as constructed languages grow in popularity, their inevitable march toward U.S. courthouses is unavoidable. For now, we are left to wonder whether such languages fit within copyright’s mold.

### Endnotes

1. 17 U.S.C. § 102(a).
2. Nathan Sanders, *Constructed Languages in the Classroom*, 92 LANGUAGE 192 (2016). Constructed languages are distinguishable from natural languages, which arise “spontaneously and effortlessly from the collective human capacity for language.” *Id.*
3. For an argument in support of copyrightability of computer languages, see Ronald Johnston & Allen Grogan, *Copyright Protection for Command Driven Interfaces*, 8 COMPUTER L., no. 6, 1991, at 1. For arguments against copyrightability, see Marci A. Hamilton & Ted Sabety, *Computer Science Concepts in Copyright Cases: The Path to a Coherent Law*, 10 HARV. J.L. & TECH. 239 (1997); Elizabeth G. Lowry, *Copyright Protection for Computer Languages: Creative Incentive or Technological Threat?*, 39 EMORY L.J. 1293 (1990); Steve Posner, *Can a Computer Language Be Copyrighted? The State of Confusion in Computer Copyright Law*, 11 COMPUTER L.J. 97 (1991); Richard H. Stern, *Copyright in Computer Programming Languages*, 17 RUTGERS COMPUTER & TECH. L.J. 321 (1991).
4. Michael Adelman, *Constructed Languages and Copyright: A Brief History and Proposal for Divorce*, 27 HARV. L. REV. 543, 549 (2014).
5. *Id.*
6. As one commentator has observed, “there is a strong temptation for the creator (or primary curator) of a constructed language to assert a copyright on it in order to prolong her control of the language’s dissemination and development.” *Id.* at 544.

7. See *Feist Publ'ns, Inc. v. Rural Tel. Serv. Co.*, 499 U.S. 340, 352 (1991) (rejecting copyright protection based on a “sweat of the brow” theory).
8. See, e.g., Lowry, *supra* note 3, at 1311; Posner, *supra* note 3, at 104.
9. See Adelman, *supra* note 4, at 544 (suggesting that copyright protection surrounding constructed languages should be minimal); Posner, *supra* note 3, at 99 (noting that “if a language is, indeed, held copyrightable, this author believes the result would be disastrous”); Rachel Scall, Note, *Emoji as Language and Their Place Outside American Copyright Law*, 5 N.Y.U. J. INTELL. PROP. & ENT. L. 381 (2016) (likening emojis to constructed languages and arguing against copyright protection).
10. 64 F. Supp. 3d 755, 761–62 (E.D.N.C. 2014). The district court held that World Programming’s copying did not infringe SAS’s copyrights. *Id.* at 778. SAS has appealed the decision to the Fourth Circuit. See *SAS Inst. Inc. v. World Programming Ltd.*, Nos. 16-1808, 16-1857 (4th Cir. filed July 18 & 27, 2016).
11. *Paramount Pictures Corp. v. Axanar Prods., Inc.*, No. 2:15-cv-09938, 2017 WL 83506, at \*1 (C.D. Cal. Jan. 3, 2017).
12. *Id.* at \*5. Paramount argued that Axanar’s use of the Klingon language was indicative of the similarity between the works—an argument that caught the attention of the Language Creation Society. The Language Creation Society applied to file an amicus brief (writing partially in Klingon) in support of Axanar’s motion to dismiss, but the court denied the application because the court did “not reach the issue of whether languages, and specifically the Klingon language, [were] copyrightable.” Minute Order, *Paramount*, No. 2:15-cv-09938 (C.D. Cal. May 9, 2016), ECF No. 42. The court also did not address the question of whether Klingon was separately copyrightable as an art language in deciding the parties’ summary judgment motions. *Paramount*, 2017 WL 83506, at \*5 n.1. The case settled in January 2017, shortly before the scheduled jury trial.
13. See, e.g., Scall, *supra* note 9, at 396 (noting that it is “not very natural to think of something that is as short as emoji code as a computer program”); Posner, *supra* note 3, at 121 (“Since language has ‘structure, sequence and organization,’ . . . one might ask whether the language can be copyrighted as part of that larger program.”).
14. 17 U.S.C. § 101. Australian legislative history may provide some insight into whether a computer language would satisfy the U.S. definition of a computer program. In 1984, Australia’s Copyright Act defined a computer program as “an expression, in any language, code or notation, of a set of instructions (whether with or without related information) intended, either directly or after either or both of the following: (a) conversion to another language, code or notation; (b) reproduction in a different material form, to cause a device having digital information processing capabilities to perform a particular function.” *Copyright Amendment Act 1984* (Cth) s 3 (Austl.); see also MARK J. DAVISON ET AL., *AUSTRALIAN INTELLECTUAL PROPERTY LAW* 198 (3d ed. 2016). In 1999, the High Court of Australia held that the individual words of a computer language did not meet this statutory definition, because although they were undoubtedly in “code or notation” (the DataFlex language), each word was ultimately only a

