

Note

SUBSTANTIAL SIMILARITY AND ARCHITECTURAL WORKS: FILTERING OUT “TOTAL CONCEPT AND FEEL”

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I.	INTRODUCTION.....	1851
II.	INCENTIVES, ACCESS, AND ARCHITECTURE.....	1854
	A. <i>The Incentives-Access Paradigm of Copyright Law</i>	1854
	B. <i>Balancing Incentives and Access for Architectural Works</i>	1855
III.	COPYRIGHT PROTECTION OF ARCHITECTURAL WORKS	1860
	A. <i>Pre-Berne Era</i>	1860
	B. <i>Impetus for the Architectural Works Copyright Protection Act</i>	1862
	C. <i>Architectural Works Copyright Protection Act</i>	1863
IV.	SHINE V. CHILDS	1866
V.	SUBSTANTIAL SIMILARITY.....	1868
	A. <i>“Total Concept and Feel”</i>	1870
	B. <i>Analytic Dissection</i>	1872
	C. <i>As Applied to Architectural Works</i>	1874
VI.	OUTLINING A SUBSTANTIAL SIMILARITY TEST FOR ARCHITECTURAL WORKS	1878
	A. <i>Plaintiff’s Identification of the Allegedly Infringed Design Elements</i>	1879
	B. <i>Filtration of Unprotectible Design Elements</i>	1879
	C. <i>Comparison of the Architectural Works as a Whole and the “Virtual Identity” Standards</i>	1881
VII.	CONCLUSION.....	1882

I. INTRODUCTION

The appropriate scope of copyright protection for architectural works in the United States has long been a difficult and blurred issue.¹ While the enactment of the Architectural Works Copyright Protection Act (AWCPA) in 1990 partially resolved the issue by explicitly extending protection to architectural design for the first time, it failed to sufficiently delimit the scope

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¹ See U.S. COPYRIGHT OFFICE, THE REPORT OF THE REGISTER OF COPYRIGHTS ON WORKS OF ARCHITECTURE 13–69 (1989) [hereinafter COPYRIGTH REPORT] (discussing the reluctance of courts to afford protection to architectural design prior to 1990 and the disagreement within the industry over whether increased protection would be beneficial).

of protection.² The legislative history of the AWCPA simply indicates that “original design elements” are protected, but that “functionally required” elements are not.³ Congress left courts with the task of interpreting these guidelines to determine the scope of protection on an ad hoc basis.⁴

The fundamental difficulty in reconciling architectural works with copyright law arises from the dichotomous nature of architecture as both aesthetic and utilitarian.⁵ This difficulty is magnified in the context of modern architecture, where, as famously observed by Louis H. Sullivan, “the pervading law of all things . . . [is] that form ever follows function.”⁶

*Shine v. Childs*⁷ may prove to be a seminal case that shapes the future interpretation of the AWCPA. The unusual facts of the case have captured the attention of the popular media.⁸ The dispute involves the design of the Freedom Tower, the tallest proposed building at the new World Trade Center site in New York City. The media’s interest in *Shine* arises in part from the emotional resonance of the World Trade Center redevelopment project. Additionally, the case presents a classic David and Goliath struggle, with allegations that a world-renowned architect of one of the country’s largest firms stole the designs for the Freedom Tower from an architectural graduate student.

Perhaps most significantly, *Shine* is the first case to involve a monumental architectural work, what the U.S. Copyright Office terms a “work of architecture which is self-conscious artistic expression of a high order.”⁹ Prior case law was limited primarily to the infringement of standard designs of residential tract homes and commercial buildings.¹⁰ In this regard, the decision in *Shine* represents a step into uncharted territory under the AWCPA. The court’s copyright infringement analysis in *Shine* may affect the scope of protection for architectural works.

Generally, to establish copyright infringement, the plaintiff must demonstrate that the defendant’s copying rises to the level of improper appro-

² Pub. L. No. 101-650, §§ 701–06, 104 Stat. 5133 (1990) (codified as amended in scattered sections of 17 U.S.C. (1994)).

³ H.R. REP. NO. 101-735, at 20–21 (1990) [hereinafter HOUSE REPORT].

⁴ *Id.* at 21.

⁵ See COPYRIGHT REPORT, *supra* note 1, at i.

⁶ Louis H. Sullivan, *The Tall Office Building Artistically Considered*, LIPPINCOTT’S MONTHLY MAG., Mar. 1896, at 408.

⁷ 382 F. Supp. 2d 602 (S.D.N.Y. 2005).

⁸ See, e.g., Kennan Knudson, *At Ground Zero, a Towering Copycat? A Young Architect Says His Idea Is Stolen*, BOSTON GLOBE, Sept. 11, 2005, at 8; Fred A. Bernstein, *Hi Gorgeous. Haven’t I Seen You Somewhere?*, N.Y. TIMES, Aug. 28, 2005, at 27; Associated Press, *Lawsuit Says Freedom Tower Design Was Ripped Off*, GRAND RAPIDS PRESS, Nov. 10, 2004, at A11.

⁹ See COPYRIGHT REPORT, *supra* note 1, at 199.

¹⁰ See *id.*; see also WILLIAM M. LANDES & RICHARD A. POSNER, THE ECONOMIC STRUCTURE OF INTELLECTUAL PROPERTY LAW 101 (2003) (“It is surprising that there have been few cases under the Architectural Works Protection Act; indeed, we have found—what is rare in a new statute bristling with potential interpretive issues—only one substantial opinion.”).

priation, in that substantial similarity exists between protected material in the plaintiff's work and the allegedly infringing work.¹¹ Substantial similarity is one of the most difficult determinations in copyright law, and courts have applied different tests depending on the nature and complexity of the subject matter at issue.¹² For simple, aesthetic works such as fabric designs and children's books, courts have applied the "total concept and feel" test, which relies on the visceral response of the ordinary observer to the works in their entirety.¹³ For more complex works such as computer software, courts have taken an analytic dissection approach that filters out the unprotected elements of the plaintiff's work prior to comparison.¹⁴

In its analysis to determine substantial similarity between the two building designs, the court in *Shine* made a fundamental decision about the nature of architectural works. It characterized architectural design as aesthetic art, analogous to carpet design, and applied the "total concept and feel" test.¹⁵

It is necessary to examine the substantial similarity analysis in *Shine* because the selection of a holistic, visceral test for overly complex subject matter may result in overbroad protection of architectural works and negatively impact the progress of creativity in the field. This Note proposes to identify the substantial similarity test that provides the optimal scope of protection for architectural works by evaluating the nature and complexity of architectural design, and locating it along the spectrum of subject matter traditionally afforded copyright protection.

Part II of this Note reviews the fundamental incentives-access paradigm of U.S. copyright law, which balances the benefits of incentivizing creativity against the costs of limiting access to prior works. This Part attempts to estimate the optimal scope of protection for architectural works, and concludes that the scope should be narrow.

Part III examines the history of copyright protection for architectural works as well as the legislative history of the AWCPA. Part IV provides a case summary of *Shine*.

Part V examines both the "total concept and feel" test adopted by the court in *Shine* and the analytic dissection applied in computer software cases. It concludes that the inherent complexity of architectural design more closely resembles that of software and, in particular, that of graphical user interfaces. Consequently, it concludes that analytic dissection is the correct approach.

¹¹ See 4 MELVILLE B. NIMMER & DAVID NIMMER, NIMMER ON COPYRIGHT § 13.03[A] (2006) [hereinafter NIMMER].

¹² See *id.*

¹³ See *id.* § 13.03[A][1][c].

¹⁴ See *id.* § 13.03[F].

¹⁵ *Shine v. Childs*, 382 F. Supp. 2d. 602, 612–14 (S.D.N.Y. 2005).

Finally, Part VI proposes a substantial similarity test for architectural works that is based on the “abstraction-filtration-comparison” test applied to computer software and graphical user interface cases. This proposed test provides a narrow scope of protection that is congruent with the unique balance of incentives and access for architectural works.

II. INCENTIVES, ACCESS, AND ARCHITECTURE

Given the recent enactment of the AWCPA and the relative paucity of relevant case law, the exact scope of protection for architectural works remains unclear. It may be helpful to estimate the optimal breadth of that scope in the context of the purpose of copyright law.

A. *The Incentives-Access Paradigm of Copyright Law*

The fundamental purpose of copyright law in the United States is to promote the creation and dissemination of original works for the public good.¹⁶ Copyright grants authors exclusive rights in their works, not solely as rewards for their individual efforts, but principally as incentives to create.¹⁷

The need for incentives arises from the ability of competitors to copy in the absence of copyright protection.¹⁸ To create an original work, such as a book or an album of music, the author incurs a significant initial cost in the form of time and effort. Without copyright protection, and assuming that the cost of copying is relatively low, a competitor could copy the work without incurring the author’s initial investment, and thus sell copies of the work profitably at a lower price than the author could. The market price of the work would drop to the competitor’s price, and the author would have difficulty recovering his initial investment.¹⁹ In such a scenario, the author would stop making new works. Copyright protection, by allowing the author to reap the rewards of his initial investment, incentivizes the creation of new works and prevents their underproduction.²⁰

However, the scope of copyright protection cannot be expanded indefinitely without impeding creativity at some point. Broadening the scope of protection limits the amount of material available for other authors to

¹⁶ See U.S. CONST. art. I, § 8, cl. 8 (granting Congress the power “[t]o promote the Progress of . . . useful Arts, by securing for limited Times to Authors . . . the exclusive Right to their respective Writings”).

¹⁷ See *Sony Corp. of Am. v. Universal City Studios, Inc.*, 464 U.S. 417, 429 (1984) (“The monopoly privileges that Congress may authorize are neither unlimited nor primarily designed to provide a special private benefit. Rather, the limited grant is a means by which an important public purpose may be achieved.”).

¹⁸ See generally LANDES & POSNER, *supra* note 10, at 37–41.

¹⁹ *Id.*

²⁰ *Id.*

utilize and to build upon in creating new works.²¹ “To say that every new work is in some sense based on the works that preceded it is such a truism that it has long been a cliché”²² By limiting access to elements of earlier works, copyright protection increases the cost of producing new works and may consequently discourage their production.²³

Thus, locating the appropriate scope of copyright protection requires a balance of incentives and access.²⁴ The benefits of broader protection, in the form of increased incentives to produce new works, must be balanced against its costs, in the form of restricting access to material upon which future authors can build.²⁵

B. Balancing Incentives and Access for Architectural Works

Two inquiries are required to estimate the optimal scope of protection for architectural works. The first inquiry should examine the extent to which copyright protection incentivizes the creation of new architectural works. The second inquiry should consider the extent to which prior works are used as material for the creation of new works. The needs for incentives and access in the architectural field must then be compared and balanced to determine whether the optimal scope of protection should be broad or narrow.²⁶

1. Copyright Protection as an Incentive in the Architectural Profession.—Comparing architectural works to music, books, motion pictures, and other subject matter historically protected by copyright reveals that the architectural field has a unique market structure. Books, CDs, movies, and even computer software are created under the assumption that the cost of creating the original work will be recovered through the aggregate number of copies sold.²⁷ Commentators have noted that the “the primary role for

²¹ *Id.* at 68–69.

