

Design history education and the use of the design brief as an interpretative framework for sustainable practice

John Calvelli, Alberta College of Art and Design, john.calvelli@acad.ca

Abstract

Over the last several years, designers, researchers and educators have been increasingly concerned with what effect design has had, and could have, on the current condition of unsustainability. If design has had a significant part in materializing unsustainability, then we must try to change its disciplinary parameters and relationships. How can we teach design history in order to engage students in this critical work?

This paper will document an ongoing experiment in the teaching of design history to undergraduate students in visual communication in two colleges of art and design. The course asks students to interpret images from the broad history of design through the lens of a common form of a “reverse design brief,” modified to engage the student in the task of pondering designs’ future effects. It is hoped that this pedagogical tool will not only allow the student to internalize this strategic tool of design practice, but as well allow them to understand the present-day consequential effects of designing. I will attempt to judge the success of the modified brief, from the standpoint of the qualitative insights of students into the ongoing designing effects of historical design objects.

This pedagogy raises questions regarding the uses of design history, the relationship between historical study and practice, the understanding of contemporary and historical frameworks and the engagement of an historical and ecological imagination. Can the design history classroom become a locus for a critically engaged, experimentalist pedagogy that can be experienced by the future designer as an essential tool in developing a sustainable practice?

Keywords

case study/studies; design brief; design history; pedagogy; practice; sustainability; unsustainability

Introduction

This paper will document an ongoing experiment in the teaching of design history to undergraduate students in visual communication in two colleges of art and design, which I began in 2002 and am still teaching today. Based on a common form of a “reverse design brief,” the course asks students to interpret images from the broad history of images, spanning epochs and cultural contexts. This pedagogical technique raises many questions, the most interesting among them for this researcher being the engagement of an historical and ecological imagination.

As Orr (2004) suggests:

We will need schools, colleges, and universities motivated by the vision of a higher order of beauty than that evident in the industrial world....They must help expand our ecological imagination and forge the practical and intellectual competence in the rising generation that turns merely wishful thinking into hopefulness. (p. 185)

I start from the assumption that teaching is the most effective means of changing practice, at a time when fundamental changes in how design interacts with the world have become necessary (IPCC, 2007). If design has had a significant part in materializing unsustainability – which I define as a condition whereby the material impacts of a species within its ecological framework, when pursued over a finite length of time, result in the species’ extinction or its likelihood – then we must reframe our learning outcomes towards the end of creating future. Can the design history course become an essential tool for the future designer in developing a sustainable practice?

The discipline of graphic design history is rather short: the first North American history of graphic design course in a program of graphic design was begun in 1971 at California Institute of the Arts, and taught by practitioners—Keith Godard for one year, followed for the next 25 years by Louis

Danziger (Heller & Balance, 2001). The first symposium of graphic design history in the U.S. was held in 1983 at Rochester Institute of Technology, organized by Roger Remington (Twemlow, 2006). Until recently, its history was generally written and taught by practitioners or by scholars from other fields. In universities it is still not uncommon for it to be taught by a doctored art historian for reasons of academic accreditation or departmental politics.

I state this simply to call attention to its status as an open area of inquiry, where it is still possible to fiddle with its foundational assumptions. This is important, as design history grew out of the discipline of art history, also a young discipline, and has shared some of its assumptions (Calvelli, 2009). Design history is often taught as a history of artifacts, with an emphasis on authorship and historical movements, often following contemporaneous art movements. When social content is brought into design history, it is often done so in terms of its mirroring of an historical *zeitgeist*.

Thus, in the students' history of design course, the *agency* of design is displaced from the artifact and placed mostly in the hands of the designer. Concomitantly, in studio courses the assumption of agency is placed in the hands of the client. A more adequate understanding of agency would, following Anne-Marie Willis' discussion of ontological design, privilege neither designer, client nor designed artifact (Willis, 2006). Rather, it would open up the possibility of studying the *designing* effects of design in time (Fry, 1999), and allow us to pose the question of how design extends or limits our future.

Background

This first iteration of the course was developed for the Art Institute of Portland as their required history of design course for graphic design majors. The Art Institute is one of 46 colleges owned by the for-profit Educational Management Corporation. It calibrates its program and course outcomes carefully to the market through professional advisory committees of respected professionals in its community. Its defining metric of success is what percentage of its students is able to land jobs in their chosen field within six months after graduation (when I taught there during the recession following September 11, 2001, their metric was about 85%).

