

ISSN 2369-6885

2013, Spring

Issue 1.A & 1.B, Subject:  
Psychology

---

# In-Sight

INDEPENDENT  
INTERVIEW-BASED  
UNDERGRADUATE  
JOURNAL



---



---

## TABLE OF CONTENTS

---



---

### **Letter of Appreciation**

### **Contributors**

#### **Issue 1.A<sup>1</sup>, Subject<sup>2</sup>: Psychology**

- Dr. Wayne Podrouzek: Psychology Instructor, Kwantlen Polytechnic University
- Dr. Betty Rideout: Psychology Instructor, Kwantlen Polytechnic University
- Dr. Sven van de Wetering: Psychology Instructor, University of the Fraser Valley
- Nicole Pernat: Graduate Student, Simon Fraser University
- Patricia Coburn: Graduate Student, Simon Fraser University
- Dr. Daniel Bernstein: Psychology Instructor, Kwantlen Polytechnic University
- Dr. Kevin Hamilton: Psychology Instructor, Kwantlen Polytechnic University
- Louise Meilleur: Graduate Student, Ohio State University

#### **Issue 1.B<sup>3</sup>, Subject: Psychology**

- *The University After the Year 2000*, Dr. Sven van de Wetering
- *Intelligence Quotient (IQ) Tests: Are They a Valid Measure of Intelligence?*, Leo Jung

---

<sup>1</sup> Numerical listing indicates issue number, e.g. '1'.

<sup>2</sup> Issues alternate between two themes: 'Subject' and 'Idea'. 'Subject' issues function around a single discipline, e.g. Psychology, Criminology, and so on. 'Idea' issues function around a single idea using multiple disciplines, e.g. Crime requiring Criminologists, Sociologists, Psychologists, and so on.

<sup>3</sup> Alphabetical listing indicates issue sub-sections, e.g. an 'A' indicates the interviews section, whereas a 'B' indicates the submissions section.

Title: In-Sight: Independent Interview-Based Undergraduate Journal

Place of Publication: Langley, British Columbia, Canada

Name of Publisher: In-Sight Publishing

Numbering: Issue 1.A &amp; 1.B, Subject: Psychology

Date: May 1, 2013 (2013-05-01)

Frequency: Three Times Per Year

**ISSN 2369-6885****IN-SIGHT PUBLISHING**

Published by In-Sight Publishing  
 In-Sight Publishing  
 Langley, British Columbia, Canada

In-Sightjournal.com

First published in parts by In-Sight: Independent Interview-Based Journal,  
 a member of In-Sight Publishing, 2015  
 This edition published in 2015

© 2012-2015 by Scott Douglas Jacobsen, Wayne Podrouzek, Betty Rideout, Sven van de Wetering, Nicole Pernat,  
 Patricia Coburn, Daniel Bernstein, Kevin Hamilton, and Louise Meilleur.

All rights reserved. Images/Portraits/Sketches/Photographs courtesy of Wayne Podrouzek, Betty Rideout, Sven van de  
 Wetering, Nicole Pernat, Patricia Coburn, Daniel Bernstein, Kevin Hamilton, and Louise Meilleur.

No parts of this collection may be reprinted or reproduced or utilised, in any form, or by any electronic, mechanical, or  
 other means, now known or hereafter invented or created, which includes photocopying and recording, or in any  
 information storage or retrieval system, without written permission from the publisher.

Published in Canada by In-Sight Publishing, British Columbia, Canada, 2015  
 Distributed by In-Sight Publishing, Langley, British Columbia, Canada

In-Sight Publishing was established in 2014 as a not-for-profit alternative to the large, commercial publishing houses  
 currently dominating the publishing industry.

In-Sight Publishing operates in independent and public interests rather than for private gains, and is committed to  
 publishing, in innovative ways, ways of community, cultural, educational, moral, personal, and social value that are often  
 deemed insufficiently profitable. Thank you for the download of this issue, your effort, interest, and time support  
 independent publishing purposed for the encouragement of academic freedom, creativity, diverse voices, and  
 independent thought.

*Cataloguing-in-Publication Data*

Official catalogue record in EBSCOHost for this issue and at In-Sight Publishing, [www.in-sightjournal.com/issues](http://www.in-sightjournal.com/issues)

Jacobsen, Scott Douglas, Author

Issue 1.A & 1.B, Subject: Psychology/Scott Douglas Jacobsen

pages cm

Includes bibliographic references.

In-Sight Publishing, Langley, British Columbia, Canada

Published electronically from In-Sight Publishing in Langley, British Columbia, Canada

10 9 8 7 6 5 4 3 2 1

*Designed by Scott Douglas Jacobsen*

---

---

## LETTER OF APPRECIATION

---

---

To open the first issue, I feel tremendous gratitude to the instructors, graduate students, and intellectuals donating their time and effort, many times despite far more pertinent obligations in their lives than one undergraduate's personal project, to produce this first issue of In-Sight, which, I admit, immensely warms my heart. I appreciate the contributions provided by the Dean of Arts at Kwantlen Polytechnic University, Dr. Diane Purvey, for exposing the journal to the intended academic audience such as undergraduates and faculty.

Regarding the pieces conducted for and contributed to it, I decided to merge the interview and submission content into a dual-issue. In the first part, the interviews of multiple instructors and graduate students from Kwantlen Polytechnic University, University of the Fraser Valley, Simon Fraser University, and Ohio State University. In the second part, the submissions entitled 'IQ Tests: Are They a Valid Measure of Intelligence?' and 'The University after the Year 2,000.'

For those curious about the style of the interviews<sup>4</sup>, I intended to keep them within the boundaries of the individual's speech pattern and vocabulary, which extends to all informal speech too. Some may seem messy, even having bad spelling in a formal setting. However, that does not pertain to this project. I purposed it to gain a contextual understanding of the individual, their background, and philosophy. Most importantly, it comes in their own words.

---

<sup>4</sup> I have received some complaints regarding clarity of some interviews, their 'professionalism', and spelling. These profoundly misunderstand my intent here. Conversations tend to be messy. Many interviews contain the natural quirkiness and flavor of conversation. All interviewees had the final say on the publication of their pieces. Therefore, this is a collaborative effort to produce something akin to their view from their own word choice and style of speech.

Therefore, my intent is to convey the interviewee from their expertise, knowledge, and background.

To end, this project began conceptually during the winter of 2010. In-Sight required much persistence and hard work to produce. It came to fruition with the introductory interview offer of Dr. Wayne Podrouzek in August of 2012. During other times, Drs. Bernstein and van de Wetering assisted in my intellectual development, whom I appreciate for their sincere dedication and warmth towards me. Without their support, life would have been far harder emotionally and intellectually for me.

Sincerely,

Scott D. Jacobsen

Editor-in-Chief

---

## CONTRIBUTORS

### 1.A & 1.B, SUBJECT: PSYCHOLOGY

---



#### **Dr. Wayne Podrouzek**

At the time of the interview, he is the Chair of the Psychology Department at Kwantlen Polytechnic University. He earned a Bachelor of Arts in Child Studies and a Bachelor of Science with Honors from Mount Saint Vincent University, a Master of Arts from Simon Fraser University, and a Ph.D. from Simon Fraser University under Dr. Bruce Whittlesea. He has a wide range of interests such as Amodal Perception Research, Quantitative Research, Psychometrics, and Cognitive Psychology.

For further, and contact, information:



[http://www.kwantlen.ca/socialsciences/psychology/faculty\\_listing/Wayne\\_Podrouzek.html](http://www.kwantlen.ca/socialsciences/psychology/faculty_listing/Wayne_Podrouzek.html)

### **Dr. Betty Rideout**

At the time of the interview, she works as an instructor for the Psychology Department of Kwantlen Polytechnic University. She earned her Bachelor of Psychology, Masters of Counselling Psychology, and Ph.D. in Psychology from University of British Columbia. Her research interest lies in the “historical influences on belief systems”.

For further, and contact, information:

[http://www.kwantlen.ca/socialsciences/psychology/faculty\\_listing/Betty\\_Rideout.html](http://www.kwantlen.ca/socialsciences/psychology/faculty_listing/Betty_Rideout.html)





### **Dr. Sven van de Wetering**

At the time of the interview, he works as an instructor for the Psychology Department at the University of the Fraser Valley. He earned his Bachelors of Science in Biology at University of British Columbia, and Bachelors of Arts, Master of Arts, and Ph.D. in Psychology from Simon Fraser University.

His research interest lies in “conservation psychology, lay conceptions of evil, relationships between personality variables and political attitudes.”