²² Jessica Litman, *The Public Domain*, 39 EMORY L.J. 965, 966 (1990) (arguing that the public domain should be understood as the mechanism that allows the copyright system to work by preserving the raw material of authorship, rather than as material undeserving of protection).

²³ See LANDES & POSNER, *supra* note 10, at 69.

²⁴ See *Feist Publ'ns, Inc. v. Rural Tel. Serv. Co.*, 499 U.S. 340, 349–50 (1991) (“[C]opyright assures authors the right to their original expression, but encourages others to build freely upon the ideas and information conveyed by a work.”); *Sony Corp. of Am. v. Universal City Studios, Inc.*, 464 U.S. 417, 429 (1984) (“[Copyright] is intended to motivate the creative activity of authors and inventors by the provision of a special reward, and to allow the public access to the products of their genius after the limited period of exclusive control has expired.”).

²⁵ See LANDES & POSNER, *supra* note 10, at 69 (“[Copyright law aims] to strike the optimal balance between the effect of copyright protection in encouraging the creation of new works by reducing copying and its effect in discouraging the creation of new works by raising the cost of creating them.”).

²⁶ See Glynn S. Lunney, Jr., *Reexamining Copyright's Incentives-Access Paradigm*, 49 VAND. L. REV. 483, 487–88 (1996).

²⁷ See LANDES & POSNER, *supra* note 10, at 37–41.

[copyright] lies in fields where works are mass-produced and distributed in volume.”²⁸

The architectural industry does not fit within this model. Unlike musicians or novelists, who sell a prepackaged product to a mass market, architects sell a customized service to a client.²⁹ Most architectural designs are not created in the abstract, with hopes of marketing the work for mass distribution.³⁰ They are created in response to a specific set of existing conditions.³¹ These conditions include the functional requirements of the building program, the physical site and environment, local building codes and zoning requirements, budgetary constraints, and available technology.³²

Because the designs for a project are tailored to a specific set of circumstances, the price charged by architects for the project generally includes the *total* incurred costs.³³ “Architects rarely price their services on the assumption that a design will be copied and reused.”³⁴ In other words, architects recover the cost of creating a new work through one sale of the original work itself. Because they do not rely on the sale of multiple copies like musicians or novelists, copying is a much smaller threat to their ability to recover their initial cost of creating the work. Thus, the exclusive right granted by copyright protection provides little additional incentive for the creation of new works.³⁵

However, it is important to recognize that the field is not limited to unique, high-profile, monumental works of “fine architecture.”³⁶ A significant percentage of firms rely on “bread and butter” architecture, such as designs for single-family tract houses and modest commercial buildings.³⁷ These projects generally involve standard designs that are easily reproduci-

²⁸ Daniel J. Gifford, *Innovation and Creativity in the Fine Arts: The Relevance and Irrelevance of Copyright*, 18 CARDOZO ARTS & ENT. L.J. 569, 571 (2000).

²⁹ See ROGER K. LEWIS, ARCHITECT?: A CANDID GUIDE TO THE PROFESSION 183–212 (rev. ed. 1998) (explaining the basic services provided by an architect to a client).

³⁰ See *id.*

³¹ See FRANCIS D.K. CHING, ARCHITECTURE: FORM, SPACE, & ORDER, at x (2d ed. 1996).

³² See *id.*

³³ See Raphael Winick, Note, *Copyright Protection for Architecture After the Architectural Works Copyright Protection Act of 1990*, 41 DUKE L.J. 1598, 1606 (1992).

³⁴ *Id.*

³⁵ Commentators have reached a parallel conclusion regarding the optimal scope of copyright protection for works of art such as paintings, where the cost of creation is also recovered through one sale. See LANDES & POSNER, *supra* note 10, at 254–57; Gifford, *supra* note 28, at 601. Noting that paintings are unique works in which an artist’s income derives from the sale of the work itself rather than from the sale of copies, Professor Landes and Judge Posner conclude that “[t]he overall case for copyright protection . . . is weaker than that for copyright protection of most other expressive works.” LANDES & POSNER, *supra* note 10, at 257.

³⁶ COPYRIGHT REPORT, *supra* note 1, at 14. This term refers to those works which exhibit “self-conscious artistic expression of a high order, such as the Guggenheim Museum.” *Id.* at 199.

³⁷ A survey in 1988 revealed that single-family housing projects made up thirty percent of the business of one-person firms. *Id.* at 11.

ble, and thus copyright protection may play a more important role in these areas.³⁸

Additionally, copyright's policy of incentivizing creativity rests on the premise that the cost of copying a work is low compared to the cost of creating a new work.³⁹ For architectural works, however, this is not always the case. While the cost of copying architectural plans is low relative to the cost of creating the plans, the same is not true when the design of a building is copied from the physical structure of the building itself. Without access to the plans of a building, duplicating the building's design by visual inspection is an extremely expensive endeavor.⁴⁰ Prohibiting the copying of architectural designs that are embodied in physical buildings would have little positive impact on fostering the creation of new works.

The incentives provided by copyright also become less important when there are contractual alternatives for limiting copying.⁴¹ The architectural industry relies on contracts as "the principal form of ordering legal rights and remedies."⁴² The American Institute of Architects (AIA) publishes a book of standard contracts that has been the industry standard for over one hundred years.⁴³ These contracts define the relationships between architects, clients, and builders in design and construction projects.⁴⁴ They are used to structure ownership rights over drawings and plans.⁴⁵

When architectural works are compared to the subject matter traditionally protected by copyright, it appears that the benefits of broad protection for architectural works are marginal in terms of incentivizing creativity.

³⁸ Professor Landes and Judge Posner have argued, however, that cases involving the copying of tract house designs have "little if anything to do with enabling the creator of an expressive work to recoup his fixed costs" and conceptually belong in the realm of trademark law. LANDES & POSNER, *supra* note 10, at 101–02. For an example of a plaintiff seeking trade dress protection for the design of a building, see *Ale House Mgmt., Inc. v. Raleigh Ale House, Inc.*, 205 F.3d 137, 141–42 (4th Cir. 2000).

³⁹ When the cost of copying is equivalent to the cost of creating the original work, competitors would be unable to market copies at a lower price than would the author. Consequently, the author would be able to recover the cost of creating the original work regardless of whether competitors are prevented from copying. Again, the traditional subject matter of copyright law, e.g., books, music, and computer software, encompasses works in which the cost of copying is low relative to the cost of creation.

⁴⁰ See LANDES & POSNER, *supra* note 10, at 101 ("Far from being able to free ride on the original, the copier is likely to incur higher costs in making his copy of the building.").

⁴¹ See *id.* at 43 (discussing factors that would limit copying even in the absence of copyright law).

⁴² COPYRIGHT REPORT, *supra* note 1, at 12.

⁴³ See *id.* at 7–12, 63 (discussing the industry's historical reliance on the AIA standard contracts).

⁴⁴ See generally The American Institute of Architects, About AIA Contract Documents, http://www.aia.org/docs_about (last visited Apr. 22, 2007) ("AIA Contract Documents comprise over 100 forms and contracts that define relationships and terms involved in design and construction projects. Prepared by the AIA with the consensus of owners, contractors, attorneys, architects, engineers, and others, the documents have been finely tuned during their 115 year history. As a result, these comprehensive contracts and forms are now widely recognized as the industry standard.").

⁴⁵ Of course, contracts are not as effective as copyright law against copying because contracts do not reach third parties.

One commentator has similarly noted that “[any] attempt to reconcile architectural protection with the incentive justification for copyright is patent nonsense. . . . Whatever other reasons support copyright protection for architectural works, the need to provide appropriate incentives to architects is not one of them.”⁴⁶

2. *Importance of Access in the Architectural Field.*—Access to elements of earlier works is more important to the progress of creativity in the architectural field than in many other fields.⁴⁷ Architectural precedents, both historical and contemporary, are an essential source of material used by architects to create new works.⁴⁸

Borrowing design elements from prior works has been a staple of American architecture since the nation’s inception. For example, Thomas Jefferson’s acclaimed designs for the University of Virginia and Monticello were an effort to import the forms of classical Roman architecture to the United States.⁴⁹ During the second half of the nineteenth century, American architectural education was strongly influenced by L’Ecole des Beaux Arts in Paris, which taught that universal principles of architecture could be learned by studying and imitating the greatest examples from Greek and Roman antiquity and the Italian Renaissance.⁵⁰ The tradition of “borrowing” continues today. Beginning in the second half of the twentieth century, the postmodernist movement stressed historical revivalism, incorporating ornamentation and forms of the past.⁵¹ Leading postmodernist theorist Robert Venturi admits that he is “guided . . . by a conscious sense of the past—by precedent, thoughtfully considered.”⁵²

Also critical to the progress of creativity in the architectural field is the borrowing of design elements from contemporary precedents. Most states require that architectural graduates have three years of internship experience before they can become licensed architects.⁵³ As a result, young architects often borrow from mentors with whom they have worked

⁴⁶ Stewart E. Sterk, *Rhetoric and Reality in Copyright Law*, 94 MICH. L. REV. 1197, 1226 (1996) (footnote omitted).

⁴⁷ See Witold Rybczynski, *When Architects Plagiarize: It’s Not Always Bad*, SLATE, Sept. 14, 2005, <http://www.slate.com/id/2126270/> (“Depending on precedents, and learning from the past, came to distinguish architecture from the other arts.”).

⁴⁸ See generally Elizabeth A. Brainard, Note, *Innovation and Imitation: Artistic Advance and the Legal Protection of Architectural Works*, 70 CORNELL L. REV. 81, 92–93 (1984).

⁴⁹ See JAMES MARSTON FITCH, *AMERICAN BUILDING 1: THE HISTORICAL FORCES THAT SHAPED IT* 51–60 (2d ed. 1966); Brainard, *supra* note 48, at 92–93.

⁵⁰ See Brainard, *supra* note 48, at 93.

⁵¹ For the manifesto of postmodern architecture, see ROBERT VENTURI, *COMPLEXITY AND CONTRADICTION IN ARCHITECTURE* (2d ed. 1985).

⁵² The Pritzker Architecture Prize, Robert Venturi, http://www.pritzkerprize.com/full_new_site/venturi_biography.htm.