I brought some of the elements of this course to an upper-division seminar I developed, *Image and Ecology*, taught at the Pacific Northwest College of Art (also in Portland). PNCA is a private non-profit art college, traditionally based in the fine arts but with a small percentage of its students studying Communication Design. Many of the programs' students are as interested in or influenced by the surrounding educational environment of the fine arts. It views itself as experimental and conceptual and aims to graduate "boutique" designers to fill positions in prestigious studios or agencies. A case study of this course is included in the article cited above (Calvelli, 2009).

The most recent iteration of the course was taught in the fall semester of 2009 at the Alberta College of Art and Design (ACAD), one of the four provincial art colleges of the Canadian system of higher education. Like PNCA, it comes out of a fine art tradition, but their visual communication program has a strongly separate self-identity as a design-focused program. Students follow a highly structured sequence of courses; a particular methodology of solving communication design problems is reinforced throughout. The program views itself as international in their outlook, with a roster of alumni internationally, some of who contribute to current students' education through projects managed virtually over the Internet.

First iteration: Meaning and value in image-making

In 2002, I developed for the Art Institute of Portland the required survey course for majors in graphic design, using as my text the third edition of Philip Meggs' *A History of Graphic Design* (Meggs, 1998). To the traditional learning objectives of a survey course I brought two additional ones: first, to understand the history of graphic design within a broad framework of the history of image-making; and second, to be able to interpret this broad swath of images in terms of their meaning and value. This allowed me to foreground the strategic value of a wide diversity of images—from the Sistine Chapel to a Denny's lunch menu. Images typically associated with art history were examined in ways that brought to the fore parallels with contemporary design practice.



Fig. 1: Braun Citromatic de luxe citrus press, model MPZ22

Traditional and modern design images were analyzed in ways that removed them from the expediency of a commercial context in order to understand them as a cultural artifact.

The clear articulation of meaning and value is a challenge, and especially so in graphic design where the meaning of an image – what it communicates – is so closely correlated with its value – what the image *does*, its purpose for being created. A Braun fruit juicer (fig. 1), for example, might look like it is meant to juice fruit, and thus *communicate* its function; but this is only partly true: it also communicates, for example, modern efficiency and stylish classicism. Its function of squeezing juice out of fruit is more easily ascribed to its *value*. On the other hand, the value of a WPA poster for a dance (fig. 2) is intimately correlated with its meaning, the communication of the *what/where/when* of the event as well as its *why*, the joy of dancing.



Fig. 2: Charles Verschuren. *Dept of Parks water carnival: Music, dancing, singing*. 1936.

An image is an extremely efficient means of communicating complex information, which becomes apparent through the challenge of attempting to isolate and separate its meaning and value. We can read images in an instant, even though the effort to manage the communication on the part of the producer can be immense. A designer might achieve this effect not through an immense analytical effort, but rather through an extended synthetic mental process not dissimilar *in kind* to the mental process of a viewer. The ability to synthesize may be dependent – particularly in the case of a young student of design – on a repression of critical awareness of the strategic interests at stake in the image. The exercise of clearly separating the meaning from the value in an image, through the application of a *retrospective* critical analysis develops in the student a strategic understanding of how meanings are constructed for specific social purposes, in a variety of historical and cultural contexts.



Fig. 3: Lester Beall. *Radio*, from the series "Rural Electrification Administration," 1937.

For example, if we were to analyze the meaning and value of the *Radio* poster that Lester Beall designed for the Rural Electrification Administration, we might say its *meaning* is, simply, "Radio is coming to your home, courtesy of the Rural Electrification Administration." Although it isn't technically wrong to say the *value* consists at least in part of informing citizens that "Radio is coming to your home, courtesy of the Rural Electrification Administration," this is both redundant and ignores other values, such as that the poster contributes to a feeling that the government is working to improve your life, or that it increases the chance that you might vote to re-elect FDR for a second term in the 1938 election later that year. Through this type of historical analysis, students begin to understand that the creative activity they engage in not only has the effect of communicating a message in an imaginative or instructive way, but is also implicated in a complex social and political equation of interests and value.