He teaches in a broad range of subjects, where his teaching interest mainly lies in “Social psychology, history of psychology, political psychology, environmental psychology, psychology of language, evolutionary psychology, cultural psychology, [and] social cognition”.

For further, and contact, information:

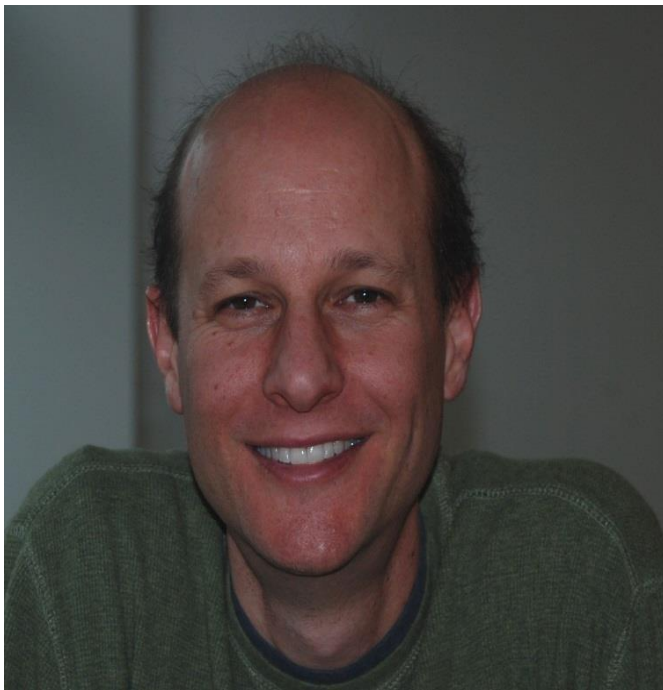
[http://www.ufv.ca/psychology/Faculty\\_and\\_Staff/Faculty\\_Members.htm](http://www.ufv.ca/psychology/Faculty_and_Staff/Faculty_Members.htm)

### **Nicole Pernat<sup>5</sup>**

At the time of the interview, Nicole studies at Simon Fraser University earning her Master's Degree in Neurophilosophy. She earned her Bachelor's Degree in Psychology from Kwantlen Polytechnic University in Psychology.

### **Patricia Coburn**

At the time of the interview, Patricia studies at Simon Fraser University, where she is earning her Master's Degree. She earned her Bachelor's Degree in Psychology from Kwantlen Polytechnic University.



---

<sup>5</sup> Not every contributor submitted a photograph.

**Dr. Daniel Bernstein**

At the time of the interview, Dr. Bernstein works as an instructor and researcher at Kwantlen Polytechnic University. He earned his Bachelor of Arts at the University of California Berkeley, Master's at Brock University, Ph.D. at Simon Fraser University, and did Post-Doctoral work at the University of Washington. His research lies in "Belief and memory; Developmental metacognition; Hindsight bias; Mild head injury; Sleep and dreams. My current interests are in false memory and cognitive development. Specifically, I am interested in how people develop false memories, or memories for events that never occurred. I am also interested in the behavioral consequences of false memories." For further, and contact, information:

<http://bernsteincognitionlab.com/>

[http://www.kwantlen.bc.ca/socialsciences/psychology/faculty\\_listing/Daniel\\_Bernstein.html](http://www.kwantlen.bc.ca/socialsciences/psychology/faculty_listing/Daniel_Bernstein.html)

**Leo Jung<sup>6</sup>**

At the time of contribution, Leo Jung is Chairman of Vancouver Mensa Speaker's Group and Vancouver Area Proctor for Mensa International.

---

<sup>6</sup> This journal exists for academics from undergraduates to tenured professors to administrators. However, some pieces or interviewees from outside the Academy may have content well worth contributing from outside.



### **Dr. Kevin Hamilton**

At the time of the contribution, Dr. Hamilton work as an instructor at Kwantlen Polytechnic University. He earn his Bachelor of Arts at Prince Edward Island University, Master of Environmental Studies at York University, Ph.D. at York University, and did Post-Doctoral work for Defence Canada. Currently, his interests lie in “interdisciplinary themes of Human Factors and Ergonomics... [,] environmental variables and their interrelationship with human health and performance in the context of specialized working and living environments. Sample topic areas include shift work, hyperbaric medicine, maritime operations, aviation psychology, as well as architectural systems and their relationship with human behaviour”. At the time of the interview, he conducts research on “hazard recognition under degraded visual conditions with Tree Fallers in coastal British Columbia”. For further, and contact, information:

[http://www.kwantlen.ca/socialsciences/psychology/faculty\\_listing/Kevin\\_Hamilton.html](http://www.kwantlen.ca/socialsciences/psychology/faculty_listing/Kevin_Hamilton.html)

**Louise Meilleur**

At the time of the interview, Louise Meilleur works in Quantitative Psychology with Dr. Ellen Peters at Ohio State University. She earned her Bachelor of Applied Arts in Psychology with Honors at Kwantlen Polytechnic University. Currently, she works toward her MA and Ph.D. at Ohio State University. At the time of the interview, her interests lie in “medical decision making and public policy”.

2013, Spring

Issue 1.A, Subject: Psychology

INDEPENDENT  
INTERVIEW-BASED  
UNDERGRADUATE  
JOURNAL



---

---

**DR. WAYNE PODROUZEK: CHAIR OF PSYCHOLOGY****KWANTLEN POLYTECHNIC UNIVERSITY**

---

---

**Issue 1.A, Subject: Psychology****1. What is your current position in the Psychology Faculty?**

I'm currently full time faculty and chair of the department.

**2. Where did you acquire your education? What did you pursue in your studies?**

I did my undergrad work in Nova Scotia at Mount St. Vincent U, although there is (was) an interuniversity agreement there where many courses can be taken at Dalhousie, Saint Mary's, or the Mount and simply count at the other universities, so I took many courses at the other schools. At Dal and SMU, I did quite a bit of philosophy and religious studies, some bio at Dal, some behavioral stuff at SMU, etc. It's actually quite a good system. All the universities are within about a ½ hour drive of each other, offer diverse courses, and there are a minimum of administrative obstacles.

I got edjamacated<sup>7</sup> 'cause I was working with children and teenagers with the equivalent of the Ministry of Children and Families and the Provincial Attorney General (with teens who had been incarcerated) in Alberta and realized that to have more influence I would need some university education (I had obtained a diploma). Mt. St. Vincent had one of Canada's only two programs

---

<sup>7</sup> Note all interviews contain a freestyle format to keep to the original intention and wording of the interviewees. For your ease of reading, you may have an easier time reading the interviews as live-conversations. In fact, many of them were live.



for working with children (Bachelor of Child Studies – BCS) and so I sent back there to pick up that credential.

**3. What originally interested you in Psychology? If your interest evolved, how did your interest change over time to the present?**

As part of the BCS, we were required to complete a substantial number of bio and psych courses, and I became interested in psychology, subtype developmental psychology, specifically child language development. I completed my BCS, then did a BSc Honors in Psych (minors in Math/Stats and Biology), and started a Master's in Education (I picked this up in my last year of my Honors as extra courses) and completed all the coursework but not the project. I was subsequently awarded an NSERC, and some other money, and was accepted into the MA at Simon Fraser, so abandoned my MEd to come out here. I kind of wish I had finished the MEd now – but I really just didn't see the necessity at the time. Because of its emphasis on counselling and testing I could have used it to become registered in BC – it would have opened some doors. Can't y'all just seem me as a therapist? Hmmm, that's scary.

At any rate, I originally went to SFU because it was supposed to get some equipment to do acoustical analyses of language (which at the time was about a \$60K piece of equipment called a Sonograph, and today you can do the same thing with an A-D board that costs less than \$100), and I had done my Honors Project on “An acoustical analysis of pre-lexical child utterances in pragmatically constrained contexts” (or something like that and wanted to continue that work.) However, the equipment fell through, so I switch to perception. I did my MA thesis in perception on the question of the order of visual processing (what do you process first, the global scene and

then analyze for the bits, or the bits first and then synthesize them into the whole scene: the Global-Local question).

I began my Ph.D. in perception, but then met Dr. Bruce Whittlesea, and became interested in memory theory, so I switched to that area and completed my Ph.D. in his lab. I did my dissertation on Repetition Blindness in Rapid Serial Visual Presentation Lists (an examination of the phenomenon that you tend not to see repetitions of words in quickly presented word lists).

Since my Ph.D. I have become interested in how the blind spot gets filled in, subjective contours, retrieval induced forgetting, and for a brief time, the science underlying neuropsych testing.