⁵³ See LEWIS, *supra* note 29, at 143.

extensively.⁵⁴ Commenting on the similarities between his works and a project of a former protégée, Daniel Libeskind reasoned, “I influenced many architects as a teacher It flowed very naturally from our work together, from our relationship. I’m very pleased that the project has been so successful.”⁵⁵

The fact that innovation in the field occurs incrementally also highlights the importance of contemporary precedents. The development of architecture since the twentieth century has consisted of a series of related movements.⁵⁶ Within each movement, various architects explore the same idea or set of ideas, and similarities naturally arise between the works of different architects.⁵⁷ “[S]mall alterations in a previous design may constitute a significant utilitarian or aesthetic advance.”⁵⁸

As a recent example, a proposal by Thomas Leeser for the Zollverein design school in Germany and a proposal by the firm Diller & Scofidio for a new-media museum in New York both featured “floors, walls, and ceilings made from a single, folded plane.”⁵⁹ The similarities between the two designs were so striking that when both were displayed at the Venice Architecture Biennale, visitors could not distinguish the two.⁶⁰ Leeser attributed the similarities to the fact that both architects were exploring the same ideas that were current in the field: “It’s the zeitgeist.”⁶¹

In summary, the need for copyright protection to incentivize the creation of new architectural works is unusually low when compared to the traditional subject matter of copyright. On the other hand, the need for access to prior and contemporary precedents is critical to the progress of architectural creativity; limiting access would impose a significant cost on the creation of new works. Thus, the access-incentive paradigm suggests that the appropriate scope of protection for architectural works should be narrow

⁵⁴ See Adam T. Mow, *Building With Style: Testing the Boundaries of the Architectural Works Copyright Protection Act*, 2004 UTAH L. REV. 853, 870 (noting imitative stages early in the careers of even the most innovative architects, such as Frank Gehry).

⁵⁵ Bernstein, *supra* note 8, at 27 (quoting Daniel Libeskind).

⁵⁶ See generally WILLIAM J. R. CURTIS, *MODERN ARCHITECTURE SINCE 1900* (1983) (tracking the evolution of modern architecture through various movements).

⁵⁷ See MAGALI SARFATTI LARSON, *BEHIND THE POSTMODERN FAÇADE: ARCHITECTURAL CHANGE IN LATE TWENTIETH-CENTURY AMERICA* 9–12 (1993). The proliferation of new ideas is driven by academic institutions, professional societies, and publications:

The rapid inclusion and widespread circulation of design innovations in the repertory of the architectural profession generalize elements of its discourse, linking the form-givers, the architects “with ideas,” with the rest. The effect is bilateral, however: Publication spurs on the rapid formation of trends, to which innovators, in turn, must react if they want to preserve their leadership and their distinctiveness in design.

Id. at 11.

⁵⁸ Winick, *supra* note 33, at 1605.

⁵⁹ Bernstein, *supra* note 8, at 27.

⁶⁰ *Id.*

⁶¹ *Id.* (quoting Thomas Leeser).

rather than broad. This conclusion must be considered in formulating the appropriate test for substantial similarity between architectural works in infringement cases.

III. COPYRIGHT PROTECTION OF ARCHITECTURAL WORKS

This section traces the history of protection of architectural works in the United States up through the enactment of the AWCPA. It examines the language and the legislative history of the AWCPA to evaluate the scope of protection that Congress intended to give architectural works.

A. Pre-Berne Era

Prior to 1990, copyright protection of architectural works was limited.⁶² The Copyright Act of 1976 did not explicitly include architectural works as protectible subject matter.⁶³ Implied protection was found under the category of “pictorial, graphic, and sculptural works.”⁶⁴ Due to the doctrinal limitations imposed by the useful articles doctrine and the idea-expression dichotomy, physical structures and architectural plans received disparate treatment.

The vast majority of architectural structures, i.e., buildings, were not protected because they were viewed as useful articles.⁶⁵ Under the useful articles doctrine, a useful article is denied protection if its artistic features cannot “be identified separately from, and are capable of existing independently of, the utilitarian aspects of the article.”⁶⁶ The rationale behind the separability test is to distinguish protectible works of applied art from unprotectible works of industrial design.⁶⁷

Buildings are inherently utilitarian in that they “accommodate human activity,” serving, for example, as homes, offices, and hospitals.⁶⁸ Aside

⁶² See generally COPYRIGHT REPORT, *supra* note 1, at 27–62 (surveying cases up to 1988 related to the infringement of architectural design); David E. Shipley, *Copyright Protection for Architectural Works*, 37 S.C.L. REV. 393.

⁶³ 17 U.S.C. § 101 (1976).

⁶⁴ *Id.*

⁶⁵ See, e.g., *Donald Frederick Evans & Assocs., Inc. v. Cont'l Homes, Inc.*, 785 F.2d 897, 901 n.7 (11th Cir. 1986) (“[A] building itself . . . is an [sic] useful article not susceptible to copyright.”); *Gemcraft Homes Inc. v. Sumurdy*, 688 F. Supp. 289, 295 n.12 (E.D. Tex. 1988) (“[A] building is not within the subject matter of copyright.”).

⁶⁶ A useful article is defined as “an article having an intrinsic utilitarian function that is not merely to portray the appearance of the article or to convey information.” 17 U.S.C. § 101.

⁶⁷ See H.R. REP. NO. 94-1476, at 54–55 (1976) (“[A]lthough the shape of an industrial product may be aesthetically satisfying and valuable, the Committee’s intention is not to offer it copyright protection under the bill.”). There are many parallels between architecture and industrial design. One commentator has predicted that the line between architecture and industrial design will become increasingly blurred in the future. Martin Pawley, *The Case for Uncreative Architecture*, ARCHITECTURAL REC., Dec. 1992, at 20.

⁶⁸ CHING, *supra* note 31, at ix.

from purely monumental works that serve no utilitarian functions, most buildings cannot pass the conceptual separability test.⁶⁹

On the other hand, architectural plans and drawings were protected under the Copyright Act of 1976.⁷⁰ They fit comfortably within the statutory definition of “pictorial, graphic and sculptural works,” which included “technical drawings, diagrams, and models.”⁷¹ Courts interpreting the Act protected architects against the unauthorized copying of their plans to produce other plans.⁷²

However, copyrighted plans did not give the authoring architect the exclusive right to build the structure depicted within the plans.⁷³ The idea-expression dichotomy explains this limitation: copyright protects only the expression of ideas, not the ideas themselves.⁷⁴

In the seminal case *Baker v. Selden*,⁷⁵ the Supreme Court refused to extend copyright protection to the use of a unique accounting system described in a copyrightable book, concluding that “there is a clear distinction between the book, as such, and the art [that] it is intended to illustrate.”⁷⁶

Courts applying this principle to architectural plans concluded that “no copyrighted architectural plans . . . may clothe their author with the exclusive right to reproduce the dwelling pictured.”⁷⁷ In other words, while a copyright for architectural plans protected against the reproduction of the underlying drawings themselves, it did not prevent the construction of the structures depicted in the drawings.⁷⁸ From a practical perspective, this re-

⁶⁹ 1 NIMMER, *supra* note 11, at § 2.08[D][2][b].

⁷⁰ *Id.* at § 2.08[D][2][a].

⁷¹ 17 U.S.C. § 101 (1979). The Berne Convention Act of 1988 revised the definition to explicitly include “architectural plans.” Pub. L. No. 100-568, § 4(a)(1)(A), 102 Stat. 2853, 2854 (codified at 17 U.S.C. § 101 (1988)).

⁷² See, e.g., *Imperial Homes Corp. v. Lamont*, 458 F.2d 895, 899 (5th Cir. 1972); *Demetriades v. Kaufmann*, 680 F. Supp. 658, 663 (S.D.N.Y. 1988).

⁷³ See 1 NIMMER, *supra* note 11, at § 2.08[D][2][a] (“[A] building is not a ‘copy’ of the underlying plans, with the result that construction of the structure does not constitute infringement.”).

⁷⁴ See generally *Baker v. Selden*, 101 U.S. 99 (1879). The “idea-expression” dichotomy has been codified in section 102(b) of the Copyright Act. “In no case does copyright protection for an original work of authorship extend to any idea, procedure, process, system, method of operation, concept, principle or discovery regardless of the form in which it is described, explained, illustrated, or embodied in such work.” 17 U.S.C. § 102 (2000).

⁷⁵ 101 U.S. 99.

⁷⁶ *Id.* at 102.

⁷⁷ *Imperial Homes Corp.*, 458 F.2d at 899.

⁷⁸ See, e.g., *Donald Frederick Evans & Assocs., Inc. v. Cont’l Homes, Inc.*, 785 F.2d 897, 901 n.7 (11th Cir. 1986) (“A builder who constructs a home substantially similar to a dwelling already constructed is not liable for copyright infringement merely based on the substantial similarity if he or she did not engage in unauthorized copying or use of the copyrighted architectural drawings.”); *Demetriades v. Kaufmann*, 680 F. Supp. 658, 664 (S.D.N.Y. 1988) (“[A]lthough an owner of copyrighted architectural plans is granted the right to prevent the unauthorized copying of those plans, that individual, without benefit of a design patent, does not obtain a protectable interest in the useful article depicted by those plans.”).

sult seemed irrational because the value of architectural plans lie not in their reproduction, but in their execution.⁷⁹

B. Impetus for the Architectural Works Copyright Protection Act

The decision by the United States to join the Berne Convention for the Protection of Literary and Artistic Works (Berne Convention) forced a re-evaluation of the protection of architectural works under U.S. copyright law.⁸⁰ Member nations of the Berne Convention are required to protect both “works of . . . architecture” and “works relative to . . . architecture.”⁸¹ The Berne Convention Implementation Act of 1988 (BCIA) was enacted to bring U.S. copyright law in compliance with the Berne Convention, but it did not substantively alter the existing protection of architectural works themselves.⁸²

Revisiting the issue in 1989, Congress commissioned a report by the Register of Copyrights, Ralph Oman, to determine the current scope of protection for architectural works, to evaluate whether the current scope conformed to Berne Convention standards, and to assess the impact of expanded protection on the American architectural industry.⁸³ The final report recommended four alternative legislative solutions for compliance,⁸⁴ but the report also noted that several industry groups, including the AIA, opposed expanding protection on the grounds that precluding the use of design elements from prior works would stifle innovation.⁸⁵ It is significant that the impetus for expanded protection did not come from industry demand.⁸⁶

⁷⁹ See Shipley, *supra* note 62, at 429.

⁸⁰ See generally Natalie Wargo, Note, *Copyright Protection for Architecture and the Berne Convention*, 65 N.Y.U. L. REV. 403 (1990).

⁸¹ Berne Convention for the Protection of Literary and Artistic Works art. 2, Sept. 9, 1886, 25 U.S.T. 1341, 828 U.N.T.S. 221 (revised in Paris, July 24, 1971).

⁸² See Berne Convention Implementation Act of 1988, Pub. L. No. 100-568, § 4(a)(1)(A), 102 Stat. 2853, 2854 (1988) (codified at 17 U.S.C. § 101 (1988)). This legislation explicitly included “architectural plans” within the definition of “pictorial, graphic, and sculptural works.” *Id.* It did not, however, alter protection for physical buildings. See COPYRIGHT REPORT, *supra* note 1, at 136–40.

⁸³ See COPYRIGHT REPORT, *supra* note 1, at i–vii.