The Beall poster also lends itself to the examination of core meaning, as it is designed with such modern and effective simplicity (especially for America in the 1930s). Encapsulating the meaning of an image into a short statement requires of the student that they unpack both the overt and subtler messages in an image and synthesize them. This process is relatively straightforward in the case of the *Radio* poster: the strong white arrows, with the overprinted "RADIO" text leading to the house, signify "*radio is coming to your home*." The foreground, in perspective, leads our eye to "RURAL ELECTRIFICATION ADMINISTRATION," suggesting "*from (or courtesy of) the Rural Electrification Administration*." What's missing from our analysis is the dominance of red white and blue, the colors of the American flag, and the *modern* design. This latter element might be missed if one didn't know, through historical study, that it was unusual at the time. What we arrive at through the addition of these elements is the following meaning statement: "*The modern technology of radio is coming to your home, courtesy of your government.*"

A more complex image, such as the cover from the 1899 Sears catalog, presents a greater challenge. How do we articulate the totality of what is communicated to us here, in a simple statement? We are presented with a "cornucopia" of elements on the page, to wit: the title of the company, a globe, a goddess emerging from a cloud, a rural landscape, a tagline "Cheapest Supply House – Our trade reaches around the world," a title "Consumers Guide," and a literal cornucopia of overflowing consumer goods – among other elements. This requires a significant effort of synthesis.

The exercise of producing a meaning statement from a complex image (not only number of elements, but also subtexts, ironies, strategic positioning and the like) develops in the student an imaginative ability to put oneself *in the place of* a material artifact for the purpose on understanding the agency of design. "*If you were this image*, I ask them, how would communicate your meaning to me verbally?" I encourage them to use the first person: "I [Sear's Roebuck] reach around the



Fig. 4: Unknown. *Sears catalog cover*. 1899

world in order to magically bring to your remote hamlet an abundance of useful things to consume. Here is your guide to our riches.”

Second iteration: Introduction to the reverse design brief

I introduced the reverse design brief to the course in 2003 and still use a modified form of it today. There were both pragmatic and pedagogical reasons for its introduction. I wanted to create a more relevant framework for students at the Art Institute of Portland, all of who had solid ambitions to enter industry. I also felt that the core concepts of meaning and value would be better understood within the more context sensitive design brief format.

The design brief I use is oriented towards visual communication practice, and consists of six questions: *What is the project?*, *Who is the client?*, *Who is the audience?*, *What is the core message?*, *What is the hoped-for outcome?*, and *What is the graphic strategy?* The core message and hoped-for outcome correlate closely with the meaning and value; the additional elements add the possibility for more analytical rigor as well as strengthen the tie to design practice.

For the purposes of this paper, I ask the reader to keep in mind a few points: first, although the form of the brief is quite simple, the reverse brief technique requires a considerable amount of practice on the part of the design student. Indeed, even after teaching this course over a dozen times, I still find much to discover through the dialogic analysis we engage in. It becomes both an analytical and synthetic exercise; the students’ historical imagination is provoked, and the need for historical context is emphasized. More importantly, even though during this pedagogical iteration I wasn’t yet emphasizing designs’ future effects, the reverse brief technique squarely places the artifact in a conceptual space that foregrounds its *designing agency*, unlike courses based on a more traditional art historical model.

The following is an example I have used to introduce the format to the class, which analyzes a UPS logo from 1961 by Paul Rand, a designer who is often already known and respected by students before they take the history of design class. By citing this example, I intend only to demonstrate its basic organizing structure and use – how it works.



Fig. 5: Paul Rand. *UPS logo on truck*. 1961.