**4. Since your time as an undergraduate student, what are the major changes in the curriculum? What has changed regarding the conventional ideas?**

Wow, that's a hard one – so much has happened in so many areas. When I started as an undergrad (back when dinosaurs roamed the earth with people), the areas then are usually considered the “core” areas now. These included methods, stats, measurement theory, bio, social, developmental, cognitive, and behavioral in the experimental areas, and testing, abnormal, and therapy in the clinical areas. We had rat labs in intro – every student got two rats and we ran experiments on the rats and wrote the experiments up in the lab books (something like doing chem labs. Then we got to kill them). Consciousness was not discussed – that was akin to studying magic. Evolutionary Psych did not exist (although its precursor, sociobiology did). Although Kuhn had published his controversial book “The structure of scientific revolutions,” his ideas were discussed but I think, not taken to heart by most scientists. Later, with other philosophers of science (e.g., Feyerabend, Lakoff), publishing works that in some ways augmented his, our assumptions and views of even methodologies changed. Of course, change

your assumptions, change your methods, and you change your field. Things loosened up considerably. Areas of enquiry and the acceptable methods and what could count as reasonable data become much more encompassing, and thus new areas of psychology emerged. We certainly didn't have courses on sex, for example, or prejudice, cultural, gender (other than straight up sex differences, other aspects of that field would have been taught in "Women's Studies"), and the list goes ever on.

When I attended university there were upper level specialty courses in Psycholinguistics (Chomsky) – a brilliant, complex theory of language (particularly, syntax and transformations, and semantics), Piaget and Vygotsky, behaviour, modification (applied behavior analysis), parallel and distributed processing, and other things that are now of historical interest, but at the time were all the rage.

**5. Many students graduating with a Psychology degree will not pursue careers in Psychology. What are your thoughts on this?**

That's great – I think society needs people who have broad understanding of the principles of psychology in a wide variety of positions. Psychologists tend to be quite well trained in methodology and stats, and this certainly enhances their ability to think about things methodological – certainly one of the pillars of good critical thinking.

Perhaps some of those folks with a good educational underpinning in critical thinking could go into politics? That would be awesome. It would be good to have some folks in government who can actually think.

Psychology interfaces well with Law: Again, the methodological and thinking skills can be brought to bear.

**6. Kwantlen is attempting to expand that research on campus. What are the current attempts to expand research on campus? What is the progress of those attempts?**

I know there is a real push to expand research at Kwantlen. Outside of Psych I'm afraid I'm not very knowledgeable about what's going on. However, in the psych department we have many faculty who have active research programs, within Kwantlen and in collaborating with other universities and agencies. Several have international reputations. Given the level of funding, and our workload in teaching and service, I am pretty impressed at the level of research many of faculty in psych are managing.

**7. If Kwantlen provided incentives via funding (grants), would you be interested in conducting research at Kwantlen?**

Grants might be nice – along with time release for doing research. However, in my case, a lot of what I need is tech support. Many of the kinds of experiments I want to do require substantial expertise in programming and integrating output from different technologies. I haven't done any programming in over 20 years now, and everything has changed (and what I did then was on MAC), and I don't really have the inclination to take a year or two to learn to do it well. I have quite a few (I think) fairly good ideas for studies, but without substantial tech support, I'm afraid, I won't be the one to be doing them.

And, I'm getting a tad long in the tooth to retool for a substantial research career. It would likely take me 1-2 years to get up to speed in a new area, and that pretty much puts me at retirement age. So, I just like doing what I think is interesting “stuff” with like-minded students, at a very pedestrian pace.

**8. To you, what are the most controversial areas of Psychology? Why do you (and your colleagues) consider them controversial? What are your personal views on them?**

Lol – that’s a good one. I certainly won’t speak for my colleagues because I often play in the sandbox pretty much by myself.

Put 6 psychologists in a room and have them discuss any topic and you’ll get at least 7 positions. Except for perhaps bio, some descriptive developmental, low end sensation (which is pretty much bio), some social, and some behavioral, most areas of psych are pretty controversial, although there doesn’t seem to be much in the way of controversy – we just choose to ignore the difficulties and bung on ahead. And, for the most part, it doesn’t matter too much – we live in our little bubbles and every once in a while something we do becomes useful, and the rest of the time it doesn’t matter too much and it’s an excellent theoretical and intellectual exercise. Even in things like method and stats, there are different opinions on what is appropriate and why and how things should be interpreted, and so on. Don’t get me wrong, I think that in the long run what we do will become incredibly important, when we get to a certain point and it becomes integrated. All of it contributes to that corpus of knowledge, and even if wrong is very important. We learn most, I think, when we find we are wrong in interesting ways – and that really does entail controversy.

Where I get my knickers in a twist is when what we do has real implications for real people, and we are less than totally rigorous. I remember the “repressed memory” debacle, in which folks were sent to jail on the basis of testimony by psychologists. It turned out to be, what word am I looking for here, ah right, “crap”, and it ruined people’s lives. That has now turned from the

repressed/false memory debate into the “dissociative identity disorder” debate. That is pretty controversial (at least in some circles).

And how about the “facilitated communication” debacle (there was, perhaps is still, even an Institute for Facilitated Communication at Syracuse, NY) – again, folks lives were ruined. Now, as before, psychologists fixed that through continued study (although not before being hired by a lawyer to see if it “really” worked), but much damage had been done. But that was a few years ago, and we tend to forget our past errors.

Another area that doesn’t seem to get much controversy, but perhaps should, is the use of certain measure of psychopathy. They are, as I understand it, being used outside of the parameters in which they were developed, and people’s lives are being profoundly affected by them. One girl (17 I think) was declared a Dangerous Offender and put in prison indefinitely based on misdemeanor crimes and her score on “the” checklist and the testimony of some “psychologist” or other. This was subsequently overturned in the Supreme Court of Canada, but again, damage had been done. What I find controversial is, where was the psychological community in expressing outrage over this travesty? Let me guess, the same as we usually hear from the Department of Foreign Affairs, “working quietly behind the scenes.”

The problem with Psychology is the same problem we have with Medicine and biochemistry, just worse. Very few people understand it, and it is complicated stuff (which is why I don’t understand why most folks think psych is some kind of a bird discipline that anyone and his dog could do). Psychologists are human, they want to have their moment in the sun, and money, and they say stuff and people believe it – without trying to critically evaluate it, and often in the absence of the ability to critically evaluate it. Sometimes it makes no difference. Whether

memory is a series of stages or structures or is a set of differentially instantiable processes based on some form of information harmonic in the current circumstance is a very interesting question but is not likely to affect too many folks' lives in the immediate future. So if people ignore the debate and believe one thing or the other makes little difference. However, the same cannot be said for so many other areas.

So, I guess that I think that much of psych is controversial. But that's not a bad thing – it's just that we should acknowledge that much of it is controversial not take ourselves too seriously. We are young, some 130 years old. Much of Physics is controversial as well – is the speed of light the limit of particle movement in the universe outside of the movement of the universe itself? (Although this result seems to be the result of a loose cable connection). Are there bosons? We speak of mass and gravity, but what the hell are they? Do causes always precede effects? What is the nature of time? Lots of debates = controversy. That is the stuff of science.

**9. What do you consider the prevailing philosophical foundation of Psychology? If you differ, what is your personal philosophical framework?**

Wow – you know how to pick your questions.

First, I don't think there is ONE<sup>8</sup> philosophical foundation in psychology any more. We are all linked by our methodologies – but even those are much more diverse than before. Not too many years ago, anything that remotely smelled like qualitative methodology was looked at askance by most experimental psychologists. Now, in our own department, we find there are several faculty using these methods, and the rest of us still associate with them, if begrudgingly... (Ok, joke).

---

<sup>8</sup> As noted, it is informal.

Some years ago most of us would likely have identified as some variant of positivist, but now I suspect that, again, it's much more diverse, and many might identify as cognitive relativists. I don't even know how many of us would identify as ontological objectivists (philosophical realists) anymore. Actually, this is an interesting question, and I could see an honors project in some variant of this issue.

So, if we're looking for the kinds of underpinning that really links us altogether I guess (hope) it would be some lip service to the general tenets of "science" and empiricism (although I have to wonder, when in our ethics – provided to us by the tricouncil guidelines, developed by "scientists" – we are to ensure the "spiritual" safety of our subjects – whatever that is: I just want some variant of quasi-objective measure of "spiritual well-being"). Perhaps there are more Cartesian Dualists out there than I would have thought. (Still the issue of measurement, though). There is no specific set of methods on which we all agree, no set of criteria to which we hold ourselves – but perhaps a Wittgensteinian language-game understanding of the word "science" is broadly descriptive, and perhaps good enough.