⁸⁴ *Id.* at 223–26. The four proposed alternatives were (1) to create a new subject matter category for architectural works, (2) to give copyright owners of architectural plans the exclusive right to their execution, (3) to remove “unique architectural” structures from the definition of “useful article,” and (4) to do nothing and allow courts to adapt to the contours of the Berne Convention. *Id.*

⁸⁵ *Id.* at app. C. Responding to the Copyright Office’s invitation for public comment, architect Francis Arvan responded with disapproval of increased protection. “Architects often refer to aspects of other buildings to verify their ideas. The use of precedent is necessary and commonplace.” *Id.*

⁸⁶ This could imply that the protection afforded architectural works in the pre-Berne era was acceptable to the industry.

C. Architectural Works Copyright Protection Act

Based on the Register's findings, Congress enacted the AWCPA⁸⁷ in 1990 to bring the United States in full compliance with the Berne Convention. The AWCPA added "architectural works" as a new category of copyrightable subject matter. The following definition was added to section 101 of the Copyright Act:

An "architectural work" is the design of a building as embodied in any tangible medium of expression, including a building, architectural plans, or drawings. The work includes the overall form as well as the arrangement and composition of spaces and elements in the design, but does not include individual standard features.⁸⁸

In creating a new category distinct from the category of "pictorial, graphic, or sculptural works," Congress sought to shield architectural works from the separability test of the useful articles doctrine.⁸⁹

Legislative history indicates that the definition of "architectural work" has two components.⁹⁰ One component "specifies the material objects in which the architectural work may be embodied."⁹¹ The second, and more complex, component "states what is protected."⁹² It outlines the aspects of architectural works that are protectible.

1. The Material Objects in Which the Architectural Work May Be Embodied.—First and foremost, the AWCPA extends copyright protection to physical buildings.⁹³ These include both habitable structures, such as homes and office buildings, as well as non-inhabited structures, such as "churches, pergolas, gazebos, and garden pavilions."⁹⁴ Excluded from protection are highways, bridges, canals, and dams.⁹⁵ Congress reasoned that these "important elements of this nation's transportation system" do not require copyright protection as an incentive for the creation of new works.⁹⁶

Architectural plans, drawings, and models are also protected, though such plans continue to receive protection as "pictorial, graphic, and sculp-

⁸⁷ Pub. L. No. 101-650, §§ 701–06, 104 Stat. 5133 (1990) (codified as amended in scattered sections of 17 U.S.C. (1994)).

⁸⁸ 17 U.S.C. § 101 (2000).

⁸⁹ HOUSE REPORT, *supra* note 3, at 20 ("There is considerable scholarly and judicial disagreement over how to apply the separability test, and the principal reason for not treating architectural works as pictorial, graphic, or sculptural works is to avoid entangling architectural works in this disagreement."). For an illustration of the different approaches to the separability test, see *Brandir Int'l Inc. v. Cascade Pacific Lumber Co.*, 834 F.2d 1142, 1144–45 (2d Cir. 1987).

⁹⁰ HOUSE REPORT, *supra* note 3, at 18.

⁹¹ *Id.*

⁹² *Id.*

⁹³ *Id.* at 19.

⁹⁴ *Id.* at 20.

⁹⁵ *Id.*

⁹⁶ *Id.*

tural works.”⁹⁷ By allowing a design to be “embodied in any tangible medium of expression,” the AWCPA grants an architect the exclusive right to reproduce a plan and execute the building depicted therein.⁹⁸

2. *What is Protected Under the Definition of “Architectural Work.”*—The protected work is the “design of a building.”⁹⁹ This includes both the building’s “overall form” and its “arrangement and composition of spaces and elements.”¹⁰⁰ Extending protection to “the aesthetically pleasing overall shape of an architectural work” reinforces the conclusion that Congress intended that architectural works were not to be evaluated under the separability test applied to useful articles.¹⁰¹

In explicitly including the arrangement of elements and spaces within the definition of an architectural work, Congress recognized that:

(1) creativity in architecture frequently takes the form of a selection, coordination, or arrangement of unprotectible elements into an original, protectible whole; (2) an architect may incorporate new, protectible design elements into otherwise standard, unprotectible building features; and (3) interior architecture may be protected.¹⁰²

There are limits to the scope of protection. First, protection does not extend to “individual standard features,” including windows, doors, and other “staple building components.”¹⁰³ Congress recognized that standard features must be freely available because they are the basic building blocks used to create new works. Granting a monopoly over standard features would impede the progress of architectural innovation.¹⁰⁴

Second, protection is also denied to design elements that are “functionally required.”¹⁰⁵ Legislative history does not explain how courts are to determine whether an element is “functionally required.”¹⁰⁶ A broad interpretation would find an element to be “functionally required” if it does not serve a purely aesthetic purpose. A narrow interpretation would find an element to be “functionally required” if it is the only method of obtaining a given functional result.

⁹⁷ *Id.* at 19.

⁹⁸ *Id.* at 18–19 (“[W]here a three-dimensional work meets the standard for protection, infringement may lie regardless of whether access to the three dimensional work is obtained from a two-dimensional or three-dimensional depiction thereof.”).

⁹⁹ 17 U.S.C. § 101 (2000).

¹⁰⁰ *Id.*

¹⁰¹ HOUSE REPORT, *supra* note 3, at 21.

¹⁰² *Id.* at 18.

¹⁰³ *Id.*

¹⁰⁴ *Id.*

¹⁰⁵ *Id.* at 21.

¹⁰⁶ *Id.*

Congress proposed a two-step analysis for courts to determine the scope of protection.¹⁰⁷ First, a work must be examined to identify “original design elements . . . including overall shape and interior architecture.”¹⁰⁸ If original design elements are present, those elements must be examined to determine whether they are “functionally required.”¹⁰⁹

To help illuminate the boundaries of the scope of protection, Congress turned to architectural theory.¹¹⁰ Prominent architect Michael Graves developed two terms to describe the types of architectural language: “internal” and “poetic.”¹¹¹ “Internal” language is “intrinsic to building in its most basic form—determined by pragmatic, construction, and technical requirements.”¹¹² “Poetic” language is “responsive to issues external to the building, and incorporates the three-dimensional expression of the myths and rituals of society.”¹¹³ Congress asserted that the goal of the AWCPA is to protect the “poetic” and not the “internal.”¹¹⁴

A primary objective of Congress in drafting the AWCPA was to remove architectural works from the muddle of the separability test for useful articles.¹¹⁵ It is doubtful that this has been accomplished. The separability test has merely been articulated in different terms. Rather than having to separate the artistic from the utilitarian aspects of a useful article, courts must now separate “original design” from “functionally required design,” or alternatively, the “internal” from the “poetic.”

What remains unclear is how courts are to determine whether a copyrighted architectural work has been infringed. On the point of infringement analysis, Congress is vague: “The extent of protection is to be made on an ad hoc basis.”¹¹⁶ However, a truly ad hoc analysis would stifle creativity in the sense that a future architect would be unable to distinguish unprotectible design elements from protectible expression in order to avoid litigation.¹¹⁷

Cases interpreting the AWCPA do not provide a consistent approach to infringement analysis. The majority of the cases involved standardized designs of single-family homes and resulted in conclusory findings of infringement or non-infringement.¹¹⁸ *Shine* may become a seminal case in

¹⁰⁷ *Id.* at 20.

¹⁰⁸ *Id.*

¹⁰⁹ *Id.* at 20–21.

¹¹⁰ *Id.* at 18.

¹¹¹ *Id.*

¹¹² *Id.* at 18–19 (quoting Michael Graves).

¹¹³ *Id.* at 19 (quoting Michael Graves).

¹¹⁴ *Id.*

¹¹⁵ *Id.* at 20.

¹¹⁶ *Id.* at 21.

¹¹⁷ See Raymond T. Nimmer & Patricia Ann Krauthaus, *Software Copyright: Sliding Scales and Abstracted Expression*, 32 HOUS. L. REV. 317, 356 (1995).

¹¹⁸ See, e.g., *Bonner v. Dawson*, No. 5:02CV00065, 2003 U.S. Dist. LEXIS 19069, at *21 (D. Va. 2003), *aff'd*, 404 F.3d 290 (4th Cir. 2005); *John Alden Homes, Inc. v. Kangas*, 142 F. Supp. 2d 1338,

shaping future interpretation of the AWCPA because it is one of the only cases involving the design of “high” architecture rather than the standardized designs of modest structures. The court’s approach to infringement analysis requires close examination.

IV. SHINE V. CHILDS

In the fall of 1999, the plaintiff Thomas Shine was a student in the masters program at the Yale School of Architecture.¹¹⁹ He enrolled in a studio course on skyscrapers, where he was required to design a “monumental skyscraper” that would be built in midtown Manhattan and used as a media center during the 2012 Olympic Games.¹²⁰ Through the course of the semester, Shine developed two models for his design, a preliminary model, entitled “Shine ’99,” and a more sophisticated model, entitled “Olympic Tower.” The Olympic Tower consisted of a “twisting tower with a symmetrical diagonal column grid, expressed on the exterior of the building, that follows the twisting surface created by the floor plates’ geometry.”¹²¹

At the end of the course, Shine presented his design to a jury panel of industry luminaries.¹²² Among the members of the panel was the defendant David Childs, a prominent architect and a partner at Skidmore Owings & Merrill (SOM), one of the largest architectural firms in the world.¹²³ Childs’s review of the Olympic Tower was glowing. He remarked, “It is a very beautiful shape. You took the skin and developed it around the form—great!”¹²⁴ Childs approached Shine after the presentation and invited him to visit after his graduation. Childs’s flattering comments were later printed next to images of Olympic Tower in the school’s alumni magazine.¹²⁵

In the summer of 2003, Childs was selected as design architect and project manager for the tallest proposed building at the new World Trade Center site. This building would later be called the “Freedom Tower.” After six months of development, Childs presented his design to the public at a press conference in Manhattan on December 19, 2003. Childs exhibited

1345 (M.D. Fla. 2001); *Lajoie v. Pavcon, Inc.*, 146 F. Supp. 2d 1240, 1248 (M.D. Fla. 2000); *J.R. Lazaro Builders v. R.E. Ripberger Builders, Inc.*, 883 F. Supp. 336, 344 (S.D. Ind. 1995).

¹¹⁹ *Shine v. Childs*, 382 F. Supp. 2d 602, 605 (S.D.N.Y. 2005).

¹²⁰ *Id.*

¹²¹ *Id.* (quoting Shine’s own description of the model).

¹²² *Id.*

¹²³ Additionally, David Childs has served as the Chairman of the National Capital Planning Commission, a member of the board of the Museum of Modern Art, and a Fellow of the American Institute of Architects. His past projects include the Washington Mall and Constitution Gardens in Washington, D.C., and the Time Warner Center in New York City. *See generally* Skidmore Owings & Merrill, Partner Introduction of David Childs, http://www.som.com/content.cfm/www_david_m_childs (last visited June 1, 2007).

¹²⁴ *Shine*, 382 F. Supp. 2d at 606.