Reverse design brief as applied to the 1961 UPS logo designed by Paul Rand

1. **What is the project?** *Design a logo for UPS.*
The project is defined as a denotative statement that clarifies the final image artifact. It is also an important entry point for students to imagine themselves as the designer with a project crossing their desk (in whatever historical era is being considered).
2. **Who is the client?** *UPS was the largest parcel delivery service in the United States at the time, competing with the US Postal Service.*
The client is described in terms that add strategic value both to the brief and the resulting design. This encourages the students to examine their assumptions regarding the client. From an historical perspective, it is also an opportunity to examine the diverse institutional relationships (the “client” writ large) that exist between image producers and those they are answerable to, in whatever manner.
3. **Who is the audience(s)?** *Businesses that regularly ship or receive parcels; Families outside of large metropolitan areas who rely on the mail for deliveries.*
There are also a wide variety of *types* of audiences, depending on the particular historical and social circumstances. Many students have only a vague sense of audience even in a contemporary context. This part of the brief allows them to see the work they do not in terms of a universal “other,” but rather in relation to specific, historically based social bodies.
4. **What’s the core message?** *“Your special package is safe with us.”*
“Core message” correlates with the term “meaning” used in the meaning/value analysis. The brief form allows the message to be isolated, disencumbered by extraneous information that fits better in other “buckets” of the brief.
5. **What’s the hoped-for outcome?** *Potential customers would trust UPS for all kinds of packages from delicate equipment to Christmas gifts, and come to rely on its service.*
This question and response correlates with “value” in the meaning/value analysis. In order to articulate the hoped-for outcome, the student needs to have an understanding of the values of the particular historical time and place for which the image was created, which requires not only research but also the beginnings of an historical imagination, an ability “to join the past, the present and the future” (Munslow, 2006).

6. **What's the graphic strategy?** *Paul Rand kept the logo simple so it was easily recognized. The color brown became associated with UPS and differentiated the company from the US flag colors of USPS. He designed it as a shield form in order to convey safety. The ribbon was used to suggest the anticipatory joy that comes from receiving a gift, which would become associated with using UPS.*

The graphic strategy is an opportunity for the student to put himself or herself into the position of the designer solving the strategic design problem which, in general terms, can be defined as using visual communication to produce social value. They can imagine, each step of the image-makers' moves, and tie it to an existing element of the already-articulated design brief. Otherwise, they can focus on elements of the brief and figure out how the image-maker solved the problems encoded there.

Third iteration: Design history and designing effects

I was hired by the Liberal Studies department at the Alberta College of Art and Design in Calgary to teach their design history and theory courses beginning in the fall semester of 2009. The history course – *Critical Contexts in Modern and Contemporary Visual Communication Design* – is the major survey for Bachelor of Design students in the Visual Communication Design program.

In order to focus attention on the designing effects of design, I added an additional question:

7. **What are the designing effects?** *The brown logo-branded trucks would become ubiquitous on American streets as UPS became the only competitor to USPS. Consumer shopping became much easier and goods could be made farther from the consumer. This increased the use of fossil fuels for transportation.*

Note that the example imagines the designing effects of the simple logo and graphic identity within a reasonably grounded historical framework. A direct correlation between the logo and what is described is not assumed: in a complex relationship involving business, transportation, consumer behaviour and other factors, it would be impossible solely to isolate the role of design. Lorraine Code calls this "ecological thinking," which she observes "may indeed appear to restrict the range of justifiable, definitive knowledge claims, yet it maintains vigilance for irresponsible, careless, too-swift knowings that fail to do justice to their objects of study" (Code, 2006)

Elements of the traditional historical survey course were still present though weekly slide lectures and the use of the updated *Meggs' History of Graphic Design* (Meggs, 2006) as the required text.

It is a complex endeavour simply to adequately represent the history of design in a traditional chronological fashion. In addition to this objective, I also set myself the task of teaching the students to use the design brief to interpret historical images, and to foster an awareness of the "designing effects of design." By midterm, it was evident that I needed to find a way to increase depth of understanding while teaching to all of these objectives. To achieve this, I ceased reviewing students' reverse brief assignments during class, and instead used the time to engage the entire class with a dialogic analysis of a few images chosen for this purpose.