### **10. To you, who are the most influential Psychologists? Why are they the most influential to you?**

I wish I were better read in psychology so I could better answer this question. I have great admiration for Skinner. I think he got the short end of the stick in evaluation of his debate with Chomsky (who I think is likely one of the brightest puppies to walk, crawl, or slither on the earth today – although I have always disagreed with virtually all of his psychology – considered "state of the art" when I was going to university: psycholinguistics, the pre-eminence of syntax, the existence of a language acquisition device, etc.). I think that Skinner's contribution to psychology



has been undervalued, and that much of his work may well reincarnate later in our history. I really liked the “tightness” of Skinner’s work: methodologically sound, often insightful while being atheoretic, clever. I think he was a bit of an idealist and I don’t think his idea of Walden 2 would ever fly, but an interesting idea. I got an appreciation of Skinner’s work when I studied under one of his grads, Ron vanHouten.

I was also quite influenced by Vygotsky’s work “Thought and Language.” In particular he has helped shape my understanding of the relationships between thought, language, semiotics, and pragmatics, in a developmental context.

Of course, there are many psychologists in my own areas that have influenced my thinking. My advisor, Bruce Whittlesea, is certainly one of these. You cannot work closely with someone for a few years without walking away influenced. There are also big names – Tulving, Jacoby, etc. I tend to think about human processing in “Transfer Appropriate Processing” terms (a la, Bransford, Franks, Morris, & Stein). However, someone who is not so well known, Paul Kolars (Procedures of Mind, Mechanisms of Mind) has most influenced me in terms of thinking about theories of the types of processing that occur in mind. And Gibson’s notion of affordances always haunts my thought when I bend it to thought and action.

A number of philosopher: Carnap (logical positivism), Quine (ontological relativism and the under-determination of theories), Popper (falsificationism), Nagel (philosophy of science, antireductionism re consciousness), Putnam (excellent discourses on reductionism and functionalism), and other philosophers of science (such as Russell) have probably had more influence on my thought about the nature of theories (in particular, cognitive theories) than psychologists. It’s kind of the difference between methods and substantive areas. The method is

paramount; the understanding of the substantive area follows from the understanding of the method.

So, the short answer is: gee, I don't know. It's all pretty much a swirl.

**11. Finally, many Psychology students are interested to know, do you know anyone famous within Psychology?**

I've met several, and spoken with them, but I would not say that I "know" them. We would not even count as acquaintances, although quite a few are nice and say "hi" to me at conferences.

---

**DR. BETTY RIDEOUT: PSYCHOLOGY INSTRUCTOR**

## KWANTLEN POLYTECHNIC UNIVERSITY

---

### **Issue 1.A, Subject: Psychology**

#### **1. Where did you acquire your education? How did you become interested in Psychology?**

My first two years were completed at Kwantlen, back when Kwantlen first separated from Douglas College and was a series of trailers on 140<sup>th</sup> street. I was a mature student (relatively speaking) and wanted a way out of the boring job I was in. From Kwantlen I went onto UBC to complete my BA in Psychology (was tied for the governor's general award at Kwantlen, GPA), but lost the award to another student because a few of my courses I had completed were taken at Cap College. At UBC I went on to complete an MA in Counselling Psychology, and I recently completed a Ph.D. through an interdisciplinary faculty in education, the Centre for Cross Faculty Inquiry, which was a more sensible choice for me than a Ph.D. in Counselling Psychology since my research interests had long since strayed from psychotherapy. My advisor though was the same advisor for my Ph.D. as was for my MA, from Counselling Psychology.

#### **2. What topics have you researched in your career?**

My Master's degree looked at the influence of divorce on adolescents – this was in the 1980's and there actually wasn't a lot of research at the time on that topic.

#### **3. You recently earned your Ph.D. What did you research? How do the results extend into larger society?**

My research looked at how young adults who describe themselves as spiritual but not religious, assess and critically reflect upon their spiritual beliefs. The research questions were twofold:

What were young adults' beliefs, and secondly, how did they critically reflect upon them. The second research question utilized King and Kitchener's reflective judgment model to interpret and assess participants' beliefs.

How do the results extend into the larger society? We found that participants scored at about the norm for their age and education level, but having said that, were alarmed at how participants' beliefs seemed tentative and were not grounded into their personal philosophies. Hanan Alexander (2002) points out that "today's spiritual seekers experience their moral intuitions as fragmented and ungrounded" (p. x) and comments that part of a spiritual exploration is asking big questions, meaning of life questions, the type of questions that typically include pondering the nature of goodness. These sorts of questions, and the answers we decide for ourselves, seem particularly relevant for young adults since one's idea of the nature of goodness can guide both their career and relationship choices. It's possible then that the kind of spiritual seeking that appears to be so common these days, without some type of intellectual support, inquiry, etc. may be one piece that contributes to the higher rate of depression and anxiety that we see in young adults today. There's no doubt that institutional religion is no longer a source of undisputed guidance and meaning, more and more people tend to pick and choose their favorite religious pieces, but how effectively can we integrate those pieces into a larger personal philosophy that coheres, has integrity and can provide an authentic source of guidance for ourselves?

#### **4. Other than the social domain, where would you like to take your research?**

Well, I suppose the main thrust of my research is that I hope individuals will entertain the idea that one's epistemological stance bears examination, and that the ideas and personal philosophies we hold outside of the academic world warrant just as much critical examination as the topics we prepare for in an examination. Maybe even more, because, if spiritual beliefs tend to include a

notion of what is goodness, then this is a foundational belief that can only benefit from close scrutiny in order to make that belief a lived experience.

**5. What do you consider the most controversial research in psychology? How do you examine this research?**

In Psychology, hmm – I think actually I'd point to work in Philosophy and its influence on Psychology as a more significant source of controversy, particularly the work by post-modern theorists such as Foucault and Derrida. They're changing the nature of language and core social concepts – and that's powerfully influential. Foucault argued that the Social Sciences were the most influential academic area because it is the Social Sciences that produce and institute our cultural ideals, for better or for worse.

**6. How have your philosophical views changed over time – in and out of psychology?**

I've changed from a simple naïve realist to someone who is much more open to ontological possibilities I never would have considered in my thirties. I remain convinced that the method of science is the most powerful epistemological tool available to us, but wonder whether this method may evolve as well, and sometimes ponder whether there are possible realities that the human mind simply has yet to evolve the capacity to comprehend.

I'm also interested in Jonathan Haidt's (2012) research – who points out that Psychology has solidly been influenced by a rationalist perspective from the time of Plato on – there is a direct line of influence to Piaget and Kohlberg. He argues that so much of human processing is nonrational – and we rationalists overlook this at our peril. My research falls squarely into a rationalist perspective; King and Kitchener were influenced by William Perry, who was influenced by Kohlberg, who was influenced by Piaget. There are researchers who propose a

personal epistemology that is more embodied, intuitive, and perhaps I've overlooked the importance of this given my rationalist bias.

**7. What advice would you give to undergraduate and graduate students aiming for a career in psychology?**

Consider what your specific goal is, and if it includes working as a psychotherapist, make sure that you have had lots of opportunities to work in that kind of capacity before you commit. Not everyone is ideally suited to working with other people's painful experiences, and psychological change is a slow process, successes are measured out in teaspoons.

**8. What books, article, and/or people have most influenced your intellectual development?**

I quite admire Jonathan Haidt – his book *THE RIGHTEOUS MIND* (2012) is a timely read given the polarization politically that is so dominant these days.

I admire Charles Taylor's scholarship and ability to integrate diverse perspectives: *A SECULAR AGE* (2007) and *SOURCES OF THE SELF* (1989).

Foucault's *MADNESS AND CIVILIZATION*

Richard Rorty and Gianni Vattimo: *THE FUTURE OF RELIGION*, argue a kind of postmodern update of religion, their ideas were brand new for me.

I still like Freud's *CIVILIZATION AND ITS DISCONTENTS*

**9. What do you consider the take-home message of your research?**

Know thyself? Perhaps not in the true Platonic tradition, but at least Jungian, and while we are blessed to live in multicultural times where the internet exposes us to lots of different perspectives, whatever ideals we choose we need to make our own, and that's best achieved through the hard work of critical inquiry as well ensuring that our beliefs also become our lived experience.

---

**DR. SVEN VAN DE WETERING – PSYCHOLOGY INSTRUCTOR**

**UNIVERSITY OF THE FRASER VALLEY**

---

**Issue 1.A, Subject: Psychology****1. Where did you acquire your education?**

I did my education all over. I went to grade school at various schools in Powell River, Greater Vancouver, and Calgary, including three alternative schools: the Oxford House of Knowledge (an extremely unpretentious place that happened to be on Oxford Street), the Ideal School (which didn't quite live up to its name but was a big step up from conventional schools), and, in Calgary, the Alternative High School.