single word and none could be said to be a set of instructions. *Data Access Corp. v Powerflex Servs. Pty Ltd* [1999] HCA 49 (Austl.). In light of *Data Access*, Australia replaced its definition of computer program with a definition that more closely mirrors the U.S. definition. David B. Webber & Davies Collison Cave, *Final Report on Copyright for Software in Australia* (1995), <http://www.jurisdiction.com/web-0002.htm>. One might argue that the new Australian definition, and by extension the U.S. definition, are broad enough to include computer languages.

15. See *Atari Games Corp. v. Nintendo of Am. Inc.*, 975 F.2d 832, 838 (Fed. Cir. 1992).
16. 17 U.S.C. § 102(a)(1).
17. *Id.* § 101 (definitions).
18. *Cf.* Case C-406/10, *SAS Inst., Inc. v. World Programming Ltd.*, [2012] 3 CMLR 4, ¶ 39 (concluding that computer languages are not protected by European law because they are not protected as computer programs).
19. See Scall, *supra* note 9, at 391 (“The more generic, and less creative, an emoji is, the more likely it will merge with the idea it represents and therefore be uncopyrightable.”).
20. *Feist Publ’ns, Inc. v. Rural Tel. Serv. Co.*, 499 U.S. 340, 345 (1991).
21. See Adelman, *supra* note 4, at 547–48 (discussing the Esperanto, Elvish, Klingon, and Loglan languages).
22. *Tin Pan Apple, Inc. v. Miller Brewing Co.*, No. 88 Civ. 4085, 1994 WL 62360, at \*4 (S.D.N.Y. Feb. 24, 1994) (noting that the originality inquiry is fact-specific).
23. *Cf.* *Apple Computer, Inc. v. Franklin Computer Corp.*, 714 F.2d 1240, 1250–52 (3d Cir. 1983) (rejecting argument that operating systems are “per se” uncopyrightable).
24. Marc Okrand et al., “*Wild and Whirling Words*”: *The Invention and Use of Klingon*, in FROM ELVISH TO KLINGON: EXPLORING INVENTED LANGUAGES 111, 120 (Michael Adams ed., 2011); see also MARC OKRAND, THE KLINGON DICTIONARY (1985); MARC OKRAND, KLINGON FOR THE GALACTIC TRAVELER (1997); MARC OKRAND, THE KLINGON WAY: A WARRIOR’S GUIDE (1996).
25. Hamilton & Sabety, *supra* note 3, at 269.
26. Douglas E. Phillips, *XML Schemas and Computer Language Copyright: Filling in the Blanks in Blank Esperanto*, 9 J. INTELL. PROP. L. 63, 78 (2001).
27. *Id.*