This had the effect of transforming the course into an in-depth, exploratory workshop in image analysis. It became a collaborative dialog of perspectives, relying both on analytical skills and imagination, with historical suppositions validated through on-the-fly online searches conducted by a few laptop-enabled students. Sometimes, the entire second half of the class would be devoted to the analysis of one image; we seldom were able to adequately analyze three images in the time allotted to us. Considered from this standpoint, the class was a success. In terms of an exit competency of being able to apply a course in design history to the task of creating future, we will have to rely on the modest evidence of written excerpts from the final assessment, for the purpose of this paper answering only the question: *what is the designing effect of [this] design?*"

Examples

For the final, I selected twenty images as a study guide, testing them on five, using the revised reverse design brief format. I emphasized that I would be expecting a thorough knowledge of historical context, and placing particular emphasis on their ability to analyze the images' designing effects. In the responses that follow, it should be kept in mind that the ones included do not represent the level of competence of the students as a whole. In teaching liberal studies courses to studio art and design students at three colleges of art and design, I have come to expect a wide variance of interest and ability in non-studio courses. Although it is important to reach the widest range of students when the purpose of the course is to affect practice, I did not find the responses of those students who have less interest or ability to succeed in the course to illuminate in what manner the pedagogy might have succeeded or failed. I will therefore not be sharing them. I will address some potential future revisions, however, in the findings.



Fig. 6: Wurlitzer Jukebox and Vending, Inc. *Wurlitzer One More Time CD jukebox*. 2006. Based on the 1946 Model 1015 by Paul Fuller.

The Wurlitzer jukebox

The first image I presented to the students was a Wurlitzer jukebox – actually, a 2006 remake of the original version. As a faithful remake of the 1946 Model 1015, whose image was unavailable, I encouraged them to analyze it as if it were the original. I instructed them to pay close attention to its image design.

One student focused on copyright issues:

Jukeboxes, like every other advance in musical technology, created a stir among music rights owners (corporations, not artists), leading to lawsuits in the 40s and 50s. The recording industry lost, as it was judged that they had already been paid for the royalties of selling the storage media (like phono-records like vinyl and CDs that the jukebox used).

Another was more concerned with its effect on music production and technology:

It probably had a hand in shortening music to the 3- to 4-minute song we are used to today. By allowing the user to dictate the music and order, they jukebox became an early precursor to today's iPods or mp3 players, with their own personal collections and playlists.

This response notes the possible effects upon the musician:

Since live music had always been part of the social scene in all pubs and bars across every continent, a machine that replaced musicians could have been potentially damaging to their income. Freestyling in a small venue would be less common, as managers and owners of said venue would cut back continually.

The jukebox hasn't held such historical significance since Jack Kerouac wrote the introduction to Robert Frank's *The Americans*:

It is only a short step from soda pop culture to the revolution of the hippies: the jukebox opened the door to more cultural freedom.

One can see in these examples sensitivity to legal, technological, aesthetic, labor and cultural issues as an effect of the introduction of a designed artifact into the world.

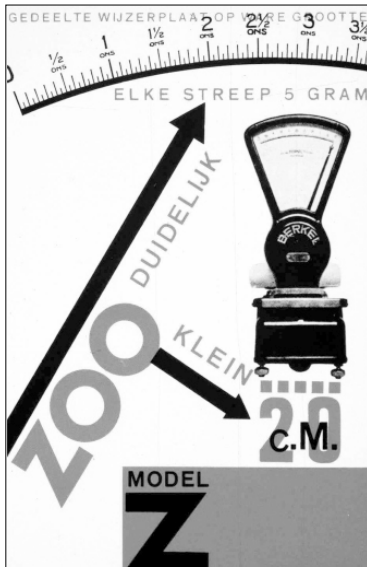


Fig. 7. Paul Schuitema. *Brochure cover for P. van Berkel Ltd.* Rotterdam, circa 1928

Brochure cover by early modern Dutch designer Paul Schuitema

Many students commented on the rise of efficiency and standardization arising from this promotional flyer for P. van Berkel Ltd., Rotterdam:

By the use of these scales, along with other products like automated slicers becoming widespread, a more accurate standardization in food purchases began to develop.... This accuracy came to be expected, in the same way that we today expect our Starbucks triple-grande extra-hot caramel macchiato to taste exactly the same every time. Standardization!

It is interesting that the student is able to make a leap from a rather unconventional layout design (even in today's terms) to an effect of standardization. Would this insight have been made in a course that restricted itself to analysing the historical specificity and radical innovation of the phenomenon of Constructivist design, or its influence on future design movements?

Cranbrook Academy of Art recruitment poster by Katherine McCoy

The analysis of a Cranbrook Academy poster became an opportunity to reflect on the influence of the design profession itself, as can be seen in both these examples:

Work like this acts as an early bearer of the responsibility of bringing the digital method into general acceptance and to merge it with real life. If the designers – who are altering the experiential world of everyone else to a huge degree – begin to utilize a technology, it becomes ingrained in culture. The acceptance of computer technology owes as much to projects like these and to schools like [the] Cranbrook Academy.