¹²⁵ *Id.* at 605–06.

two scale-models of the Freedom Tower, various images, and a slide show explaining the underlying design principles. The Freedom Tower “tapers as it rises and has two straight, parallel, roughly triangular facades on opposite sides, with two twisting facades joining them.”¹²⁶

Because of the public’s interest in the redevelopment of the World Trade Center site, Childs’s design received substantial press coverage.¹²⁷ When Shine saw a picture of the Freedom Tower in a newspaper, he was shocked; he believed the design for the Freedom Tower looked identical to his earlier designs for Shine ’99 and the Olympic Tower.¹²⁸ Shortly thereafter, Shine registered his models with the U.S. Copyright Office and sued Childs and his firm, SOM, for copyright infringement.

To establish infringement, a plaintiff must show that (1) his work was “actually copied,” and that (2) such copying constituted an “improper appropriation.”¹²⁹ Because direct evidence of actual copying is difficult to obtain, actual copying can be established through proof of access to the plaintiff’s work and “probative similarity” between the plaintiff’s work and the allegedly infringing work.¹³⁰

In *Shine*, the defendants conceded that Childs had access to Shine ’99 and the Olympic Tower when he served as a jurist for Shine’s presentation at the Yale School of Architecture.¹³¹ The only remaining question regarding actual copying was probative similarity. The court found no similarities between Shine ’99 and the Freedom Tower, and it granted the defendants’ motion for summary judgment as to Shine ’99.¹³² However, the court found that there was at least an issue of material fact as to the probative similarity between the Olympic Tower and the Freedom Tower, so it proceeded to the element of “improper appropriation.”¹³³

The inquiry into improper appropriation is a determination of whether the defendant’s copying rises to a level of “actionable copying as a legal proposition.”¹³⁴ The plaintiff must demonstrate “substantial similarity” between protected material in the plaintiff’s work and the allegedly infringing work. There are several different tests to determine substantial similarity, and the concept of substantial similarity will be discussed in more depth in Part V. The two competing tests considered by the court in *Shine* were “to-

¹²⁶ *Id.* at 606 (as described by Shine).

¹²⁷ See, e.g., Phil Hirschhorn, *Freedom Tower to Rise 1,776 Feet from Ashes*, CNN.COM, Dec. 20, 2003, <http://www.cnn.com/2003/US/Northeast/12/19/wtc.plan/>.

¹²⁸ *Shine*, 392 F. Supp. 2d at 606 (“Shine alleges that this design is substantially similar to the form and shape of Shine ’99, and that it incorporates a structural grid identical to the grid in Olympic Tower, as well as a facade design that is ‘strikingly similar’ to the one in Olympic Tower.”).

¹²⁹ *Id.* at 611 (citing *Laureyssens v. Idea Group, Inc.*, 964 F.2d 131, 140 (2d Cir. 1992)).

¹³⁰ *Id.*

¹³¹ *Id.*

¹³² *Id.* at 612.

¹³³ *Id.*

¹³⁴ See 4 NIMMER, *supra* note 11, at § 13.03[A].

tal concept and feel” and analytic dissection.¹³⁵ The “total concept and feel” test, traditionally applied to aesthetic arts, relies on the visceral response of the ordinary observer to a work as a whole. The analytic dissection approach, originally developed for complex, functional works such as computer software, filters out the unprotectible elements of a plaintiff’s work prior to comparison.

The court in *Shine* made a critical decision. It characterized architecture as aesthetic art, akin to fabric design, and decided that substantial similarity of architectural works should be determined by the “total concept and feel” test.¹³⁶ The court explicitly rejected an analytic dissection approach, reasoning that analytic dissection, by excluding unprotectible elements, would fail to protect “the ‘overall form’ of architectural designs in addition to their individual copyrightable elements.”¹³⁷

After examining the designs, the court concluded that a jury could find substantial similarity between the “total concept and feel” of the Olympic Tower and the Freedom Tower:

Any lay observer examining the two towers side by side would notice that: (1) each tower has a form that tapers and twists as it rises, (2) each tower has an undulating, textured diamond shaped pattern covering its facade, and (3) the facade’s diamond pattern continues to and concludes at the foot of each tower, where one or more half diamond shapes open up and allow for entry. These combinations of these elements gives the two towers a similar “total concept and feel” that is immediately apparent even to an untrained judicial eye.¹³⁸

Consequently, it denied the defendants’ motion for summary judgment regarding the Olympic Tower.¹³⁹

V. SUBSTANTIAL SIMILARITY

The issue of substantial similarity is a critical element in infringement claims. “[E]ven where the fact of copying is conceded, no legal consequences will follow from that fact unless the copying is substantial.”¹⁴⁰ Identifying the level of similarity that rises to substantiality, and thus constitutes improper appropriation, is one of the most challenging and debated

¹³⁵ *Shine*, 382 F. Supp. 2d at 612–13. Although the court in *Shine* referred to the second test as the “*Altai* analysis” rather than as “analytic dissection,” this Note will use the term “analytic dissection,” which has been used in other cases, including *Altai*, to describe the approach. See, e.g., *Computer Assocs. Int’l, Inc. v. Altai, Inc.*, 982 F.2d 693, 707 (2d Cir. 1992).

¹³⁶ *Shine*, 382 F. Supp. 2d at 612.

¹³⁷ *Id.* at 614.

¹³⁸ *Id.* at 615.

¹³⁹ *Id.* at 616. In the summer of 2006, the parties reached a settlement, and Shine withdrew the lawsuit. See Andrew Mangino, *Freedom Tower Suit Resolved*, YALE DAILY NEWS, Sept. 26, 2006, available at <http://www.yaledailynews.com/articles/view/18086>.

¹⁴⁰ *Newton v. Diamond*, 349 F.3d 591, 594 (9th Cir. 2003).

questions in copyright law.¹⁴¹ Professor Nimmer has articulated the inherent difficulty:

It is clear that slight or trivial similarities are not substantial and are therefore noninfringing. But it is equally clear that two works may not be literally identical, and yet, for purposes of copyright infringement, may be found to be substantially similar The problem, then, is one of line drawing. Somewhere between the one extreme of no similarity and the other of complete and literal similarity lies the line marking off the boundaries of “substantial similarity.” Judge Learned Hand has said that this line, “wherever it is drawn[,] will seem arbitrary” and that “the test for infringement of a copyright is of necessity vague.”¹⁴²

Any inquiry into substantial similarity must recognize that copyright does not prohibit the appropriation of unprotectible elements in a work.¹⁴³ For example, since copyright protects an author’s expression of an idea but not the abstract idea itself, if the only similarity between two works is that of the abstract idea, substantial similarity should not be found.¹⁴⁴

Courts have developed different approaches to determine substantial similarity. The “total concept and feel” test, which was adopted by the court in *Shine*, relies on the visceral response of the ordinary observer to a work in its entirety to determine whether a subsequent author took the heart of the original work.¹⁴⁵ At the other end of the spectrum, the analytic dissection approach examines the constituent elements of a work and excises those elements that are unprotectible prior to comparison.¹⁴⁶

The selection of either “total concept and feel” or analytic dissection as the appropriate test may ultimately determine the scope of protection for architectural works. For example, in a recent architectural infringement case, the choice of substantial similarity tests determined whether the case survived summary judgment.¹⁴⁷ The district court, applying an analytic dissection approach, found no substantial similarity between two architectural designs and granted summary judgment in favor of the defendant. On appeal, the D.C. Circuit applied instead the “total concept and feel” test. The D.C. Circuit held that, under this test, the designs were sufficiently similar to survive summary judgment and remanded to the district court.¹⁴⁸ Given the relationship between the choice of tests and the scope of protection, it is

¹⁴¹ See 4 NIMMER, *supra* note 11, § 13.03[A].

¹⁴² *Id.*

¹⁴³ See *Hoehling v. Universal City Studios*, 618 F.2d 972, 977 (2d Cir. 1980) (“Ordinarily, wrongful appropriation is shown by proving a ‘substantial similarity’ of copyrightable expression.”); *Narell v. Freeman*, 872 F.2d 907, 910 (9th Cir. 1989) (“The underlying question is whether *protected* elements . . . were copied.”).

¹⁴⁴ 4 NIMMER, *supra* note 11, at § 13.03[A][1].

¹⁴⁵ See *id.* at § 13.03[A][1][c].

¹⁴⁶ See *id.*

¹⁴⁷ *Sturza v. United Arab Emirates*, 281 F.3d 1287, 1291 (D.C. Cir. 2002).

¹⁴⁸ *Id.*

necessary to examine both tests and to evaluate their suitability for architectural works.

A. “Total Concept and Feel”

The term “total concept and feel” was first developed by the Ninth Circuit in a case involving the infringement of the designs of greeting cards.¹⁴⁹ The Second Circuit subsequently adopted the term in a case involving children’s books.¹⁵⁰ In *Reyher*, the Second Circuit reasoned that an inquiry into the “total concept and feel” of the works at issue was appropriate because “stories, intended for children, are necessarily less complex than some other works submitted to pattern analysis.”¹⁵¹

The application of the “total concept and feel” test to children’s works continued with the seminal case, *Sid & Marty Krofft Television Productions v. McDonald’s Corp.*¹⁵² In *Krofft*, the plaintiff alleged that the defendant’s television commercials infringed upon their *H.R. Pufnstuf* children’s television program, which involved a fantasyland populated by fanciful creatures. The Ninth Circuit established an “intrinsic test” for substantial similarity that depends solely on the response of the “ordinary reasonable person.”¹⁵³ The court concluded that defendant’s commercials “captured the ‘total concept and feel’ of the *Pufnstuf* show.”¹⁵⁴

The “total concept and feel” standard eventually worked its way out of the nursery. It has since been applied in infringement cases involving fabric design,¹⁵⁵ a decorative face mask,¹⁵⁶ children’s toys,¹⁵⁷ arcade games,¹⁵⁸ greeting cards,¹⁵⁹ and imaginary characters.¹⁶⁰

¹⁴⁹ Roth Greeting Cards v. United Card Co., 429 F.2d 1106, 1110 (9th Cir. 1970) (holding that “in total concept and feel the cards of United are the same as the copyrighted cards of Roth”).

¹⁵⁰ *Reyher v. Children’s Television Workshop*, 533 F.2d 87, 91 (2d Cir. 1976).

¹⁵¹ *Id.*

¹⁵² 562 F.2d 1157 (9th Cir. 1977).

¹⁵³ *Id.* at 1164.

¹⁵⁴ *Id.* at 1167 (formatting added).

¹⁵⁵ See, e.g., *Tufenkian Import/Export Ventures, Inc. v. Einstein Moomjy, Inc.*, 338 F.3d 127, 133 (2d Cir. 2003) (comparing carpet designs); *Boisson v. Banian, Ltd.* 273 F.3d 262, 272 (2d Cir. 2001) (comparing quilt designs); *Knitwaves, Inc. v. Lollytogs Ltd.*, 71 F.3d 996, 1003 (2d Cir. 1995) (comparing designs on sweaters); *Kenbrooke Fabrics, Inc. v. Holland Fabrics, Inc.*, 602 F. Supp. 151, 154 (S.D.N.Y. 1984) (comparing floral fabric patterns).