28. Lowry, *supra* note 3, at 1308–09.
29. DC Comics v. Towle, 802 F.3d 1012, 1021 (9th Cir. 2015).
30. 17 U.S.C. § 102(b).
31. Johnson Controls, Inc. v. Phoenix Control Sys., Inc., 886 F.2d 1173, 1175 (9th Cir. 1989).
32. See Adelman, *supra* note 4, at 544 (describing the endeavor of creating a constructed language as a “labor of love”); Sanders, *supra* note 2, at 203 (describing a constructed language as a “work of art”).
33. *Johnson Controls*, 886 F.2d at 1175.
34. Posner, *supra* note 3, at 112.
35. Lowry, *supra* note 3, at 1311.
36. *Id.* at 1312; see also Posner, *supra* note 3, at 105 (arguing that “when courts understand precisely what a computer language is, and then apply idea/expression analysis, they must conclude that a computer language is almost always an uncopyrightable idea”).
37. Brief of Amicus Curiae [Language Creation Society] at 9–10, *Paramount Pictures Corp. v. Axanar Prods., Inc.*, No. 2:15-cv-09938 (C.D. Cal. Apr. 27, 2016).
38. 126 F.3d 977, 980 (7th Cir. 1997).
39. *Id.* at 980–81.
40. 750 F.3d 1339, 1367 (Fed. Cir. 2014).
41. *Id.*
42. Posner, *supra* note 3, at 104.
43. *Atari, Inc. v. N. Am. Philips Consumer Elecs. Corp.*, 672 F.2d 607, 617 (7th Cir. 1982); *Tetris Holding, LLC v. Xio Interactive, Inc.*, 863 F. Supp. 2d 394, 409 (D.N.J. 2012).
44. *Toro Co. v. R&R Prods. Co.*, 787 F.2d 1208, 1212 (8th Cir. 1986).
45. *Mitel, Inc. v. Iqtel, Inc.*, 124 F.3d 1366, 1372 (10th Cir. 1997); see also *Am. Dental Ass’n v. Delta Dental Plans Ass’n*, 126 F.3d 977, 980 (7th Cir. 1997); *Computer Assocs. Int’l, Inc. v. Altai, Inc.*, 982 F.2d 693, 706 (2d Cir. 1992); *Johnson Controls, Inc. v. Phoenix Control Sys., Inc.*, 886 F.2d 1173, 1175–76 (9th Cir. 1989); *Toro*, 787 F.2d at 1212; *Apple Computer, Inc. v. Franklin Computer Corp.*, 714

F.2d 1240, 1250–52 (3d Cir. 1983). *But see* Lotus Dev. Corp. v. Borland Int'l, Inc., 49 F.3d 807 (1st Cir. 1995) (rejecting the majority rule and holding that methods of operation are unprotectable regardless of whether they can be expressed differently).

46. SAS Inst. Inc. v. World Programming Ltd., 64 F. Supp. 3d 755, 776 (E.D.N.C. 2014) (concluding that because “plaintiff has testified that anyone can write a program in the SAS Language, and that no license is needed to do so,” “anyone may use [the language] without a license”).

47. Peter F. Gaito Architecture, LLC v. Simone Dev. Corp., 602 F.3d 57, 59 (2d Cir. 2010).

48. In *Axanar*, the plaintiffs argued that “[l]anguage is part of dialogue,” which may be considered in a substantial similarity analysis. Plaintiff’s Opposition to Defendants’ Motion to Dismiss or Strike in Part Plaintiff’s First Amended Complaint at 10, Paramount Pictures Corp. v. Axanar Prods., Inc., No. 2:15-cv-09938 (C.D. Cal. Apr. 11, 2016).

49. *Cf. SAS Inst.*, 64 F. Supp. 3d at 776 (concluding that the “parties’ programs implement the idea of an SAS Language in different ways as their programs are not written in the same programming languages”).

50. Adelman, *supra* note 4, at 558.

51. *Id.* at 556.

52. *Id.* at 557.

53. Wall Data Inc. v. L.A. Cty. Sheriff’s Dep’t, 447 F.3d 769, 780 (9th Cir. 2006).

54. Adelman, *supra* note 4, at 557.

55. *Id.* at 558.

56. Warner Bros. Entm’t Inc. v. RDR Books, 575 F. Supp. 2d 513, 550–51 (S.D.N.Y. 2008); *see also* Richards v. Merriam-Webster, Inc., 55 F. Supp. 3d 205, 209 (D. Mass. 2014) (finding harm to marketability of dictionary not “outweighed by the benefits of increased reading comprehension among the American public”).