

PREMISE:

A discussion on open source, networks, and digital property in architecture.

Wendy W Fok

Harvard University, Graduate School of Design

<http://we-designs.com/team/wendy-w-fok>

wfok@gsd.harvard.edu

This research paper questions the relationship between the legal, ethical, and economic challenges that are presented by new ways of utilizing trademark, intellectual property, and copyright law within design production and creative purposes of architectural design. While it does not attain a conclusive resolution-as this is a developmental body of applied research, and includes a great deal of exploration of reform within the legal system-the paper addresses the systemic propositions, issues of inspiration and precedents, and case-studies in architectural design production that are implicit in new forms of legal transformation which could potentially address the issues within the worlds of design, economics, and law. It is hereby proposed that by understanding these relationships with respect to the prevalent global economic model, research in understanding architecture and law may be able to identify ways of restructuring and offer alternative (or, evolutionary) modes of ethical protection and equitable reward to all members contributing to the production system.

Keywords: *Digital Property, Open Source, Networks, Intellectual Property, Extralegal Norms*

This research paper questions the relationship between the legal, ethical, and economic challenges that are presented by new ways of utilizing trademark, intellectual property, and copyright law within design production and creative purposes of architectural design. While it does not attain a conclusive resolution-as this is a developmental body of applied research, and includes a great deal of exploration of reform within the legal system-the paper addresses the systemic propositions, issues of inspiration and precedents, and case-studies in architec-

tural design production that are implicit in new forms of legal transformation which could potentially address the issues within the worlds of design, economics, and law. It is hereby proposed that by understanding these relationships with respect to the prevalent global economic model, research in understanding architecture and law may be able to identify ways of restructuring and offer alternative (or, evolutionary) modes of ethical protection and equitable reward to all members contributing to the production system.

"Nothing is original. Steal from anywhere that resonates with inspiration or fuels your imagination... Select only things to steal from that speak directly to your soul. If you do this, your work (and theft) will be authentic. Authenticity is invaluable; originality is non-existent. And don't bother concealing your thievery - celebrate it if you feel like it. In any case, always remember what Jean-Luc Godard said: It's not where you take things from - it's where you take them to."

- Jim Jarmusch (American independent film director, screenwriter, actor, producer, editor and composer)

ARCHITECTURAL DESIGN AND ITS PROPERTY

Architectural design has always relied on the design and creative basis of innumerable factors to determine the authenticity of the product. The iterative process within the development of a design model, and processes embedded within its inspirations includes the programming, socio-economic understanding, site analysis, client suggestions, material aspects, dimensionality, renderings, computer aided design (CAD) drawings, hand sketches, and physical and digital models. All of these elements are among the list of considerations that allow the ability of designers to understand the basis of a project (Lynn, Zardini, Eiseman 2013). Without recognizing the motivations that contribute to the affects of a design, which include a multi-faceted chronology of factors and influences, the difference between an architect (designer) and a contractor (builder) becomes negligible, and the incentive to use an architect is diminished. After all, most clients recognize that a building could be constructed without an architect, simply with a contractor and engineer; yet, arguably, it would be significant to note that without an architect the building would only be a building, and without the design, the building would not be architecture.

Cohen (2007) articulates the current cultural theory behind copyright laws for creative fields as a state whereby the mainstream of copyright scholar-

ship has grounded its grand theory in either the theory of rights, or in a theory of economic analysis (Du Mont and Janis, 2007). According to Cohen (2007), "rights theorists seek to derive the basis for copyright from the philosophy of property rights; while others prefer a vision of copyright grounded in principles of expressive liberty and deliberative democracy." While the methodologies of creatives are undeterminable, even among the various lineages of architectural styles and movements, there is a common understanding about the relationship between inspiration, creative discovery, and design process, where each simultaneously influences the other (see Figure 1).