¹⁵⁶ See, e.g., *Passillas v. McDonald’s Corp.*, 927 F.2d 440, 442 (9th Cir. 1991).

¹⁵⁷ See, e.g., *Laureyssens v. Idea Group, Inc.*, 964 F.2d 131, 141 (2d Cir. 1992) (comparing foam rubber puzzles); *Recycled Paper Prods., Inc. v. Pat Fashions Indus., Inc.*, 731 F. Supp. 624, 626 (S.D.N.Y. 1990) (comparing stuffed animals).

¹⁵⁸ See, e.g., *Atari, Inc. v. N. Am. Philips Consumer Elec. Corp.*, 672 F.2d 607, 614 (7th Cir. 1982).

¹⁵⁹ See, e.g., *Ruolo v. Russ Berrie & Co.*, 886 F.2d 931, 939 (7th Cir. 1989).

¹⁶⁰ See, e.g., *Cory Van Rijn, Inc. v. Cal. Raisin Advisory Bd.*, 697 F. Supp. 1136, 1144 (E.D. Cal. 1986).

One criticism of the “total concept and feel” test is that it “invites an abdication of analysis.”¹⁶¹ By comparing two works in their entirety without any level of analytic dissection, the test fails to differentiate between protectible expression and unprotectible elements.¹⁶² Two works may appear substantially similar in their “total concept and feel” even though the similarities arise from the common use of unprotectible elements, such as abstract ideas or public domain material.

For this reason, it has been argued that the test is only appropriate for determining substantial similarity between “simplistic works that require only a highly ‘intrinsic’ (i.e., not analytic) evaluation.”¹⁶³ This argument is supported by case law. Greeting cards, children’s books, fantasy-land characters, and fabric designs can all be characterized as simplistic, “more creative abstract visual works.”¹⁶⁴

A second criticism of the “total concept and feel” test is that “concepts,” in and of themselves, are statutorily denied copyright protection.¹⁶⁵ By anchoring substantial similarity in the similarity of “concepts,” the test “threatens to subvert the very essence of copyright, namely the protection of original *expression*.”¹⁶⁶ In this sense, the test risks comparing the similarity of the abstract ideas embodied in a work instead of their expression.

This risk was realized in a recent D.C. Circuit case applying the “total concept and feel” test to architectural works under the AWCPA.¹⁶⁷ In *Sturdza v. United Arab Emirates*, the plaintiff won a design competition for a new embassy building. After negotiations broke down between the plaintiff and the United Arab Emirates (UAE), the plaintiff discovered that the UAE had selected a competitor’s design entry and then revised the competitor’s design. The revised design allegedly “copied and appropriated many of the design features” from the plaintiff’s entry.¹⁶⁸

The D.C. Circuit acknowledged that a number of elements of the plaintiff’s design—domes, wind towers, parapets, and arches—were unprotectible ideas.¹⁶⁹ The court proceeded to examine the similarity of the “overall look and feel” of the two architects’ expressions of the unprotectible ideas.¹⁷⁰ The court’s analysis of a dome used in the two designs reveals the problem with this test. The court observed that the two architects expressed

¹⁶¹ 4 NIMMER, *supra* note 11, at § 13.03[A][1][c].

¹⁶² *Id.*

¹⁶³ *Id.*

¹⁶⁴ Sarah Brashears-Macatee, Note, *Total Concept and Feel or Dissection?: Approaches to the Misappropriation Test of Substantial Similarity*, 68 CHI.-KENT L. REV. 913, 925 (1993).

¹⁶⁵ See 17 U.S.C. § 102(b) (2000).

¹⁶⁶ 4 NIMMER, *supra* note 11, at § 13.03[A][1][c].

¹⁶⁷ *Sturdza v. United Arab Emirates*, 281 F.3d 1287 (D.C. Cir. 2002).

¹⁶⁸ *Id.* at 1292.

¹⁶⁹ *Id.* at 1297 (“Indeed, to hold otherwise would render basic architectural elements unavailable to architects generally . . .”).

¹⁷⁰ *Id.*

the unprotectible idea of the dome differently. The plaintiff's dome was "made of glass . . . allowing light in through the pattern" and encircled with "three bands of pointed arches, largest at the dome's base and becoming progressively smaller toward its top."¹⁷¹ The defendant's dome was "opaque" and covered with "diamonds . . . that become progressively smaller toward the top."¹⁷² Based on the idea-expression dichotomy of copyright, a strong argument can be made that the court's inquiry should have ended at this point without a finding of substantial similarity.

However, the court then moved from a comparison of expression to a comparison of the "effect" of that expression. The court found that the plaintiff's use of arches created "a feeling of upward movement from the dome's base toward its top."¹⁷³ It found that the defendant's use of diamonds created a similar "feeling," and ultimately held that a reasonable jury could find substantial similarity.¹⁷⁴

The "total concept and feel" test is deficient because "a feeling of upward movement" is an abstract idea that is not protected by copyright. That two architects were able to convey the same "effect" through disparate design elements is not precluded by copyright. In fact, it is the very type of creativity that copyright aims to promote. By increasing the scope of protection to encompass "a feeling of upward movement," the "total concept and feel" test essentially extended the scope of protection to unprotectible design concepts that serve as the basic building blocks of architectural creativity.

This incongruous result was noted by the concurrence in *Sturdza*: "[W]ith due regard for the prevalence in both designs of the unprotectible commonplaces of Islamic architecture . . . the two designs are more notable for their differences than for their similarities; the expression in each of the common unprotectible ideas is, as the district court described it, 'decidedly different.'"¹⁷⁵

B. Analytic Dissection

The use of analytic dissection to determine substantial similarity has developed most quickly in case law involving computer programs.¹⁷⁶ The inherent complexity of computer programs does not lend itself to the holis-

¹⁷¹ *Id.* at 1298.

¹⁷² *Id.*

¹⁷³ *Id.*

¹⁷⁴ *Id.* at 1299.

¹⁷⁵ *Id.* at 1308 (LeCraft Henderson, J., concurring).

¹⁷⁶ See Nimmer & Krauthaus, *supra* note 117, at 356; John M. Walker, Jr. et al., *Copyright Protection: Has Look & Feel Crashed?*, 11 CARDOZO ARTS & ENT. L.J. 721, 733 (1993) (providing a transcript of a debate about the propriety of an increasingly analytical approach to the substantial similarity analysis of computer programs).

tic approach of the “total concept and feel” test applied to artistic works.¹⁷⁷ Specifically, computer programming is a science: it is “the science of problem solving in which the solutions happen to involve a computer.”¹⁷⁸ Thus, programmers do not have the range of choices available to authors of subject matter traditionally protected by copyright. In creating computer programs, they are restricted by external factors such as the nature of the problem to be solved, the programming language that hardware can interpret, the technical capabilities of hardware, and interoperability requirements of other software.¹⁷⁹ Additionally, “an extensive body of computer science literature, rather than the individual programmers’ creativity, provides numerous common programming techniques found in a wide variety of programs.”¹⁸⁰

As a result of these factors, computer programs embody many elements that do not constitute protectible expression. A holistic comparison that does not examine the constituent elements of a program cannot distinguish the unprotectible elements from the engineer’s original expression. Thus, the substantial similarity tests employed in computer program cases evolved from a more traditional holistic approach¹⁸¹ to an analytic dissection approach that recognized the realities of the programming.¹⁸²

In *Computer Associates International, Inc. v. Altai, Inc.*,¹⁸³ the Second Circuit developed a three-step “abstraction-filtration-comparison” test for determining substantial similarity in the nonliteral elements of computer programs, i.e., the structural design of the underlying code. The test separates the protectible elements from the unprotectible elements in the plaintiff’s program, and compares only the protectible elements with the defendant’s program to determine substantial similarity.¹⁸⁴

The first step, abstraction, attempts to “dissect the allegedly copied program’s structure and isolate each level of abstraction contained within it.”¹⁸⁵ In identifying the levels of abstraction, a court begins with the com-

¹⁷⁷ See 4 NIMMER, *supra* note 11, at § 13.03[E][4] (“[I]t is meaningless to attempt to isolate the ‘spontaneous and immediate reaction’ of the lay observer to two sets of object code.”).

¹⁷⁸ ERIC S. ROBERTS, THE ART AND SCIENCE OF JAVA: AN INTRODUCTION TO COMPUTER SCIENCE 5 (2007).

¹⁷⁹ See 4 NIMMER, *supra* note 11, at § 13.03[F].

¹⁸⁰ *Id.* For example, standard computer science curriculum teaches students efficient algorithms for executing search and sort operations. See, e.g., ROBERTS, *supra* note 178, at 461–98.

¹⁸¹ See, e.g., *Whelan Assocs., Inc. v. Jaslow Dental Lab., Inc.*, 797 F.2d 1222, 1236 (3d Cir. 1986) (applying a simple test, whereby the purpose of the computer program would be the work’s idea, and everything not necessary to that purposes would be protectible expression).

¹⁸² See, e.g., *Computer Assocs. Int’l, Inc. v. Altai, Inc.*, 982 F.2d 693, 706 (2d Cir. 1992).

¹⁸³ *Id.*

¹⁸⁴ *Id.* at 706.

¹⁸⁵ *Id.* at 707.

puter program's underlying code, the lowest level abstraction, and ends with the primary function of the program, the highest level of abstraction.¹⁸⁶

The next step, filtration, removes from the substantial similarity inquiry those structural components of the program that are not protected by copyright.¹⁸⁷ The court delineated several categories of unprotectible elements based on various copyright doctrines.¹⁸⁸ These categories include ideas, elements dictated by efficiency, elements dictated by external factors, and material taken from the public domain.¹⁸⁹ The filtration process leaves "a kernel, or possible kernels, of creative expression."¹⁹⁰

The final step of the test compares the remaining "kernels" of expression with the defendant's program.¹⁹¹ If substantial similarity is found, the test then evaluates the relative importance of the appropriated expression with respect to the plaintiff's work as a whole.¹⁹²

Several circuits have adopted *Altai*'s "abstraction-filtration-comparison" approach as the appropriate test for substantial similarity in computer software cases.¹⁹³ Additionally, Professor Nimmer has argued that such an approach should be the standard test for all subject matter.¹⁹⁴

C. As Applied to Architectural Works

Commentators examining the applicability of the different substantial similarity tests have proposed a spectrum of subject matter, with "total concept and feel" at one extreme and complete analytic dissection at the other.¹⁹⁵ Purely aesthetic works, such as fabric design and literary works of fiction, are located on the "total concept and feel" end of the spectrum.¹⁹⁶ A holistic approach is appropriate because "[t]hese types of works allow for much latitude in expression, and if two such works are very similar, the reason is not lack of choice in expression."¹⁹⁷

As one moves down the spectrum towards analytic dissection, the subject matter becomes increasingly functional and "factual," with the creation

¹⁸⁶ *Id.*

¹⁸⁷ *Id.*

¹⁸⁸ *Id.* at 707-10.

