

**CURRENT POSITION**

2001-Present Associate Professor (promotion effective April 1, 2009)  
Master of Environmental Design Program  
Faculty of Environmental Design  
University of Calgary

**AREA OF RESEARCH INTEREST**

In his essay “Wicked Problems in Design Thinking” Richard Buchanan notes that design has no distinct subject of its own.<sup>1</sup> Industrial designers will tackle the design of all types of artifacts and in doing so apply knowledge from a wide spectrum of inquiry. This includes insights from art, science, engineering, material science, manufacturing technologies, emerging technologies, ergonomics, psychology, anthropology, business development, kinesiology, culture, history, and so on. Indeed the list continually expands with emerging areas of sustainability and bio-mimicry as recent additions.

Yet, for design thinking, it is not so much ‘what’ designers think about, but rather ‘how’ they think about things that is important. In effect, design, when considered as a subject, represents an area that addresses the *application* of knowledge in resolving a *specific* problem. The ‘how’ of such design thinking is evident in Buchanan’s notion of “placement”,<sup>2</sup> Krippendorf’s view of “context”<sup>3</sup> and even ideas of 3D composition as espoused by Kostellow.<sup>4</sup> And all of these insights can further be seen to echo Lehar’s discussion of Gestalt perception.<sup>5</sup> The intent of my research then, is to build on and tie together these ideas of perception and sense-making into a theoretical framework that addresses the elements and mechanisms inherent to design thinking.

1. Richard Buchanan, “Wicked Problems in Design Thinking” in *The Idea of Design* ed. Victor Margolin and Richard Buchanan, 3-20 (The MIT Press: Cambridge, Massachusetts, 1995): 10.
2. Ibid.
3. Klaus Krippendorf, “On the Essential Contexts of Artifacts or on the Proposition that ‘Design is Making Sense (of Things)’” in *The Idea of Design* ed. Victor Margolin and Richard Buchanan, 156-184 (The MIT Press: Cambridge, Massachusetts, 1995): 159.
4. Gail Greet Hannah, *Elements of Design: Roweena Reed Kostellow and the Structure of Visual Relationships* (New York, New York: Princeton Architectural Press, 2002): 50.
5. Steven Lehar, *The World in Your Head: A Gestalt View of the Mechanism of Conscious Experience*. (Mahwah, New Jersey: Lawrence Erlbaum Associates Publishers, 2003).

**AREAS OF EXPERTISE & TEACHING**

- Environmental Design Foundation Studio
- Design, Design Theory and Design Thinking
- Design Studio (introductory and senior)
- ID Professional Practice
- Design Drawing Skills and Studio Techniques
- CAD (computer aided design) for Industrial Design (software taught includes Adobe Illustrator, Alias Studio Tools and Solidworks)
- Rapid Prototyping and Digital Processes in Industrial Design & Manufacturing
- Manufacturing Materials, Technologies and Processes,
- Product Photography (as a subset of ID studio)

**EDUCATION**

- 1991 Master of Environmental Design (Industrial Design), University of Calgary,  
*MDP: Events at the Buffalo Jump: A Theoretical Exercise in Industrial Design*
- 1983 Bachelor of Environmental Studies (Architecture), University of Manitoba

**PROFESSIONAL DEVELOPMENT**

- 2003 Mastercam CAD/CAM: 4 day instructional clinic.
- 2003 Thermwood Corporation: 5 day instructional clinic on the use of 5-axis CNC router.
- 1996 National & Alberta Research Councils instructional clinic: Plastic Piece Part Design for Injection Molding.
- 1995 Canadian Plastics Institute instructional clinic on thermoforming plastics.