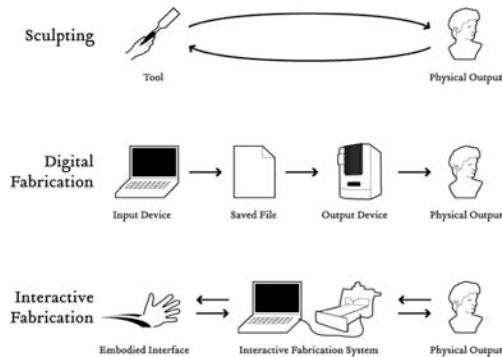


Figure 1
Traditional to
contemporary
research,
development, and
design process

Innovations versus influences, on the other hand, are disparate entities of conversation within the field of design and architecture. Whereby, repeatedly the subject of influence, or inspiration, often becomes an issue of copying and appropriation, frequently due to the matter of the ego, and the term: originality. In some creative fields, such as choreography, copying is kept in check through informal (extralegal) industry norms enforced by private sanctions. In others, the freedom to copy actually promotes creativity. Haute couture gave rise to the term knockoff, copycat, fakes, among others, yet the freedom to imitate great designs only makes the fashion cycle run faster and forces the fashion industry to be even more creative (Raustiala and Sprigman. 2012). Traceability of

the lineage of influences and precedents, hence becomes an issue of a priori versus a posteriori innovation of a creative idea, and brings attention to the creator versus the innovator. Yet, the question arises about whether an idea could arrive out of itself without the influences of another, and whether the legal reform of copyright, intellectual property, and trademark acts regulate these conversations within the creative and design fields.

CREATIVITY WITHIN NETWORKED SYSTEMS / COMMONS

The Internet has reshaped the ability of communication by humans, but more importantly it has also transformed how society gathers data and processes information (Larsen 2014, Guattari 1989, Latour 2005). This incredible amount of information sharing has had a tremendous impact on creativity, collaboration, and the question of provenance of ideas. Therefore, to move the law of copyright into the next digital millennia, the Copyright Office should consider the ethical and equitable measures through the use of advanced technology as a means of protection, in relation to the appropriation of visual, design, and sound arts.

If the goal of copyright is to advance the creative process within the sciences and the arts, then the future of copyright should be to identify the source of the creation and design, along with its designer. It would be beneficial if imbedded data would be included within the metadata that is distributed, similarly to information one would read on the information label at a museum. Meanwhile, the alternative is to only include enough information to identify and allow endorsement of the original creator (Zimmerman, 2011). Much of these examples are close to current tagging of digital songs and movies within the entertainment industry (Fisher 2004), such as Digital Rights Management (DRM)-protected music (Gasser and Palfrey, 2007).

Fisher (2004) suggests that there should exist digital fingerprinting in combination with a royalty or fee-based system through encryption of informa-

tion, based on an alternative compensation system. Should the legal protection measures within the law of copyright prove incapable of ensuring the secure distribution of creations over the internet, or as a digital format, the reform of the legal intellectual property and copyright system should then promote the ability of traceable metadata within pieces of work to prove as an ethical and equitable method of rewarding creators and owners of copyrighted materials.

Cukier and Mayer-Schoenberger 2013 published an article in *Foreign Affairs Journal* which describes the three ways to understand The Rise of Big Data. The general attack method is to 1) first understand, collect, and use a lot of data rather than settle for small amounts or samples; 2) to shed preference for highly curated and pristine data, and instead accept messiness, and tolerate the inaccuracy that benefits the vast amount of data which outweighs the cost of using smaller amounts; 3) to stop the quest to discover the cause of things, in return for accepting correlations.

Whether the mentioned approaches are the absolute approach, the greater developmental understanding between gathered data and useable data is still in the stage of beta interpretation. And, these opinions truly become the underlying issues pertaining to open sourced software, as much to multi-user designed and crowd-sourced projects.

Yonchai Benkler reveals that free software projects do not rely on markets or on managerial hierarchies to organize production, while Suber (2013) persists that the development of Open Access would allow consumers to better adapt and share perfect copies of creations at virtually no cost through offering varieties. Programmers do not generally participate in a project because someone who is their boss told them to do so, which alleviates the discussions on market-based, firm-based, and/or hybrid models of the economic model. However, the plus point on open-source participatory, collaborative, freeware is the basic and radical challenge that it proposes. Therefore, it posits the rational question: if the person is not acting on a profit motive, then

what sort of progressive motive should there be? Altruism could potentially be a simplified conclusive approach; however, the development of a communal trust, and development, is often a devised statement of cause (Schweik, and English 2012). It has been said, though, in behavioural economics, that humans are conditioned to see causes even where none exist (Benkler 2006).