I received a B.Sc. in biology at UBC in 1983. Then, after some years of drift, I went back to school in 1988 and studied psychology at Concordia University in Montreal (though I spent a visiting year at Albert Ludwig's Universität in Freiburg, Germany), got my B.A. in psychology in 1992, then spent the next ten years doing my graduate work at SFU.

**2. Why did you pursue that field of study? How did psychology interest to you?**

I originally intended to be a clinician. I was working in a home for the mentally handicapped in 1988, and was quite burned out, but thought the work was important and wanted to pursue it at a higher level. I thought clinical psychology was the field for me. Of course, that didn't quite work out.

**3. What topics have you researched in your career?**

I have researched only a restricted range of topics in my empirical research career. As an undergraduate, I was looking at belief in the paranormal. As a masters student I tried to develop a relatively nonreactive measure of prejudice, then as a doctoral student, I stayed in the area of prejudice, but tried to study whether people use gossip as a technique to incite prejudice in



others. Once I started teaching full time, I could only do one project a year, but have looked at things like beliefs about the nature of evil, predictors of people's car purchase decisions (this was in an environmental context), a couple of studies on system justification theory. My last several studies have had a very striking tendency to produce null results.

#### **4. What areas are you currently researching?**

If I can ever get it up and running, I hope to conduct a study on the relationship between narcissism and political attitudes. It'll be a correlational study, and I'll probably toss in a whole bunch of variables in the hopes of finding something.

#### **5. How do you engage in research? What methodologies do you employ?**

My methodology tends to be very straightforward, either simple correlational studies or experimental studies with just one or two variables manipulated. Most of the time this is done using simple paper-and-pencil measures, but sometimes I'll do something a little fancier in an attempt to assess implicit cognition.

#### **6. Within the field of psychology, what do you consider the most controversial topics? How do you examine the debates pertaining to these topics?**

If one takes "controversial" to mean that everyone has a very strong opinion about the issue, and the opinions aren't all the same, I would have to say that number one is still the status of psychoanalysis. A determined minority of psychologists still considers Freud half a step below God, a majority seem to think of him as some deluded anti-empirical megalomaniac with delusions of grandeur and no data, and not many psychologists sit on the fence about this. I may be one of them, though. The number of issues on which Freud may have been right is slowly

growing in my mind, and I'm not quite as ready to dismiss him as I once was. To be honest, I barely examine this issue at all, though. Just in a few isolated moments I think "Hey! Freud may've been right about that!"

Another debate of the same ilk concerns the status of evolutionary thinking in psychology. Relatively few academic psychologists actually deny that human evolution has occurred. The issue is more whether the fact of our having evolved actually furnishes significant insights into current human psychology. This is a thorny issue that I do have to deal with on a fairly regular basis, and I must confess that my strategy here is to read the arguments on both sides, and then come to an informed decision based largely on intuition.

The most troubling argument I have heard goes something like this: "Evolutionary psychology promotes patriarchy." I don't think it does; at least, there are a number of feminist evolutionary psychologists out there, one of whom I know personally. Furthermore, having taught evolutionary psychology, I have gotten the impression that there is almost no other point of view so very good at making a lot of typical male dominance behaviour look completely ridiculous. Nevertheless, I must admit that, when I go to evolutionary psychology conferences, I do get the impression that the typical evolutionary psychologist is somewhat to the political right of the typical non-evolutionary psychologist.

What disturbs me about the argument though, is the idea that an idea should be suppressed if it has negative consequences, even if it happens to be true. I feel ambivalent about this idea, but tend to think that suppressing potentially true ideas is, if not always wrong, at least almost always wrong. The quest for truth is what got me into academic life in the first place, and I find the idea that we should hide the truth distasteful and potentially destructive.

A third controversy that doesn't so much play out within psychology but instead between psychologists and other fields in the humanities and social sciences is whether there is such a thing as human nature at all. Most psychologists who are not behaviorists will answer this in the affirmative, but some learning theorists and many anthropologists and sociologists will contend that human behaviour is almost infinitely plastic, and that those who seek to find an enduring core to human nature will find nothing but sand. Given the large number of cross-cultural universals we have found that also seem to be thoroughly anchored in individual human development, I find the idea of an infinitely plastic human nature odd and contrary to all evidence I am aware of. This is not a dispute I spend a lot of time on; I've never yet heard a decent argument from the infinite plasticity camp, and so I consider it a big waste of time.

Please note that I am not contending that there is no plasticity; clearly there is. Learning takes place, cultures differ, and the brain rewires itself under certain circumstances. My objection is only to the idea that these processes are so all-encompassing that there is no longer an unchanging core that is resistant to these processes.

### **7. What do you consider the conventional epistemological framework in psychology?**

This is of course hard to summarize in a few words, since we teach whole courses on epistemology to our undergraduates (though we call them "research methods" and "statistics"), and then make our graduate students study more epistemology. So it's a complicated topic.

Despite this complexity, I may be able to point to a few basic assumptions. First, we tend to assume that there is no great mystery about what people do, only about why they do it. Hence, relatively little energy goes into purely descriptive work, whereas a tremendous amount goes into elucidating the causes of those simple, taken-for-granted behaviors. Thus, we may say that the

goal of psychology is to attempt to explain human behaviour in terms of chains, or more likely webs, of cause and effect linkages.

A second mainstream assumption, one not shared by many environmental psychologists, is that these causes have the potential to be isolated from each other. That is, although all competent psychologists (and many incompetent ones as well) are aware that in many everyday situations a large number of causes may be operating at the same time, that it is nevertheless a viable analytical strategy to assume that this complex causal web can be usefully broken up into a number of simple, measurable causes, each of which can be experimented upon or otherwise examined individually.

A third mainstream assumption is that psychological propensities are relatively stable entities that do not change from time to time and place to place. You can see this if you look at the verb tenses in an APA-style article. The description of what was done in the experiment is written in the past tense, indicating (very properly) that the experiment was conducted in the past. The interpretation of the results, however, is written in the simple present indicating that the particular results obtained in the past was a particular manifestation of a broad, general, enduring core of human propensities. Please note that I endorsed the idea of an enduring human nature a few paragraphs back, so I don't necessarily think this assumption is wrong (though I do think many psychologists' lists of enduring human propensities are too long, and that a lot of psychological findings are the product of ephemeral culturally and historically situated propensities).

**8. If you could restructure the epistemological foundation of psychology, how would you do it? Furthermore, how would you reframe the approach to that foundation?**

I think the approach described above has some huge successes to its credit, so I certainly don't want to see it scrapped or seriously revamped. What I would like to see is greater pluralism in epistemology, a recognition that we don't really know what that psychological knowledge is, and that we should therefore be tolerant of a fairly wide range of epistemological approaches.

There's a great section near the end of Kurt Danziger's *Constructing the Subject* where Danziger points out that two basic classes of factors go into any psychological finding. One, of course, is the "real" world telling us how it works. The other is social factors (what some people might call artifacts) derived from the way the investigative situation has been set up and interpreted.

Looking at any given psychological investigation or even any given psychological research program, it's not clear how much, if any, of the core finding is "true" rather than a product of the investigative situation. However, if a bunch of people with very different epistemologies that have led them to set up very different investigative situations and interpret them using very different concepts and processes of reasoning nevertheless investigate the same approximate issue and come to the same basic conclusions, then it seems likely that the social factors largely cancel each other out and that that agreed-upon finding is derived from some fairly fundamental feature of the way the world works.

I always thought that this was a cool idea, but it only works if psychology comprises a wide variety of vibrant research programs based on a variety of very different epistemological foundations. A second prerequisite for this to work is that there have to be psychologists willing to look at work from all these different paradigms without too much prejudice to the effect that psychologists working in such-and-such a tradition are not "real" psychologists.

### **9. If you had unlimited funding, what would you research?**

I'm not sure unlimited funding would change the general topics of my research all that much, but it would make the scope of the research projects much greater, and if the funding included course releases, I might also do more than one project a year.

My number one area of interest is summarized by the title of a paper I presented 11 years ago, "If everyone's an environmentalist, why are SUVs selling so well?" There is a big disconnect between people's stated concern for environmental issues and what they actually do, and I would love to explore that a little more. The question of discrepancies between attitudes and behaviors has been around since at least the 1930s and LaPiere, but in this applied context, there is a lot more still to learn.

The other area I would love to research a little more is the study of trust, cynicism, and political participation. One of the most frightening trends I've seen lately is for young people to disengage from politics more or less completely, to the point where many people (not just the young) know nothing about what the politicians are up to in their name, and then either don't vote or vote from a position of near total ignorance. The more widespread this becomes, the less politicians are held to account, with the result that the lying, corrupt scumbag politicians who turn people off politics in the first place find it easier to rise to the top without even having to pretend to be decent human beings. A better understanding of why this is happening would be a great thing.