**TEACHING****Current Appointment (Courses Taught)**

- EVDS 683.62/EVDA 581/ARST443 Studio I: Design Thinking: this is an introductory, interdisciplinary foundation studio course open to MArch and MEdes students. This course is team taught with all instructors involved throughout the course.
- EVDS 683.61 Interdisciplinary Seminar: this is a theory companion course to Studio I above addressing the conceptual framework of environmental design as a field of inquiry. This course is team taught with all instructors involved throughout the course.
- EVDS 533 Introduction to Industrial Design: 1 of 5 instructors; developed new material on professional practice, typically conducted over 4-5 lectures.
- EVDS 604 Conceptual Framework of Environmental Design: participated as part of a team of professors to re-tool this course. I developed course material on industrial design within the larger environmental design framework and on design thinking.
- EVDS 635 Computer Applications in Industrial Design: CAD software programs taught include Solidworks, Adobe Illustrator and Alias Studio Tools.
- EVDS 652.10 Basic ID Studio I: developed foundation curriculum in 2D & 3D design for industrial designers.
- EVDS 652.20 Basic ID Studio II: developed a series of studio exercises to further develop students' awareness of materials and users.
- EVDS 665 Drawing Skills and Studio Techniques for Industrial Designers: developed drawing course for industrial designers (reference *Design Drawing* by Francis Ching, *Perspective* by Robert Gill, dedicated industrial design drawing work referencing

*Design Rendering Techniques* by Dick Powell, and examples of design development drawing in *Design Secrets: Products*).

- EVDS 689 Industrial Design Material and Manufacturing Technologies: this course offers instruction and exposure to the materials and technologies typically used in the production of manufactured goods. It also covers the generation of technical (or working) drawings to communicate design intent for manufacture/fabrication.
- EVDS 792.10 Studio in Industrial Design III: Course Manager and 1 of 2 instructors for this senior level industrial design studio course with a focus on developing professional design thinking skills and broad design considerations such as user needs.
- EVDS 792.20 Studio in Industrial Design IV: Course manager and 1 of 2 instructors for this senior studio in industrial design course with a focus on design theory and further professional skill development.
- EVDS 792.70 Industrial Design Portfolio: students in developing their portfolios as a presentation aid in seeking professional employment.
- EVDB Block Courses: aided in managing courses that brings high profile design and design educators to EVDS, including Professor Ezio Manzini of the Politecnico di Milano, Penny Sparke and upcoming in 2007, Michel Dallaire.

### Thesis Supervision

- Anya Smith *A Concept Design for Globally Tracking Male Polar Bears*, (in progress)  
 Cathy Martin *Untitled*, (in progress)

### MDP (Masters Design Project) Supervision

- Anna Mandelkau *The Slow See*, 2009  
 Shaw Kinjo *Graffiti and the Built Environment: Exploring Graffiti and Public Space through Design*, 2009  
 Ben Millen *Critical Wayfining: or a Psycho-Spatial Model for Critical Design*, 2009  
 Connor Haydek *Objects Out of Context: Creative Misuse as Cultural Participation and Creative Expression*, 2008  
 Khalil Jamil *Decide Dish*, 2007  
 Joel Tobman *Re-materials: Manufactured Goods as Raw Materials in the Creation of New Products*, 2007  
 Kent Hawkins *An Equipment Development Brief for Field Marketing*, 2006.  
 Anita Modha *The commonSPACE*, 2005.  
 C. Lenko *The Role of Inspiration in Industrial Design, a Case Study*, 2004.  
 R. Meziere *Surface Depth: A Design for Retail Cosmetics*, 2004.  
 Kevin Brown *Willow: Poetry of Place: Outdoor seating Concepts*, 2003.
- Eric Au *Untitled*, (in progress)  
 Christopher Patton *Untitled*, (in progress)

**MDP Committee Member**

- H. Albrecht      *Explorations in Sustainable Product Design for Small Scale industries in Mexico*, 2005.  
 A. Gellion        *Personal Money Management Products for a Cashless Society*, 1999.