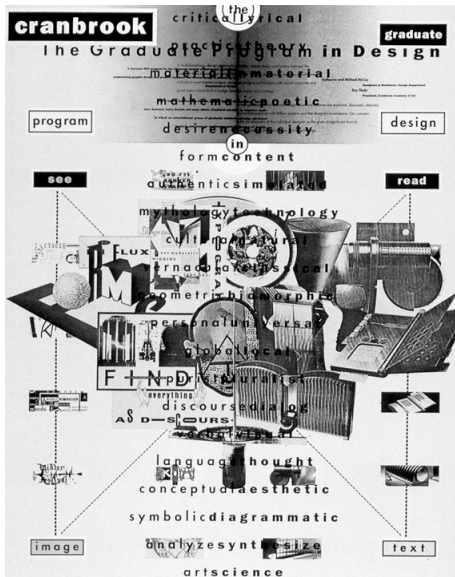


Fig. 8: Kathy McCoy. *Cranbrook recruitment poster*. c. 1988.

Another student commented:

According to New York Times in 1984, "the effect of Cranbrook and its graduates and faculty on the physical environment of this country has been profound."... Perhaps this has created a desensitvity in Americans, and all the developed world; that in being used to seeing innovative design around them all the time, they have stopped appreciating the beauty of images in favor of demanding things also be new?

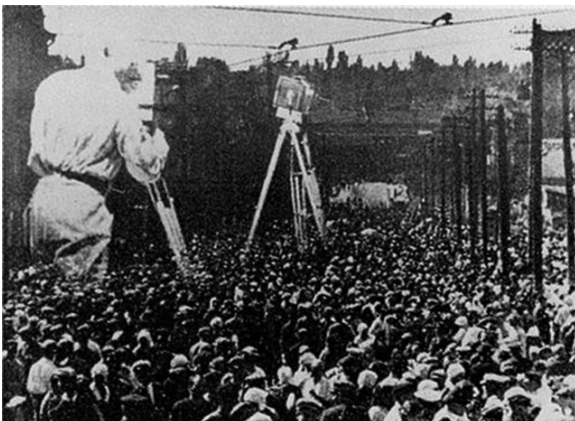


Fig. 9: Dziga Vertov. Still from *Man with a Movie Camera*. 1929

Still from Dziga Vertov's *Man With a Movie Camera*

A few of these interpretations of this still from his seminal early Soviet film, *Man With a Movie Camera* might have stirred Vertov from his grave. The responses point to the limits of predicting the designing effects of design, as well as to the nature of design as always already co-opted.

(Student 1) Perhaps this did work to create a sense of pride and unity among people. Perhaps they worked a little harder for a while. Could this movie have assisted in lulling them into a sense of complacency, while Stalin's iron fist gripped them tighter and tighter?

(Student 2) He...in a large part foresaw the unobtrusiveness of cameras and the ability of a cameraman to go almost anywhere.

(Student 3) *[His] controversial documentary film led to the very beginning of the billion-dollar industry that is reality television. His ideas about not staging [a scene] yet [still staging it] behind-the-scenes are the very basis of most television today.*

Findings

As these last responses attest, a designer cannot fully predict the effect his work will have on the future. There is a good argument to be made that it is better to teach to the possible – how to solve a specific design problem located at a specific point in time and space – than to flirt with the impossible – how to take in account the enormous possibilities of permutation and perversion that comes with the releasing any artifact into the world to begin its work of designing over time.

But if we agree that our global society exists in a state of unsustainability (IPCC, 2007), and that this condition limits the time of human future, then we must develop ways of being in the world that have the capability of creating more future rather than less.

We cannot validate a claim that the knowledge gained from a course in the history of design will contribute to the creation of more future. The selected student responses to the question of the designing effects of design do exhibit sensitivity to the work of design in time, in ways that exhibit both insights and elisions characteristic of undergraduate work. I believe they *were* able to parse existing designed artifacts in ways that exhibit an ability to understand these artifacts in terms of their potential future effects – though more could be accomplished.