**10. What do you consider the most salient point for people to understand about psychology in light of your background, research, and current perspective?**

I'm not sure there is a salient core truth about psychology that I can impart. Psychology is a sprawling multi-tentacle monster with no obvious center and very few widely shared premises.

As I indicated above, I consider this a good thing, and maybe would even like to see it become more like this.

After saying that, I have to admit that pluralism makes me a little uncomfortable. I went into psychology thinking that there were a relatively small number of core truths about human nature. That those truths were discoverable, and that psychology either had found or would soon find the way to get at those truths. The truth about human nature would lead to a technology of human nature, which would make the solution of a large number of problems with psychological roots a much more straightforward matter than it currently is. I find it much harder to believe in this now, for two reasons. First, I seriously doubt that psychology is on track to discover many such truths. Second, to the extent that we do have a technology of human behavior, the people who use it are not concerned citizens trying to solve human problems, but rather rich people trying to get richer and powerful people trying to get more powerful. For example, advertisers use a technology of behaviour to induce people to buy goods they don't need with money they don't have, which is all right, I guess. However, in the process the advertisers incidentally persuade many people that buying things is the primary route to happiness. We have data suggesting that this is an astonishingly pernicious belief to hold.

**11. As you observe academics pursue their careers in search of fame, fortune, and/or utility (personal and/or societal), what course do you recommend for amateur academics? If you perceive pitfalls or benefits in particular reasons for and types of an academic career, can you bring some of these to the fore?**

There are a bunch of different people who fall under the heading of amateur academics, and I think different things will bring them utility.

First, there are those who are in the academic world more or less by accident, perhaps even against their will. They're living at home, and their parents will kick them out unless they either get a job or go to school. So they go to school. Or they're on their own, but the economy's bad, so they get student loans and study for a while.

I have a lot of sympathy for people in this situation. I have 'been there, done that'. As an instructor, I often don't like having people like this in my class, because their palpable boredom drags down the rest of the class, but I usually manage to avoid blaming them for it. I do have advice for such people: pretend you care. It's not as good as really caring, of course, but it's better than simmering in ennui and resentment for four years.

A second group, unfortunately much smaller, is motivated primarily by curiosity. These people don't need advice. They're in the right place, their appetite for new information will be satisfied as in almost no other environment, and all they have to do is follow their natural proclivities in order to succeed.

A third group, overlapping with the second, is the glory seekers. They hope to make a name for themselves by making some sort of big discovery, etc. My advice here is more complicated. First, if you're part of this group, you'd better also be part of the second group, or you're not going to make it. The process of discovery is so demanding of time and energy that if you don't enjoy the actual process, you're not going to get anywhere. Second, I've discovered that freedom is overrated.

Let me explain that remark. I've discovered that in graduate school, there are two sorts of academic supervisors. One type has a highly active research program on the go, with lots of graduate students and research assistants working on various components of that program. When



the new graduate student comes, their range of freedom is severely limited: do they want to plug into this part of the program or that part? The second type of supervisor, for one reason or another, does not have a program of research which the student can plug into. They therefore give the student a great degree of freedom to do what they want. This has the advantage that the student can pursue their true interests, but also the disadvantage that the student gets relatively little guidance, and endlessly seems to be reinventing the wheel. This is a lot of fun for students in the second group, the highly curious, but a bit of a handicap for students in the third group, the glory-seekers, because productivity is likely to be low throughout graduate school and may remain low in their academic career.

## **12. Who have been the biggest intellectual influences on you?**

When looking back on who has exerted the biggest influence on my thinking, it's remarkable how few are psychologists. My move into social psychology in the early 1990s was inspired by Shelley Taylor, but the longer I stay in the field, the less I actually draw on her ideas. The two books I have read in the last 10 years that have influenced me the most have been Jared Diamond's *Collapse* and Robert Putnam's *Making Democracy Work*. I've traditionally been a big fan of Wittgenstein, though that influence is also waning. Probably the single psychologist who has changed my thinking the most in the last little while is Philip Tetlock with his *Expert Political Judgment*, which really revitalized my uneasy endorsement of pluralism.

---

**NICOLE PERNAT: GRADUATE STUDENT**

**SIMON FRASER UNIVERSITY**

---

**Issue 1.A, Subject: Psychology**

**1. Why did you start studying psychology? Where have you acquired your education?**

I took an intro course in first year and loved it. It helped that I seemed to have more of a knack for psychology than philosophy, which I originally planned to major in. I thought it would be smarter to go the psych route, instead of struggling (comparatively) in philosophy.

I received my BA (Honours) Psychology from Kwantlen, with a minor in philosophy, and ended up getting a certificate in language studies (4 courses of German) after I graduated.

**2. You published a paper with Dr. Elizabeth Loftus & Dr. Daniel Bernstein in 2011 entitled *The False Memory Diet: False Memories Alter Food Preferences*. What did you find in this research?**

This particular publication gathered work that had already been done—largely by Danny (Bernstein et al., 2005), professor Loftus, Dr. Alan Scoboria (U. of Windsor), Geraerts (et al., 2008), and Laney (et al., 2008). The general theme was applying false memories to food experiences. Loftus' famous work on false memories found that people's memories for events, including videos, could be manipulated by wording. For example, subjects watched a video of a car accident and were asked to rate how fast the car was going. When the questions used loaded words such as "smashed" rather than "hit," subject gave higher speed ratings. Memories can clearly be altered.

Entire memories can even be fabricated. The thesis of the book chapter was that implanting entirely false memories could change people's food preferences and eating behaviour. Through various experiments, the aforementioned authors discovered that people can develop false memories about foods, such as getting sick from a particular food (e.g., egg salad sandwich), or liking the food as a child (e.g., asparagus). People are more likely to develop false memories for *uncommonly* eaten foods, such as ice-cream, and less likely to develop them for common foods, such as cookies. This makes evolutionary sense; humans are wildly omnivorous—we can eat almost anything, meaning we often encountered novel foods and needed to learn quickly if that food was poisonous. Thus, we can more easily develop aversion to novel food. In contrast, it is

difficult to convince us that familiar foods that we have eaten for years suddenly turned poisonous and made us sick.

There are some commonly eaten foods, however, which are amenable to false memories. These are foods that contain naturally more “disgusting” (easily spoiled, or smell rotten) components, such as yogurt (dairy spoils) and eggs (which naturally smell of sulphur). This also makes sense in evolutionary terms. Although, pickles are also among that list, which is a bit mystifying.

Most interestingly, and to the point, they found that with false memories came corresponding attitudinal and behavioural changes. In one study, half the subjects developed the belief that they loved asparagus when they first tried it. A week later, the experimenters emailed the subject asking them to come into the lab, and pick what foods they wanted to eat; they ranked a list of sandwiches and vegetables by what they preferred. Thirty-four percent of the subjects in the Love Asparagus group indicated that they wanted asparagus. This suggests that false food memories influences preferences and behaviour. In another study, subjects were told that they got sick from egg salad as a child. Thirty-five percent falsely believed that this happened.

Different types of sandwiches were offered at a later session, including egg salad. There was also a follow-up four months later, disguised as an unrelated taste-test. Participants were told that the food was going to be thrown out and that they could eat as much as they wanted. Those who erroneously believed they got sick from egg salad were less likely than others to eat egg sandwiches, both shortly after and four months after receiving false feedback. They also gave lower appearance and flavour ratings to egg.

I was not involved in the original experiments. My part was on researching applications for other health issues and disease. This focused on the “false memory diet,” suggested and coined

by Danny and Loftus. It's highly controversial idea, suggesting the implantation of false memories in order to manipulate diet choices. Nevertheless, it could be useful for neo-phobia (fear of trying new foods, which often results in restricted vegetable and fruit intake) and obesity. Ideally, the false memory diet would help people eat more healthy foods and fewer unhealthy ones—including alcohol.

Unfortunately, an average of merely 23% of subjects developed false food memories. So even if a false memory diet were to catch on, it would have a small market. Moreover, it's unclear exactly who would benefit in the first place. Then there are obvious ethical concerns. First, you're *implanting fabricated memories*. Second, a false memory diet could exacerbate eating disorders. That said, just as how the same medication brand may be good for one but harmful to another, false memory diets could still be helpful for some people.

Relevant references:

Bernstein DM, Laney C, Morris EK, Loftus EF. Soc Cognition. 2005a;23:11–34.