**MDP Dean's Appointed Examiner**

- Darren Lee        *Designing for Early Post-Secondary Design Education*, 2006.  
 Jared Girman     *Case study: Mad Creations and the Growth of a Design Business*, 2004.  
 Brett Myers       *Drop In: Topics in Architecture from a Study of Daydreaming*, 2004.  
 Scott Pickles     *Unfurling Form: Exploring the Evolving Relationship between Architecture, Technology and Culture*, 2003.  
 Sarah Phillips    *Design Entrepreneurship: The Start Up of Red Matter, Contemporary Furniture Manufacturer*, 2003.  
 Maria Del Carmen Teresita Carmona Vinas  
                          *Power Bars: A Virtual Environment for Learning Energy Efficient Design*, 2002.  
 T. Griffin         *The Adaptive Laptop*, 2001.  
 Biba Tharp        *The Eye of the Beholder: A Display System for Eyewear*, 2000.

**Appointed Thesis Examiner**

- Jaime Barrett    *The Hybrid Designer*, 2008 (Completed for MAA (Masters of Applied Art), Emily Carr Institute of Art and Design)  
 Hélène Fraser    *Exploring Change: the Object – Identity – Consumption Dynamic*, 2008 (Completed for MAA, Emily Carr Institute of Art and Design)  
 Sarah Hay         *Slow Design and the Lost Art of Shifting Gears*, 2008 (Completed for MAA, Emily Carr Institute of Art and Design)  
 David Humphrey *Blurring the Lines Between the Digital and Physical: Designing a User-Interface to Create the 21<sup>st</sup> Century Town Square*, 2008 (Completed for MAA, Emily Carr Institute of Art and Design)  
 Nathan Winkel    *Medical Mapping Methods: Designing Interactions for Self-Care*, 2008 (Completed for MAA, Emily Carr Institute of Art and Design)  
 Katheryn Elliot   *Contextual Locations in the Home*, 2006 (Completed for MSc, Dept of Computer Science, U of C)

**Other Teaching**

Invited Critic: December 2009, 4<sup>th</sup> year Mechanical Engineering Design Course review at the University of Alberta.

Invited Speaker: Winter 2007-9, 4<sup>th</sup> year Mechanical Engineering Course ENME 538.

Invited Speaker: variously for EVDS courses EVDS 683.68 (Commercializing ID) and EVDA 682.02, Architecture Studio III (for expertise in materials).

Invited Speaker: 2005, University of Alberta, Faculty of Engineering, Mechanical Engineering presentation on Industrial design.

Sessional appointment, 1997-2001: EVDS 665, 652.20, 689, 792.10, 792.20

**SCHOLARLY ACTIVITY****Book Chapters**

Wylant, Barry. "Significance Beyond Functional Singularity" in *Enabling Solutions for Sustainable Living: A Workshop with Ezio Manzini*. Manzini, Walker, Wylant eds. the University of Calgary Press, Calgary. 2008.

Walker, Stuart and Wylant, Barry. "Workshop Theme Envisioning a Culture of Sustainability" in *Enabling Solutions for Sustainable Living: A Workshop with Ezio Manzini*. Manzini, Walker, Wylant eds. the University of Calgary Press, Calgary. 2008.

**Journal Articles**

Wylant, Barry. "Design Thinking and the Experience of Innovation" in *Design Issues*. Cambridge, Massachusetts: MIT Press, (Volume 24, Number 2, Spring 2008).

**International Conference Proceedings**

Wylant, Barry, 2009. "Design Thinking and the Question of Modernity," *Design Connexity: Eighth International Conference of the European Academy of Design Proceedings*. Malins, ed. Aberdeen, Scotland: Gray's School of Art, The Robert Gordon University. (Note this paper was 'top rated' and is to be included in an upcoming issue of the Design Journal).

Wylant, Barry, 2006. "Crash: And the Enduring Legacy of Futurism" accepted for publication in the proceedings for the Hawaii International Conference on Arts and Humanities, Jan. 2007.

Wylant, Barry, 2006. "Harmonic Contexts and the Gestalt of Design Thinking" accepted for publication in the proceedings for the Hawaii International Conference on Arts and Humanities, Jan. 2007.