The contemporary understanding of the network environment looks at a generative state of radically decentralised, non-proprietary development, based on sharing resources and outputs among widely distributed, loosely connected individuals. These individuals cooperate with each other without relying on either market signals or managerial commands - the basis of Benkler's (2006) commons-based peer production.

The radical new modality of organisational production also suggests asymmetrical purposes of "the owner" and the relationship to the commons, including the relationship between the use of the commons, and what one could do within the commons. This opens further the discussion on the necessary parameters of a) whether the system is open to anyone or only to a defined group, and b) whether the commons system is regulated or unregulated (Benkler 2006).

OWNERSHIP IN RELEVANCE TO COLLECTIVE WORKS

Ownership, according to the US law - 17 U.S. Code § 201 (ownership of copyright), is divided into four accounts (The Copyright Act of 1976). A notable aspect of the law states that the creator of a copyrighted work does not always own the copyright. In some cases, other persons or entities own the copyright. There are also rules governing copyright ownership when two or more people create the work. Finally, copyright owners can assign rights to the copyright to others, particularly for the purpose of marketing the protected work.

The types of ownership in copyright law include, a) initial ownership, b) Works made for hire, c) Contri-

bution to Collective Works, d) Transfer of Ownership, and e) involuntary transfer. To focus on the current topic, the discussion on the ownership rights of "Contribution to Collective Works" will be of significance.

The current standing of Copyright Law of the United States (hereafter, the "Copyright Act") is intended to encourage the creation of art and culture by rewarding authors and artists with a set of exclusive rights. While the Federal Copyright law grants authors and artists exclusive right to make and sell copies of their works, the right to creative derivative works, and the right to perform or display their works publicly, using the original. According to the U.S. Supreme Court, a plaintiff suing for copyright infringement has to show "(1) ownership of a valid copyright, and (2) copying of constituent elements of the work that are original."

With the advent of innovation in the international artistic arena, especially within the nature of works attributed to appropriation art that relies so heavily on the software and open-source advancements and interchangeability of digital media and technology (including CAD and 3D printing, among other forms of digital tools), it brings to question the relevance, purpose, and effective circumvention of copyright, moving into the emerging state of the arts.

Copyright law, instead, should be looked upon as a means to further the ability of technological advancement, or be complemented by, technological measures administered by the Copyright Office. These dealings should include a better understanding and assistance of technological growth and innovation for protecting the appropriation arts and open-source software (Schweik, and English 2012).

Ultimately, the regulated or unregulated incentive-based systems (Hughes 1988) each contain socio-political elements that contribute to a hierarchy of system management, which controls the access between certain layers of information. Both incentive-based systems bring to question the ability- to control the ownership and user interface between these different layers of information- that is sold to individuals that 'buy' into a project made up of

multi-user contributions. Another concern between unregulated system participants, and joint product appropriation single party system participants, within a traceable or licensed system are the ability to retain copyrights in their contributions within the multi-user model. This would then allow designers to license the operation of the multi-user design to be distributed, reused, or perhaps further explored.

A DIGITAL (ARCHITECTURAL) REFORM

Libeskind (2004) once said, "All architects are prostitutes - that's what Philip John said; they'll do whatever it takes for the chance to build." With the recent rise of architectural infringement discussions from the likes of Zaha Hadid Architects, for their Wangjing SOHO Galaxy project in Beijing set to be completed by 2014, to Daniel Libeskind versus LAB Architecture studio (Donald Bates), of the Federation Square in Melbourne of 2002, the vague understanding of architectural copyright (Quirk 2013), or the intellectual property rights of a designer, raises ethical questions about how far architects would go to get a chance to build, or even publish.

Although there exists similarities of architectural representation in both Zaha Hadid Architects Wangjing SOHO Galaxy vs *Chongqing Meiqian 22nd Century*, and *Studio Daniel Libeskind Jewish Museum in Berlin* vs LAB Architecture Studio Federation Square, the approach in understanding the issues of intellectual property varies between the two cases.