¹⁸⁹ *Id.*

¹⁹⁰ *Id.* at 706.

¹⁹¹ *Id.* at 710.

¹⁹² *Id.*

¹⁹³ See, e.g., *Bateman v. Mnemonics, Inc.*, 79 F.3d 1532, 1543 (11th Cir. 1996); *Apple Computer, Inc. v. Microsoft Corp.*, 35 F.3d 1435, 1439 (9th Cir. 1994); *Eng'g Dynamics, Inc. v. Structural Software, Inc.*, 26 F.3d 1335, 1343 (5th Cir. 1994); *Atari Games Corp. v. Nintendo of Am. Inc.*, 975 F.2d 832, 839 (Fed. Cir. 1992).

¹⁹⁴ 4 NIMMER, *supra* note 11, at § 13.03[E][1][b] (arguing that an analytic dissection approach "should be considered not only for . . . computer programs, but across the gamut of copyright law").

¹⁹⁵ See, e.g., *Brashears-Macatee*, *supra* note 164, at 935.

¹⁹⁶ *Id.*

¹⁹⁷ *Id.*

of these works becoming increasingly constrained by technical requirements and limitations. The other end of the spectrum is populated by subject matter such as “factual” visual works, e.g., toys that realistically depict animals and works of nonfiction.¹⁹⁸ Computer programs lie at this far end of the spectrum. As Judge John M. Walker, Jr., the author of the court’s opinion in *Altai*, explained, “where functional elements of a work come into play, a more exacting copyright analysis is required so [as] not to inadvertently remove ideas, procedures, processes, systems, and methods of operation from the public domain.”¹⁹⁹

Attempting to pinpoint architectural works along this spectrum is a difficult task, and any conclusion will be somewhat arbitrary. However, comparing architectural works with the subject matter located at the ends of the spectrum will shed light on which approach is preferred. Comparison reveals that architectural works more closely resemble computer programs than purely aesthetic art such as fabric design, and thus an analytic dissection approach to substantial similarity analysis is more appropriate.

Architecture is often analogized to the traditional forms of aesthetic art, but such analogies are misleading.²⁰⁰ Unlike purely aesthetic works, whose “form is their essence,” and whose “final end” is “the production of pleasure in their contemplation,”²⁰¹ architecture also accomplishes functional tasks.²⁰² Congress’s explicit removal of architectural works from the reaches of the useful articles doctrine does not diminish the fact that most buildings are indeed utilitarian. A substantial similarity test that evaluates the “total concept and feel” of two architectural designs in their entirety ignores the legislative history of the AWCPA, which precludes protection for functionally determined and standard design elements.²⁰³ While the aesthetic value of architectural works should be celebrated, their functional elements cannot be ignored.

Additionally, the functional requirements of a building’s program “often leave the architect with little room in which he can manipulate the building for purely formal—i.e., aesthetic—ends.”²⁰⁴ The act of creating ar-

¹⁹⁸ *Id.*

¹⁹⁹ Walker et al., *supra* note 176, at 733.

²⁰⁰ For an interesting discussion on the fallacies of such analogies, see JAMES MARSTON FITCH, *AMERICAN BUILDING 2: THE ENVIRONMENTAL FORCES THAT SHAPED IT* 2–4 (2d ed. 1972). “With architecture, we are *submerged* in the experience, whereas the relationship between us and a painting or a symphony is much more one of simple *exposure*.” *Id.* at 3.

²⁰¹ See Walker et al., *supra* note 176, at 732 (citing *Baker v. Selden*, 101 U.S. 99, 103–04 (1879)).

²⁰² FITCH, *supra* note 200, at 24–26.

²⁰³ See HOUSE REPORT, *supra* note 3, at 21 (“Protection would be denied for the functionally determined elements, but would be available for the nonfunctional[ly] determined elements.”).

²⁰⁴ FITCH, *supra* note 200, at 25. Building types can be categorized according to the degree of complexity of the process to be housed. For example, monuments encompass a simple process while nuclear power plants support a complex and critical process. An architect’s freedom for aesthetic design decisions is an inverse function of the complexity of the process to be housed. *Id.*

chitectural designs, then, should be understood more as a specific problem-solving process than as a purely creative endeavor. One commentator noted that “the creative processes in architecture have less to do with the muses of inspiration than with the painstaking resolution of site, program, structure, and plan.”²⁰⁵

On the other hand, there are many similarities between architectural works and computer programs. Both types of work represent a hybrid of functional and creative elements. Both architects and software engineers face a similar set of external factors that limit their freedom of design choice. The nature of the problem that a computer program aims to solve is analogous to the building program requirements of an architectural design. The mechanical specifications of the computer on which a piece of software is intended to run are similar to the requirements of the physical site and local building codes. Additionally, the programmer’s reliance on existing libraries of algorithms and code is similar to the architect’s tradition of borrowing design elements from prior and contemporary works.

While the complexity of architectural works more closely resembles that of computer programs than that of purely aesthetic works, the analogy between an architectural design and a computer program is not perfect. Unlike an architectural design, the structure of a computer program, regardless of the creativity and elegance of the underlying algorithm, serves no aesthetic purpose.

On the spectrum of subject matter protected by copyright, a closer match to architecture can be found in graphical user interfaces, the aesthetic offspring of computer programs. A graphical user interface is the visual display generated by the underlying computer program that controls the interaction between the human user and the computer.²⁰⁶ It is “a computer program’s artistic look.”²⁰⁷ In this sense, graphical user interfaces and architectural designs are similarly hybrid works that straddle the intersection of function and art.

Commentators have recognized the close parallels between architecture and user-interface design, more commonly known as human-computer interaction (HCI) design.²⁰⁸ Both disciplines focus on predicting and control-

²⁰⁵ Raleigh W. Newsam, II, *Architecture and Copyright: Separating the Poetic from the Prosaic*, 71 TUL. L. REV. 1073, 1083 (1997) (quoting ADA LOUISE HUXTABLE, ARCHITECTURE, ANYONE? 54 (1986)).

²⁰⁶ See Hassan Ahmed, *The Copyrightability of Computer Program Graphical User Interfaces*, 30 SW. U. L. REV. 479, 479 (2001).

²⁰⁷ *Apple Computer, Inc. v. Microsoft, Inc.*, 35 F.3d 1435, 1439 (1994).

²⁰⁸ Terry Winograd, a leading HCI design theorist and a professor of computer science at Stanford University, has written extensively on these parallels. See Terry Winograd, *Profile: Software Design and Architecture*, in BRINGING DESIGN TO SOFTWARE 10–16 (Terry Winograd ed., 1996) [hereinafter Winograd, *Profile: Software Design and Architecture*] (discussing the problems shared by user-interface designers and architects, and urging the software industry to look to the architectural field for solutions); Terry Winograd, *The Design on Interaction*, in BEYOND CALCULATION: THE NEXT FIFTY

ling the interaction between people and space—physical space in the one case and virtual space in the other.²⁰⁹ Both disciplines also have genres and standard design elements associated with those genres:

The graphic-interface word processor represents a software genre, with established conventions and styles that cut across the individual products. Elements such as toolbars, rulers, and pulldown menus for styles are as conventional in this genre as are the characteristic arched windows and buttresses of the cathedral.²¹⁰

The prevalence of standard design elements in both disciplines leads to another significant similarity: in HCI design, as in architecture, protectible expression often comes in the form of the original selection and arrangement of otherwise unprotectible design elements.²¹¹ These parallels between architecture and HCI design suggests that the substantial similarity test for architectural works should closely approximate the test applied to graphical user interfaces.

In *Apple Computer, Inc v. Microsoft Corp.*,²¹² the leading case involving copyright protection of graphical user interfaces, the Ninth Circuit rejected the “total concept and feel” test and adopted an analytic dissection approach similar to *Altai*’s “abstraction-filtration-comparison” test. In the case, Apple Computer alleged that Microsoft’s Windows operating system infringed the graphical user interface of its Macintosh computers.²¹³ Apple’s user interface was based on the desktop metaphor, with design elements such as windows, icons, and pulldown menus.

In its substantial similarity analysis of graphical user interfaces, the court applied a three-step test that was a slight variation of *Altai*’s “abstraction-filtration-comparison” test. In the first step, in lieu of abstraction, the court required Apple to identify the elements of its user interface that Microsoft had allegedly misappropriated.²¹⁴ In the second step, the court filtered out those elements that were not protected by copyright.²¹⁵ This second step was identical to the filtration step in *Altai*.

In the third step, the court assessed the amount of remaining protectible expression to determine the proper scope of protection for Apple’s user interface.²¹⁶ Filtration revealed that none of the individual design elements of

YEARS OF COMPUTING 158 (Peter Denning & Robert Metcalfe eds., 1997) (proposing the analogy that architecture is to civil engineering as user-interface design is to software engineering).

²⁰⁹ Winograd, *Profile: Software Design and Architecture*, *supra* note 208, at 15.

²¹⁰ *Id.* at 13.

²¹¹ See Ahmed, *supra* note 206, at 486–87.

²¹² 35 F.3d 1435 (1994).

²¹³ *Id.* at 1438.

²¹⁴ *Id.* at 1443.

²¹⁵ *Id.*

²¹⁶ *Id.*

Apple's user interface was protected under copyright.²¹⁷ The court recognized that the infringement claim thus rested on the copying of Apple's "unique selection and arrangement" of otherwise unprotectible design elements.²¹⁸ It held that where the underlying individual design elements of an arrangement are unprotectible, the arrangement itself receives only "thin protection."²¹⁹ Thus, when comparing the two graphical user interfaces as a whole, the court held that "there can be no infringement unless the works are virtually identical."²²⁰

Given the similarities between architectural works and graphical user-interfaces, in particular their hybrid nature as both functional and artistic, the *Apple* test for graphical user interfaces should guide the substantial similarity analysis of architectural works. It would be unwise to force-fit architectural works under the "total concept and feel" test developed for purely aesthetic works. As Judge Walker succinctly stated:

"The [*Altai*] decision . . . stands for the proposition that doctrines of intellectual property should not be distorted in order to accommodate hybrid works. . . . Therefore, in developing a satisfactory framework for the protection of [hybrid works], it is important to be both honest and precise about exactly what we seek to protect."²²¹

VI. OUTLINING A SUBSTANTIAL SIMILARITY TEST FOR ARCHITECTURAL WORKS

The substantial similarity test for architectural works must incorporate the scope of protection that Congress intended for the AWCPA. Protection is extended to original design elements and to original arrangements of otherwise unprotectible design elements.²²² Protection is not extended to standard design features²²³ or to design elements that are functionally required.²²⁴

The test proposed here mirrors the three-step structure of *Apple's* modified "abstraction-filtration-comparison" test for graphical user interfaces.²²⁵ The first two steps identify the protectible design elements in the plaintiff's work. The third step compares the protectible design elements to the defendant's work. When comparing works as a whole for original ar-

²¹⁷ *Id.* at 1446.