Wylant, Barry, 2005. "Exploring Dimensions of Design Thinking" in *Crossing Design Boundaries: Proceedings of the 3<sup>rd</sup> Engineering and Product Design Education International Conference*. Rogers, Brodhurst and Hepburn, eds. London: Taylor and Francis.

Wylant, Gellion, & Badke, 2005. "Futurism & Dada: Theoretical Adventures in Design Context" in *Crossing Design Boundaries: Proceedings of the 3<sup>rd</sup> Engineering and Product Design Education International Conference*. Rogers, Brodhurst and Hepburn, eds. London: Taylor and Francis.

Wylant, & Badke, 2005. "Placements: Contextualizing Design Thinking" in *Eastman IDSA National Education Conference 2005 Proceedings*. Dulles, VA: IDSA.

Wylant, Barry, 2004. "Aesthetics and Solidworks CAD Modeling" electronically published in the proceedings for the *Solidworks World Conference 2004*, Boston, Massachusetts.

Wylant, Barry, 2004. "Industrial Design Insight: Seeing Technology in the Widest Possible Sense" in *Eastman IDSA National Education Conference 2004 Proceedings*. Dulles, VA: IDSA

Wylant, Barry, 2003. "Exploring Notions of Formal Dominance in CAD Use and Education"

in *Eastman IDSA National Education Conference 2003 Proceedings*. Dulles, VA: IDSA

Wylant, Barry, 2002. "Industrial Design and Innovation Theory: A Basis for Describing the Experience of Innovation" in *IDSA National Education Conference 2002 Proceedings*.

### Other Publications

- 2009 Studio course work from a course that I taught was featured in an article published by Avenue Magazine regarding high concept design.
- April 2005 *Coreflot* Design Blog: Coreflot editors favourably reviewed my presentation *Crash: And the Enduring Legacy of Futurism* presented at the IDSA Western Region Conference at the Emily Carr Institute, Vancouver, BC. (see Invited Presentations below).
- 2005 *Innovation*: collection of my students' work published as part of review of North American design schools (*Innovation: Quarterly Journal of the Industrial Designers Society of America*. Dulles, Va.: IDSA (Spring, 2005)).
- 2004 *Avenue Magazine*, Calgary (May '04 issue): two products I was responsible for the design or design management of (both sports related) were featured in this issue: SwingJacket golf training aid (product launch 2001) and Chariot Carriers bicycle trailer wheel design (featuring designer Antony Gellion, launched 2001).
- 2000-2 Various US/Canadian based golf publications featured favourable editorial reviews of the Swing Jacket golf training aid, which I designed in 2000. Publications include Golf Magazine, Golf Tips, Golf Illustrated, Golf Product News, Golf Retailer, PGA Tour Partners, and Popular Science (this item is also noted under my Professional Activity).

### Video Production

- 2007 I participated with Denis Gadbois and the U of C Learning Commons in the production of a video interview with Michel Dallaire, a prominent Canadian industrial designer. Mr. Dallaire, participated in an EVDS Block Course that February and later in the year he received an honorary degree from the University of Calgary.
- 2004 Title: *Enabling Solutions*: I participated with Dr. Stuart Walker and the U of C Learning Commons in the production of a video with Ezio Manzini, a prominent industrial design educator from Italy and expert in sustainability.

### **Fund Raising**

2003-4            Together with Dr. Stuart Walker, we raised approximately \$20,000 for the block course with Ezio Manzini for the production of a DVD video and future booklet publication.

### **PROFESSIONAL ACTIVITY**

#### **Professional Affiliations**

2001-present    Member of Industrial Designers Society of America (Alberta Chapter)

2001-present    Fellow of THECIS (The Centre for Innovation Studies, Alberta)

#### **Gallery/Museum Shows**

2006            “Alberta at the Smithsonian” Smithsonian Museum, Washington DC. Two of my professional projects were selected (by Alberta reviewers) for inclusion in this show: Madentec Tracker (hands-free computer mouse and winner of 1996 Design Distinction Award from ID Magazine, NY) and the Cougar 1 child carrier from Chariot Carriers (unit displays both the VersaWing and Wheel components, designed with Antony Gellion).