Whether it would be too ambitious to claim that formal derivatives of design in architecture are driven by scripted procedures and that code-based designs have led to the formal similarities and exploration in the technical means of design, application of open-source and collaborative free-ware in architectural software has become a common ground for design exploration within the contemporary field of design (Reas, McWilliams, Barendse 2010). Should the practice of architecture continue on this natural progression within the field of code-based generation, then similarly to open source software (OSS) development comes the issues of code repositories and versioning

systems that comes hand-in-hand with the ownership of code (Schweik, and English 2012).

There has been little to no serious architectural dialogue on the implications of open source procedures in a constructive manner that closely relates to the ethical or equitable dealings in collaborative work, though many theorists and practitioners have danced around the conversation. Antonelli (2011) explored "thinking" thoughts about the novelties of DIY and open source, stemming from Ratti et al's (2011) experimental op-ed on the Open Source Arc project, and Usman Haque and Matthew Fuller investigated the "Urban Versioning System 1.0" that attempts to deliver a deliberated form of "open-source urbanism that could radically change the conventionalized form of city design".

Mario Carpo has extensively questioned the split agency between the roles of participatory use of digital technologies towards the liberal collaborative ventures that use digital tooling within their practices, and questions the line between the author and audience, or the authorship within this isotropic platform, developed within Web 2.0 (Lessig, and Lessig 2006). Open-source software and systems could be one form of interpretation of the networked model within computer science, but has become a "social" norm within the developmental status of digital design in architecture. The current generation of designer's use of architectural software and structure of practice is by every means more "social" and "collaborative" than the previous generation, where the CAD-CAM of the nineties was mostly based on controlled, proprietary networked environments (Carpo 2011).

The current intellectual property regime for architectural and design law is reminiscent to a statement Libeskind once described about his process in design, "(w)hen you're designing a building, the experience is kinetic. You cannot always put something into words; otherwise you will simply produce a verbal diagram. You must feel your way towards your finished design. It's not until much later that you're fully aware of what you're doing Cowley 2003)." With the ongoing and beta-stage of understanding the

hurdles in the contemporary field of design within the present legal regime, the main resolution and suggestion is to incorporate a better understanding of the creative process, including collaborative practices within the field of law and architecture which incorporates designers, architects, and other innovative creative fields. By understanding the existing absences of cultural aspects within the current practice of law, the hybridized knowledge of both fields of architecture and law could potentially offer an enhanced social and cultural reform.

NOTES

17 U.S. Code § 201 (a) Initial Ownership - Copyright in a work protected under this title vests initially in the author or authors of the work. The authors of a joint work are co-owners of copyright in the work. Accessed May 1, 2014: <http://www.law.cornell.edu/uscode/text/17/201>

17 U.S. Code § 201 (b) Works Made for Hire - In the case of a work made for hire, the employer or other person for whom the work was prepared is considered the author for purposes of this title, and, unless the parties have expressly agreed otherwise in a written instrument signed by them, owns all of the rights comprised in the copyright. Accessed May 1, 2014: <http://www.law.cornell.edu/uscode/text/17/201>

17 U.S. Code § 201 (c) Contributions to Collective Works - Copyright in each separate contribution to a collective work is distinct from copyright in the collective work as a whole, and vests initially in the author of the contribution. In the absence of an express transfer of the copyright or of any rights under it, the owner of copyright in the collective work is presumed to have acquired only the privilege of reproducing and distributing the contribution as part of that particular collective work, any revision of that collective work, and any later collective work in the same series. Accessed May 1, 2014: <http://www.law.cornell.edu/uscode/text/17/201>

17 U.S. Code § 201 (d) Transfer of Ownership -

- The ownership of a copyright may be transferred in whole or in part by any means of con-

veyance or by operation of law, and may be bequeathed by will or pass as personal property by the applicable laws of intestate succession.

- Any of the exclusive rights comprised in a copyright, including any subdivision of any of the rights specified by section 106, may be transferred as provided by clause (1) and owned separately. The owner of any particular exclusive right is entitled, to the extent of that right, to all of the protection and remedies accorded to the copyright owner by this title. Accessed May 1, 2014: <http://www.law.cornell.edu/uscode/text/17/201>

17 U.S. Code § 201 (e) Involuntary Transfer - When an individual author's ownership of a copyright, or of any of the exclusive rights under a copyright, has not previously been transferred voluntarily by that individual author, no action by any governmental body or other official or organization purporting to seize, expropriate, transfer, or exercise rights of ownership with respect to the copyright, or any of the exclusive rights under a copyright, shall be given effect under this title, except as provided under title 11. Accessed May 1, 2014: <http://www.law.cornell.edu/uscode/text/17/201>

17 U.S.C. § 106 (2002) ("The owner of copyright ... has the exclusive rights ... : (1) to reproduce the copyrighted work in copies or phonorecords; [and] (2) to prepare derivative works based upon the copyrighted work.").