Additional class time could be spent in the analysis of images rather than in the presentation of chronological lectures. The recent publication of the *Design History Reader*, by Hazel Clark and David Brody presents, by its very publication, a compelling reason to abandon the survey textbook in favour of an approach that prioritizes a critical framework that has relevance to, but is not overdetermined by a chronological approach to history. Students easily become overwhelmed by the confusion of priorities that is caused when critical concepts, like futuring, conflict with expectations they bring with them from their art history survey course.

The reverse brief technique, adapted to emphasize futuring effects, has provided a context where both past and future have a relevance to present practice. It is not a necessary prop, however. It is useful only insofar as traditional design history pedagogy may be inverted into one that prioritizes future by re-contextualizing historical knowledge. Where once we emphasized the past for students without historical consciousness, now we can emphasize the future in order that our students may respect the past for its power either to limit or extend future.

The deciding questions would remain: does this awareness have the likelihood to be applied to practice and, if so, would it have better potential to create future compared with a practice not so informed? If internalized by practice throughout the course, the inclusion of a question concerning the designing effects of design within the format of a commonly used design brief makes its application to practice more likely. As to it's potential to create future? *Time will tell*. Compared to a pedagogy that stresses the designed artifact more than the artifacts' *effects*, it seems it would have a better chance.

Conclusion

At a time when the additive material extraction and cumulative environmental degradation exceeds our ability to sustain human life into the indefinite future, the context of our learning and our designing must change. Historical study then becomes the imaginative, practical and necessary challenge of our time.

References

- Calvelli, J. (2007). Design, designing, designing designers, and redesigning designing: a fable on sustainment. *Visual Research Scholarship*, 3 (2). Retrieved May 5, 2010 from <http://research.agda.com.au/index/index/volume/1>.
- Calvelli, J. (2009) Unsustainable histories, models of practice. *Design Philosophy Papers*, 2009 (2). Retrieved May 5, 2010 from http://www.desphilosophy.com/dpp/dpp_journal/journal.html
- Heller, S., & Ballance, G. (2001). *Graphic design history* (p. 355). Allworth Communications, Inc.
- Code, L. (2006). *Ecological thinking*. Oxford University Press US.
- Cooper, R. D. (2009). Keynote lecture. Presented at the 40 IADE 40: Unidcom 2009 International Conference, Lisbon, Portugal.
- Fernie, E. C. (1996). *Art history and its methods: a critical anthology*. London: Phaidon Press Ltd.
- Fry, T. (1999). *A new design philosophy: an introduction to defuturing*. Sydney: UNSW Press.
- Intergovernmental Panel on Climate Change. (2007). *IPCC fourth assessment report on climate change 2007*. Geneva: Intergovernmental Panel on Climate Change. Retrieved from http://www.ipcc.ch/publications_and_data/ar4/syr/en/contents.html
- Meggs, P. (1998). *A history of graphic design* (3rd ed.). New York: John Wiley.
- Meggs, P. (2006). *Meggs' history of graphic design* (4th ed.). Hoboken N.J.: J. Wiley & Sons.
- Munslow, A. (2006). *The Routledge companion to historical studies* (p. 17). Taylor & Francis.
- Orr, D. W. (2004). *The Nature of design*. Oxford University Press US.
- Shiner, L. E. (2001). *The invention of art: a cultural history*. Chicago: University of Chicago Press.
- Twemlow, A. (2006, Spring). Review: End of history? Graphic design hasn't started. *Eye*, (59). Retrieved January 10, 2010, from <http://eyemagazine.com/review.php?id=130&rid=633&set=700>.
- Willis, A. M. (2006). Ontological designing – laying the ground. *Design Philosophy Papers*, 2006 (2). Retrieved February 20, 2009, from <http://www.desphilosophy.com/dpp/home.html>.

Author Biography

John Calvelli

As a design educator, theorist, designer and photographer, John Calvelli explores visual representation and seeks to assist the design profession in designing a world which sustains. A recent contributor to *Design Philosophy Papers*, he is currently working on a photographic series *Remnants: Nature + Politics*. As a designer, he has directed the department of graphic design at The Museum of Modern Art in New York. He teaches design history and theory at the Alberta College of Art and Design in Calgary, Canada.