2005            EVDS Gallery Show at the Calgary Chamber of Commerce

2004            Artspace Gallery, Calgary: Imaging Dynamics Xplorer 1700 displayed as part of inaugural IDSA Alberta Chapter Show.

#### **Awards**

2005            My client Robin Winsor, founder of Imaging Dynamics Company, was a recipient of the Manning Award for Innovation. Mr. Winsor kindly acknowledges the role of my industrial design efforts in significantly aiding IDC in the development and commercialization of its innovative technology.

1997            “Best New Security Product” for the TelAlert TA2000 security phone at the 1997 Consumer Electronics Show in Las Vegas, Nevada.

1996            “Design Distinction Award” for the Madentec Tracker, hands-free computer mouse for people with disabilities, awarded by International Design Magazine, NYNY.

#### **Industry Specific Editorial Review**

2001-2            The Swing Jacket (see below) received favourable editorial reviews in the following golf and technology publications: Golf Illustrated, Golf Product News, Golf Tips, Golf Retailer, and Popular Science.

#### **Invited Presentations**

2005            *Crash: And the Enduring Legacy of Futurism* presented at the IDSA Western Region Conference at the Emily Carr Institute, Vancouver, BC.

2004            *Professional Practice and the Delivery of Design Thinking* presented to the Graphic Designers Society of Canada, Southern Alberta Chapter, Calgary.

#### **Patents**

2009            Child Carrier Vehicle: 1 of 4 authors included in Patent (US) for Chariot Carriers Inc. of Calgary.

#### **PROFESSIONAL ACTIVITY: SELECTED PROFESSIONAL PROJECTS**

Given the notion (described above) that a fundamental character of design lies in the manner in which general knowledge is applied in a specific situation, experience in executing design projects would therefore seem to be essential to inform theoretical insights about design thinking. Fortunately I have extensive experience in designing new products that enter production and are commercialized, typically at the rate of at least 1 or 2 per year.

The effort to complete a specific industrial design is intensive; some projects may take 700 hours, most require approximately 300 to 400 hours. It is important to note that in a manner similar to an editor's decision to publish a book, manufacturers do not easily or lightly undertake the development and commercialization of a given product. Given the high capital investment required to launch a new product, extensive consideration and review is given to the proposed design to ensure its ability to meet a range of functional, manufacturing, business, commercial, legal and user requirements. In this, my design work is typically reviewed by engineers and business executives and many others involved in the collaborative effort of developing new products. My professional efforts have aided niche market manufacturers (typical of my Alberta based clients) to launch their products into an international arena. Much of the design work noted below is distributed internationally in the US and the Americas, EU, and Asia. For instance Madentec is one of the few Canadian electronics manufacturers to export to Japan. IDC (a Manning Innovation Award winner) markets their imaging equipment across the globe and Chariot Carriers has a strong market presence in the cycling savvy European market. Further, while opportunities for third party peer review of such work is limited in Canada (versus the awards available to other professions such as architecture and engineering) my clients have been recognized for the innovation evident in their products through awards, design competitions/shows, editorial review in industry magazines and in one patent application.

#### **Partner in WILLIAMDEAN Product Design**

(Since 2005 and note WILLIAMDEAN design work has been completed in a collaborative effort with Antony Gellion)

2008            Currently involved in the design of an innovative computer interface device with Madentec Ltd. of Edmonton, AB. Unfortunately I am bound by contract to the confidentiality of this endeavor until the product is introduced into the public realm.



- 2007 Footpod (activity monitor pod) completed for Dynastream Innovations and now marketed internationally by the US based GPS electronics firm Garmin as part of its Forerunner 50 product line.
- 2005 Intelliswitch industrial design for Madentec Inc., Edmonton: electronic learning/enabling interface device for people with disabilities.
- 2005 Spider Boot industrial design for Tenet Medical Engineering, Calgary: device to secure a patient's foot and leg in traction during hip and knee surgeries. Tenet markets its product in NA, the EU and Asia.
- 2005 'Versa-Wing' design for Chariot Carriers Inc., Calgary: device that allows the mounting of various configuration kits (jogging, strolling, XC skiing, hiking, cycling) for multifunctional sport child carrier (CCI markets to NA, the EU & Asia).