Bernstein DM, Laney C, Morris EK, Loftus EF. P Natl Acad Sci USA. 2005b;102:13724–31.

Bernstein DM, Godfrey R, Loftus EF. In: Markman KD, Klein WMP, Suhr JA, editors. The handbook of imagination and mental simulation. New York: Psychology Press; 2009. p. 89–112.

Geraerts E, Bernstein DM, Merckelbach H, Linders C, Raymaekers L, Loftus EF. Psychol Sci. 2008;19:749–753.

Laney C, Morris EK, Bernstein DM, Wakefeld BM, Loftus EF. Exp Psychol. 2008a;55:291–300.

Laney C, Kaasa S, Morris EK, Berkowitz SR, Bernstein DM, Loftus EF. Psychol Res.

2008b;72:362–75.

Laney C, Bowman-Fowler N, Nelson KJ, Bernstein DM, Loftus EF. *Acta Psychol.*

2008c;129:190–7.

Scoboria A, Mazzoni G, Kirsch I, Relyea M. *Appl Cognit Psychol.* 2004;18:791–807.

Scoboria A, Mazznoi G, Jarry J. *Acta Psychol.* 2008;128:304–9

**3. You entered an emerging field co-founded by Dr. Patricia Churchland called ‘Neurophilosophy’. Can you describe the field?**

Neurophilosophy is the study of consciousness in philosophy that draws heavily on (cognitive) neuroscience and related sciences. My supervisor, Kathleen Akins, gives an excellent detailed description on her website:

Neurophilosophy" is an interdisciplinary field at the intersection of philosophy and the neurosciences. In Neurophilosophy, we attempt to understand how various traditional, longstanding problems about the nature of the mind and the world can be resolved (or at least nudged towards resolution) by current findings within the neurosciences. In this group, we use current research within neurophysiology, neuropsychology, neuro-ethology, and psychophysics in order to understand the nature of perception, cognition, consciousness, the emotions, and mental representation in general.

<http://www.sfu.ca/~kathleea/>

(Please excuse the lack of APA style citation for the sake of ease).

I understand that ideally, there would be a 2-way dialogue between the disciplines—neuroscience informs philosophy, and philosophy can help guide neuroscience through testable hypotheses. Though I do not know how often, philosophers actually affect contemporary psychological sciences.

Neurophilosophy can be confused with philosophy of neuroscience, but they are distinct. The latter belongs to philosophy of science, and studies the foundations of neuroscience and its methods (see Stanford Encyclopedia of Philosophy [SEP]). SEP gives the following examples; philosophy of neuroscience might ask about different conceptions of representation and how they are employed in neuroscience. In contrast, Neurophilosophy might examine how neurological disorders affect our view of a unified self.

#### **4. Why did you choose it for graduate studies?**

Because it is sexy. I wanted to get at the root of consciousness—specifically the neural correlates-- and felt as though cognitive and perceptual psychology mostly tap around the periphery. I wanted to get at the heart, and figured that it would be either cognitive neuroscience or philosophy that would get me there.

Anyhow, I emailed Christoff Koch (Biology department, but famous for his work on the neural correlates of consciousness with Francis Crick) for advice on what was required to get into CalTech program. He was very amiable and responded soon after, advising a strong background in math, physics, chemistry, and/or bio. At least a minor in one of them would be preferable. Bummer. I was at the time, willing to go back and get the requisite background, but my lack of quantitative aptitude would continue to be a hindrance (I did well in psychological stats, but struggled horribly with calculus). I didn't feel like I would thrive in the hard sciences

environment. That's certainly not to say that philosophers don't make good quantitative people! Often it's quite the opposite—for example, many physics undergrads with a thirst for the nature of reality (metaphysics) end up in philosophy. This comes from a professor of mine, Dr. Holly Anderson, who has a BA in physics.

Aside from the quant conundrum, I still loved philosophy. A previous PHIL professor, Dr. Colin Ruloff, finally helped convince me that philosophy was a sweet route. He had been telling me for years that I should go into philosophy, but I kept saying, “No, I like philosophy, but I want to do Psychology. I want the empirical side of things.” Well, in Neurophilosophy, you get both. Colin pointed out that Dennett and Churchland (both prominent neurophilosophers) visit ‘neuro labs’ and talk to the scientists. That sounded good to me. I mulled everything over and decided that I would go philosophy.

**5. What topic(s) seem unsettled and controversial in Neurophilosophy? If any, how do you analyze the topic(s)?**

Take your pick. The nature of representations, unity of self, colour vision, inverted spectrum, sensory modalities, perception of time, emotions, social cognition... Neurophilosophy is still a toddler—a really smart toddler, mind you. It's an open field out there. (Ha, stupid pun.)

Analyzing the topics is a challenge, at least for someone who's not used to coming at a problem from two different disciplines. Take the following illustration: I am taking this fall (2012), appropriately called “Neurophilosophy.” For our projects, we pick a topic that traverses both philosophy of mind and neuroscience (surprise!). We look at the literature in both fields, and then synthesize them. Therefore, there are two components in Neurophilosophy: Analyzing the issue from both sides, and then synthesizing the sides. I do not know if it is all like this, but looking at some other pieces of Neurophilosophy (e.g., the Church lands, Akins), it seems to be a



similar sort of process. I would recommend the piece, “What is it like to be boring and myopic?” where Kathleen describes in detail a bats echolocation system and surmises that through bat physiology and neuroscience we can indeed know what it’s like for a bat to be a bat (Akins, 1993).

**6. You probably had philosophical assumptions prior to entering university. How have your philosophical views changed over time to the present?**

I would say so. I now realize that philosophers can (and often do) object to assumptions that I’ve carried over from psychology. For example, I thought that it was a pretty easy answer as to whether there are moral truths; namely, “no, there aren’t any.” After all, morality *evolved*. If it evolved, then it’s superfluous to posit moral truths that exist objectively and independently of moral/social creatures. Now I realize, after working on the third version of a final paper for a meta-ethics class, that this question is not so easy to answer. There are many smart people arguing for moral realism, and they can make quite convincing cases. I was questioning my view (as I should be). Now, my view on morality is basically the same as it was (I don’t think there are moral truths), but it took more reasoning than I expected. In sum, I am slowly learning that sometimes what seems most obvious actually takes a good solid argument to establish.

In addition, I thought that science could answer every question, though now I am not so sure. Science can’t tell us what we *should* do; it only describes how things *are*. Science doesn’t tell us exactly what an explanation is, or how much you must explain for an adequate explanation. For example, if a 4-year-old asks, “Why does that thing float?” Their parent could answer “because it’s a boat and boats float.” In other words, for a child, learning that something belongs to a category with a particular property is sufficient for an explanation. Obviously, the same is not true for a physicist. They probably want a detailed causal story. But are laws sufficient? They

seem rather empty, merely describing rules. And what exactly is causation? Is it a mechanism with consistent, identifiable parts? Is it what you get when you intervening on variables to control them? Again, it comes down to defining what exactly an explanation is. That is where philosophy comes in.

Lastly, I used to assume that the scientific method was independent of philosophy, thank you very much. Now I've changed my mind. The "artful" component of experimental design seems to be a philosophical exercise, for example. It's the juice that gets the scientific method up and running. Or consider that when we construct operational definitions, we're *stipulating* them.

We're picking out things in the world and identifying them. For example, perhaps "happiness" is X amount of endorphins or being paid more than \$60 K a year. Of course we draw on past empirical work to help us along, but *how and why* we choose particular operational definitions, I argue, are at least partly philosophical. Reason marries science and philosophy.

In short, my previous assumption that science was all and Everything Forever has been overturned. Philosophy, it seems, helps us address questions that science, strictly speaking, cannot—what we *should* do, what explanations are, or how to design an experiment.

## **7. What advice do you have for undergraduate students in psychology intending to pursue graduate-level study?**

Take time to figure out what you really want to do. Talk to many people in different disciplines, professors and students included; when you are prospecting potential supervisors, ask their students what their relationship with the prof. is like, because your supervisor is someone you are going to be in close contact with for 2-7 years. Apply for a Tri-Council Scholarship—it's a pain in the ass, but if you get it, it means not only food and rent, but oatmeal stout and a savings

account—which you’ll probably end up spending on next year’s tuition, but hey, it’ll help out when you’re TA’ing.

Ask yourself if you willing to spend another 2-9 years getting a degree, that might not get you the job you want? Also, if you don’t like travelling, academia probably isn’t the place for you; if you pursue academic work, you’ll go wherever the schools are and wherever the job is.