REFERENCES

- no authors given 1976, *Copyright Act of 1976, USA*, USA
- Antonelli, P 2011, 'States of Design 03: Thinkering', *Domus*, June
- Carpó, M 2011, *The alphabet and the algorithm (Chapter The Fall, p. 81 -120)*, MIT Press
- Cohen, J E 2007, 'Creativity and Culture in Copyright Theory', *UC Davis Law Review*, 40(Georgetown Public Law Research Paper No. 929527), pp. 1151-1205
- Cowley, J 2003, 'Daniel Libeskind - interview', *Prospect*

- (http://www.jasoncowley.net/interviews/l200302_-P.html), 83
- Cukier, K and Mayer-Schoenberger, V 2013, 'The Rise of Big-Data: How it's changing the way we think about the World', *Foreign Affairs Journal*, May-June, pp. 28 - 40
- Guattari, Felix., F 1989, *The Three Ecologies*
- Fisher, WW 2004, 'An Alternative Compensation System', in no editors given 2004, *Promises to keep: Technology, law, and the future of entertainment*, Stanford Law and Politics, Stanford California, pp. 199-258
- Gasser, U and Palfrey, J 2007, 'Case-Study: DRM-Protected Music Interoperability and e-innovation', in no editors given 2007, *no title given*, Berkman Publication Series, Harvard University
- Hughes, J 1988, 'The Philosophy of Intellectual Property', *Georgetown Law Journal*, 77, pp. 296-314
- Larsen, LB 2014, *Networks*, MIT Press
- Latour, B 2005, 'Network: A Concept, Not a Thing out there', *no title given*, pp. 68-73
- Lessig, L 2006, *Code and other laws of cyberspace (Code V2) 2nd Ed.*, Basic Books, New York
- Libeskind, D 2004, *Breaking Ground: Adventures in Life and Architecture (A sense of place, P.19 -tribute to World Trade Center)*, Penguin Books - Riverhead Books, New York
- Lynn, G, Zardini, M and Eisenman, P 2013, *Archaeology of the digital : Peter Eisenman, Frank Gehry, Chuck Hoberman, Shoji Yoh*, Canadian Centre for Architecture-Sternberg Press, , Montréal :Berlin
- Du Mont, JJ and Janis, MD 2012, 'Functionality in Design Protection Systems', *Journal of Intellectual Property Law*, 19, p. 261
- Paola, A, Adam, B, Lucas, D, Joseph, G, Dan, H, John, H, Alex, H, John, M, Nicholas, N, Hans, UO, Carlo, R, Casey, R, Marco, S, Mark, S, Chiara, S and Bruce, S 2011, 'Open Source Architecture', *Domus*, 948
- Quirk, V 2013, 'The 10 Things You Must Know About Architectural Copyrights', *ArchDaily*, 6 Feb 2013
- Raustiala, K and Christopher, S 2012, *The knockoff economy: How imitation sparks innovation.*, Oxford University Press
- Reas, C, McWilliams, C and Barendse, J 2010, *Form+Code in Design, Art, and Architecture*, Princeton Architectural Press, New York.
- Schweik, CM and English, RC 2012, *Internet Success: A Study of Open-Source Software Commons (Chapter 4 Technological and Community Attributes)*, MIT Press
- Suber, P 2013, *Open Access*, MIT Press Essential Knowledge Series
- Yochai, B 2006, 'The wealth of networks: How social production transforms markets and freedom (Chapter 3)', in no editors given 2006, *New Haven*, Yale University Press, pp. 59 - 90
- Zimmerman, DL 2011, 'Copyrights as Incentives: Did We Just Imagine That?', *Theoretical Inquiries in Law*, 2, p. 29-58