### **Q Industrial Design Corporation**

(my own company since 1997)

- 2004 Industrial design for Xplorer 1800, digital imaging device (digital x-ray) for Imaging Dynamics Company, Calgary. It should be noted that IDC is a recipient of the Manning Award for Innovation and IDC founder Robin Winsor acknowledges that my industrial design work on a number of projects has played a role in this. IDC also markets its products in NA, the EU, the Middle East and Asia.
- 2003 Industrial design of Activity Monitor Pod (AMP) leg-holster, Dynastream Innovations, Cochrane: device to hold a small electronic device to the leg. The AMP monitors and tracks activity as part of treatment for diabetes and other ailments and is used in a variety of medical/fitness research projects. The device must be worn continuously for several days, including time spent in the bath or shower and so had significant human factors issues to be addressed.
- 2002 Industrial design for Xplorer 1500, digital imaging device (digital x-ray) for Imaging Dynamics Company, Calgary.
- 2001 Industrial design for Xplorer 1700, digital imaging device (digital x-ray) for Imaging Dynamics Company, Calgary (industrial design of this product allowed IDC to enter the marketplace with their technology).
- 2001 Wheel design for Chariot Carriers Inc., Calgary: includes both 16" and 20" injection molded plastic wheel designs for multifunctional sport child carrier (designed with Antony Gellion).
- 2000 Industrial Design of the SwingJacket, golf training aid for Swing Jacket Inc. (research for this product represents significant user input, including research with the HPL (Human Performance Lab) on the U of C campus and testing of 65 with more than 300 users to ensure effectiveness). Further this product has been widely lauded in the North American golf press.
- 1997-2001 Various projects working in a variety of areas including consumer electronics, telephone, computers, automotive electronics, sporting goods, home humidification, industrial electronics, and entertainment products.

## SERVICE EVDS

- Since 2001      EVDS Faculty Council
- Since 2001      Chair, EVDS Workshop Committee: in this capacity I have overseen the hiring of new technicians and played a significant role in research new digital equipment purchases for the faculty, notably regarding the 3D printer and laser cutter (research informed in large part by professional experience.
- 2001              EVDS Gallery Committee
- 2003-5           EVDS Faculty Promotions Committee
- 2003-4           EVDS Awards Committee
- 2002              EVDS ad hoc committee on OPA definitions, chaired by Graham Livesey
- 2003-5, 7, 8    Waugh Scholarship Awards Committee
- 2004              Design of graphic promotional display panels and model display case for EVDS.
- General          Most recently EVDS has acquired a D100 Nikon digital camera, and I been readily available for a number of photography assignments within the faculty, including architecture and ID model photography for the student publication *Scale*.

## U of C Committees

- 2007-8           Member of EVDS Core Curriculum Committee
- 2007-8           Member of EVDS Core Infrastructure Committee
- 2006-7           EVDS representative to the Faculty of Fine Arts Faculty Council
- 2003-5           EVDS representative to the Faculty of Education Faculty Council
- 2002-3           EVDS representative to the Faculty of Graduate Studies Faculty Council

## Community Service

- 2007-8           Treasurer, Industrial Designers Society of America, Alberta Chapter.
- 2001-5           Member of the Advisory Committee for the Mustard Seed's Creative Centre: as a member on this committee, I was to advise on aspects of education, training and marketing and promotion for the Seed's Creative Centre, which was a place that manufactured small items as a means of providing work experience to people wishing to get off of the streets.
- Since 2001      Fellow of The Centre for Innovation Studies (THECIS)

2002            Member of the THECIS Communications Committee, which was a committee to advise and guide on the development of THECIS marketing materials.