²¹⁸ *Id.*

²¹⁹ *Id.* at 1442.

²²⁰ *Id.* at 1446.

²²¹ Walker et al., *supra* note 176, at 732–33.

²²² HOUSE REPORT, *supra* note 3, at 18.

²²³ *Id.*

²²⁴ *Id.*

²²⁵ While others have attempted a similar exercise within the *Altai* framework, the details of the analysis diverge. See Newsam, *supra* note 205, at 1116–24.

rangements of otherwise unprotectible elements, the test requires a high standard of similarity that essentially amounts to a standard of “virtual identity.”

A. Plaintiff’s Identification of the Allegedly Infringed Design Elements

In the context of architecture, *Apple*’s requirement that the plaintiff identify the design elements allegedly misappropriated by the defendant is a preferable alternative to the abstraction step in the *Altai* test.²²⁶ The levels of abstraction for architectural works are difficult to identify. At the lowest level of abstraction, an architectural design is a collection of points, lines, planes, and volumes.²²⁷ At the highest level of abstraction, an architectural design is a building that satisfies a particular problem, e.g., a home, office building, hospital, or school.²²⁸ The intermediate levels of abstraction do not break down into any logical hierarchy. Thus, the first step in this proposed test is to require the plaintiff to identify the allegedly infringed design elements in its architectural work.

B. Filtration of Unprotectible Design Elements

Next, the design elements provided by the plaintiff in the previous step must be filtered to identify those elements that are protected by copyright. The proposed framework follows the “successive filtering” method used in both *Apple* and *Altai*. The categories of unprotectible elements are dictated by basic copyright doctrine as well as the legislative history of the AWCPA.

1. *Filtration of Ideas*.—The design elements in an architectural work that constitute ideas must be filtered out in the sense that their mere use should be excluded from the substantial similarity inquiry. Only the plaintiff’s specific expression of these elements should remain in the inquiry. This step is required because copyright protects only the expression of ideas and not the ideas themselves. The lack of a true abstraction analysis in the previous step requires a separation of ideas and expression at this point. A survey of cases sheds light on the type of design elements that constitute mere ideas.

In *Wickham v. Knoxville*, the plaintiff alleged that the defendants had infringed his drawings of a tower structure topped with a spherical building.²²⁹ The court concluded that the incorporation of a spherical structure

²²⁶ The Eleventh Circuit has also adopted this approach as an alternative to abstraction. See *MiTek Holdings, Inc. v. ARCE Eng’g Co.*, 89 F.3d 1548, 1555 (11th Cir. 1996) (reasoning that such an approach is appropriate because “the ultimate burden is on the copyright holder to prove infringement”).

²²⁷ CHING, *supra* note 31, at 3 (identifying the prime generators of form as the point, line, plane, and volume).

²²⁸ *Id.* at ix.

²²⁹ 555 F. Supp. 154 (E.D. Tenn. 1983).

on a tower was “no more than an ‘idea.’”²³⁰ Thus, only the plaintiff’s expression of the structural form, but not his use of it, was protectible.²³¹

Other design elements that have been identified as ideas by courts include “domes, wind-towers, parapets, arches,”²³² an island or peninsula-shaped bar that bisects a seating area with booths on one side and stool seating on the other,²³³ and highly preliminary and generalized designs.²³⁴

2. *Filtration of Public Domain Design Elements.*—A fundamental doctrine of copyright law is that material taken from the public domain is unprotectible, even when it is incorporated into a copyrightable work.²³⁵ In the context of computer software, unprotectible public domain material includes “expression that is, if not standard, then commonplace in the . . . industry.”²³⁶

The public domain of architectural design includes historical elements, such as those from classical Greek and Roman architecture:

Many historical elements are reproduced, copied, varied, [or] rearranged in almost every design. For example, elements of the classical Greek temple have been incorporated into contemporary designs for churches, banks residences, office and government buildings and museums. A balance needs to be achieved whereby no one can obtain a monopoly on such common elements.²³⁷

Also within the public domain are the “standard design features” that were explicitly excluded in the legislative history of the AWCPA.²³⁸ These include common windows, doors, and other staple building components.

²³⁰ *Id.* at 156.

²³¹ *Id.*

²³² *Sturza v. United Arab Emirates*, 281 F.3d 1287, 1297 (D.C. Cir. 2002).

²³³ *Ale House Mgmt., Inc. v. Raleigh Ale House, Inc.*, 205 F.3d 137, 143 (4th Cir. 2000).

²³⁴ *Attia v. Soc’y of the New York Hosp.*, 201 F.3d 50 (2d Cir. 1999). The court held that the following elements, among others, constituted ideas:

- placement of a new structure over the F.D.R. Drive in the same location;
- use of a 3-story high truss to transfer the weight of the new building spanning the F.D.R. Drive to rows of columns on other side of the Drive; . . .
- arrangement of nursing floors using a long rectangular corridor divided into thirds by the placement of support care stations, with patient rooms surrounding the exterior of the corridor . . .

Id. at 55.

²³⁵ See *Feist Publ’ns Inc. v. Rural Tel. Serv. Co., Inc.*, 499 U.S. 340, 348 (1991) (stating that material in the public domain cannot be copyrighted); *Harper & Row Publishers, Inc. v. Nation Enters.*, 471 U.S. 539, 548 (1985) (stating that those elements of a copyrighted work that are in the public domain are not protected); *Sony Corp. of Am. v. Universal City Studios, Inc.*, 464 U.S. 417, 433 (1984) (noting that a copyright owner does not possess exclusive use of material in the public domain).

²³⁶ *Brown Bag Software v. Symantec Corp.*, 960 F.2d 1465, 1473 (9th Cir. 1992).

²³⁷ COPYRIGHT REPORT, *supra* note 1, app. C at 4 (Position Paper: Response to Copyright Office Notice of Inquiry of Architectural Work Protections).

²³⁸ HOUSE REPORT, *supra* note 3, at 18.

3. *Filtration of Functionally Required Design Elements.*—This filtration step is derived from the legislative history of the AWCPA, which specifies that “functionally required” design elements are unprotectible.²³⁹ These design elements are “determined by pragmatic, constructional, and technical requirements.”²⁴⁰ Despite Congress’s proclamations to the contrary,²⁴¹ determining whether a particular design element is functionally required may present the same difficulties presented by the separability test for useful articles.

When identifying functionally required design elements, courts should consider the external factors that limit an architect’s design options. These include the building program requirements, the physical site, and local building ordinances. Building program requirements may weigh particularly heavily in this analysis. For example, the programmatic requirements of a hospital may mandate a particular arrangement of certain spaces and elements; such an arrangement cannot be attributed to the original expression of the architect.

C. *Comparison of the Architectural Works as a Whole and the “Virtual Identity” Standards*

This step tracks the third step in the *Apple* test for graphical user interfaces. After performing the “successive filtering” process described above, the court is left with the protectible design elements of the plaintiff’s architectural work. The court should then assess the quantity of protectible design elements to determine whether the plaintiff’s architectural work should receive broad or thin protection when comparing the two works as a whole. If there are few protectible design elements remaining, then any originality in the plaintiff’s work rests in the unique selection and arrangement of otherwise unprotectible elements. Following *Apple*, the plaintiff’s work should receive thin protection: when the two works are compared as a whole, infringement can be established only if the works are “virtually identical.”

By comparing the works as a whole, this step recognizes the fact that “creativity in architecture frequently takes the form of a selection, coordination, or arrangement of unprotectible elements into an original, protectible whole.”²⁴² In *Shine*, the court rejected an analytic dissection of architectural works in part because of the fear that filtration would preclude protection for the original arrangement of otherwise unprotectible design elements.²⁴³

²³⁹ *Id.* at 21.

²⁴⁰ *Id.* at 19.

²⁴¹ *Id.* at 21.

²⁴² *Id.* at 18.

²⁴³ *Shine v. Childs*, 382 F. Supp. 2d 602, 613 (S.D.N.Y. 2005) (“If the court were to follow the *Altai* analysis and separate out only those ‘kernels’ of expression that would qualify as original, that, as our Circuit has held, ‘would result in almost nothing being copyrightable because original works broken

In this proposed test, a comparison of the works as a whole ensures that original arrangements are not improperly excluded from the substantial similarity inquiry.

Proper treatment of original arrangements of unprotectible design elements is critical because these arrangements will probably be the only protectible expression in most architectural works. The AIA has stated that “[w]orks related to architecture consist largely of arrangements, compilations, or modifications of previously existing components of other such works.”²⁴⁴ Because of the pervasiveness of arrangements and the incremental nature of innovation in the architectural field, overbroad protection of an original arrangement can critically stifle architectural innovation. The proposed test mitigates this danger by affording these arrangements only thin protection. Establishing infringement requires a high level of similarity—the works must be “virtually identical.”

Admittedly, the “virtual identity” standard sets a high bar for establishing infringement. And if most protectible architectural works are indeed original arrangements of otherwise unprotectible elements, then the scope of protection for architectural works as a whole will be narrow under the proposed test. However, this narrow scope of protection is in accord with architecture’s placement within copyright’s incentives-access paradigm.²⁴⁵

VII. CONCLUSION

The external factors that limit architectural design and the market structure of the industry differentiate architectural works from the subject matter traditionally protected by copyright. An analysis of the unique characteristics of the architectural field within copyright’s incentive-access paradigm suggests that protection provides only marginal incentives for creativity, while access to material in prior works is critical for innovation. Therefore, the ideal scope of protection for architectural works is narrow.

The court’s adoption in *Shine* of the “total concept and feel” test for determining substantial similarity in architectural works could dramatically expand the scope of protection. While the “total concept and feel” test may be appropriate for simplistic visual works, it lacks the analytic capacity to accommodate the complexity of architectural works.

Architectural works share the hybrid functional-creative characteristics of graphical user interfaces, a subset of computer software. Thus, the analytic dissection approach used to determine substantial similarity in graphi-

down into their composite parts would usually be little more than basic unprotectible elements” (citation omitted).

²⁴⁴ COPYRIGHT REPORT, *supra* note 1, app. C at 5 (Letter of Hon. Ralph Oman on behalf of the AIA). The AIA further explains that “[w]hile certain buildings may be striking in appearance, or even ‘novel’—in the sense that they have no demonstrable antecedents—their designs may be seen to consist substantially of the collocation of traditional (and sometimes even ‘classical’) elements.” *Id.*

²⁴⁵ See *supra* Part II.

cal user interfaces is appropriate for architectural works. The test proposed here, modeled after *Apple's* variant of the “abstraction-filtration-comparison” test, comports with both traditional copyright doctrine and the legislative history of the AWCPA. Only an analytic approach to substantial similarity can provide a restrained scope of protection for architectural works that encourages the progress of creativity and innovation in the field.