Psychology and philosophy are overflowing with masters and doctorates, and there are very few jobs out there. For example, if you get a Ph.D. from one of the top 50 philosophy programs, you might have a 25% chance of actually getting a career as a philosopher. And don’t expect the career to happen right away. Many have to wait a number of years before they get an untenured job as a sessional, with no health benefits and unstable work. It’s a damn tough market. That said; if your dream is to be a psychologist or philosopher, do not give up on it quite yet. Even though it’s tough to get into, there *is* still a job market. I hear it is slightly better for psychology.

Of course, you should read Scott Jacobsen’s blog.

**8. Who influenced your intellectual development the most? Have they written any noteworthy books/articles that characterize their views well?**

At the risk of sounding cliché, my professors at Kwantlen played important roles. Certain profs stand out clearly; in Intro Psychology I brought up some sketchy “evidence” from a book for some weird claim about consciousness; Jocelyn Lymburner asked to see the book’s references. That has stuck in my mind for eight years now. Wayne Podrouzek also punched some of the dumb out of me. He pushed me to really think about morality, consciousness, pseudo-science, and personal issues. I used to think I had substantially different sensations and perceptions than others--Rick LeGrand challenged my interpretation, suggesting that perhaps I pay attention to

those things more, and that because I share the human physiology, it's likely that others (can) have similar experiences. Danny Bernstein drilled better writing skills into me (any errors I've made here are thanks to my neglecting his advice). I'm convinced that the 15 rounds of editing on one manuscript gave me my wicked score on the GRE's analytic writing section. Overall, the most valuable thing that I got out of my degree was a radical shift in how I look at the world. I used to have unsubstantiated "New-Age" beliefs (ghosts, psychic powers, etc.). Now I have the training to scrutinize such claims and realize that either there is no evidence, or "evidence" from studies that usually had shitty methodology. It took most of my degree (and the professors) to get there, and the rest to hone my skills.

Outside of Kwantlen, I've been particularly touched by the "4 horsemen," Dan Dennett, Richard Dawkins, Sam Harris, and Christopher Hitchens. These four to me are paragons of critical thinking applied to religious dogma (find them on YouTube to see what I mean. I recommend Harris' (audio) books "End of Faith" and "Letter to a Christian Nation." Harris' succinct, eloquent style is ear-candy; I recommend Harris' (audio) books "End of Faith" and "Letter to a Christian Nation" His book, presumptuously entitled "Consciousness Explained," is an eyeopening read for anyone interested in blind sight, split-brain phenomenon, illusions of time, 1<sup>st</sup> person science of consciousness, and I host of other related issues.

On the topic of colour vision and its pervasive use in philosophical thought-experiments, Kathleen Akins has moved me. She and Dr. Martin Hahn (SFU) are currently coming out with a tome on colour vision. Colour is not the basic property philosophers and others often think it is; chromatic information (hue / wavelength, brightness, and saturation) are each processed for multiple different functions, such as motion detection, object identification, and distinguishing surface properties from atmospheric ones (e.g., looking at obnoxious blue pants in a yellow-lit

store looks different than under sunlight, but we compare the pants to colours of other objects to figure out what the colour of the pants actually are).

On a totally different vein, my interest in physics have led me to David Bohm's "The Implicate Order," where he discusses a notion based on quantum mechanics that events, not objects, are basic units of reality. In the first third of the book, he even suggests a verb-based language to reflect this—a rather philosophical endeavour for a physicist! He later argues that the universe is something like a hologram, with information about the whole existing in every part.

Of course, no dilettante of physics would be complete without Stephen Hawking, the god of black holes. His book "A Brief History of Time" is a pleasant-to-read, comprehensive overview of physics, starting with some of its philosophical roots (Aristotle), and discussing the evolution of physics, including, of course, our theoretical knowledge of black holes. I fell in love with those mysterious things in grade four, and owe much of the satisfaction—and sparking—of my curiosity to Hawking. Could black holes really lead to other universes? Is that where half of my socks have gone?

Coming back to Earth, dish-washing has become a mental adventure; the dishes feel solid, but are actually mostly empty space interlaced with collapsing probabilities—or something to that effect. (Thank you string theorist Brian Greene, for your description of quantum mechanics).

When you are exposed to these ideas, you look at your environment and think, Holy shit, this is awesome. And then you wonder how a physical thing like your brain could produce all these fantastic experiences. Then you pursue something like Neurophilosophy.

How has physics for lay people influenced my intellectual development? (1) By giving me mental stimulation, satisfying and provoking my curiosity in the nature of reality, and (2) by

showing me that this is the value of science brought to the public. I think that science has a duty to share its findings with the public, and these authors have demonstrably (and admirably) fulfilled that duty. I think the same is true of all academic disciplines; access to what the Ivory Tower is finding can enhance the life quality of the (interested) public. At least, it did for me. And considering the public funds our work, it's important to give information back to them. In this way, every academic author of books (that I have read) for the common person has affected me.

---

---

**PATRICIA COBURN: GRADUATE STUDENT**

**SIMON FRASER UNIVERSITY**

---

---

**Issue 1.A, Subject: Psychology**

**1. Where did you acquire your undergraduate education? Where do you conduct your graduate studies?**

I graduated with a BA Honours in Psychology from Kwantlen Polytechnic University. I recently began my Masters in the Forensic Psychology Program.

**2. Where did you work prior to researching in Psychology?**

I had various jobs. I was a farmer, a sign-maker: My most recent job was at a Casino.

**3. You worked in a cognition lab with Dr. Daniel Bernstein. How did you become part of his lab?**

There were two reasons. Mainly, I was interested in going to graduate school, but I felt unsure of how to get there. As well, I received good advice from the current Chair of Psychology at Kwantlen, Dr. Wayne Podrouzek. He suggested if I wanted to go to graduate school, I should acquire some research experience. I had taken memory with Danny and really learned a lot while enjoying the experience. I thought he was a friendly and approachable person.

**4. How would you describe your experience working in a Psychology Lab? What positive and negative parts come with managing a lab?**

I would describe the experience almost entirely positive: necessary to go to graduate school, and probably a big component of my education. I have recently realized that a lot of my education that is relevant did not come from the classroom alone, even though I really enjoyed my classes, learned a lot, and appreciated the instructors. However, there comes a point where you are so proficient at learning material in a textbook that you need a new experience, such as a lab setting with all concomitant experience. It brought me out of my comfort zone. It gave me all of the skills that I needed for graduate school. I can only recommend it for anyone wanting to go to graduate school specifically in Psychology. Additionally, I think it prepares people for graduate

school in general because of the workload. Managing a lab of 12 people really took a large amount of time: scheduling the studies, trying to get rooms for the studies, keeping track of everyone for their studies, overseeing data entry, ethics applications, and contacts with people in the research office. Even though, it was challenging and time-consuming at times, it probably, in terms of graduate school, was the most valuable experience I had at the undergraduate level.

**5. What kinds of research have you conducted up to the present? For your graduate studies, what research do you conduct?**

Up until I graduated from Kwantlen, my research mainly focused on perspective taking, different cognitive biases, theory of mind, theory of mind deficits, individual differences in perspective taking, and a lifespan approach to theory of mind. As well, I did a bunch of hindsight bias research with Danny and worked on one of his false memory studies. I acquired a fairly well rounded experience, in terms of research, but most of it looked at perspective taking. My research now looks at perceptions of child witness credibility. In particular, I look at how adolescents are perceived in legal settings. I try to incorporate what I learned at the

Undergraduate level. I look at the way certain biases and stereotypes influence decisions, when people are dealing with children and adolescents. Although, my undergraduate research has influenced or transferred to some degree I have taken a slightly different path.

**6. With your expertise, what topic(s) seem most controversial to you? How do you examine these topic(s)?**

Maybe not controversial, but in my area because Judges do not like to talk about the way their decisions are determined and jurors are prohibited from talking about the deliberation process, my research is limited. It could be considered controversial because it is different from the



American system. Jurors are allowed to discuss the process, making the system more transparent in a sense. Although, I understand the reasons for why jurors are prohibited from discussing the deliberation process in Canada, it makes my research difficult. I end up having to do many mock juror designs, which could be criticized. Many people might question the ecological validity of that type of research. However, I use university participants, as many of us do. I try to argue that certain cognitive processes are inherent to all human beings. So, we can look at university participants and how they make a decision in a certain area, or if presented with a certain scenario. Some of that will transfer to a juror or even a judge. I believe that judges are better trained than the average person is, but some of these biases will be inherent to the fact that they are human.

### **7. How would you describe the evolution of your philosophical framework?**

My philosophical framework, I would say that my philosophical framework has evolved even since I entered graduate school. I am still a strong believer in things that can be measured empirically. I subscribe to the empirical model, especially that model of acquiring knowledge. Taking Law courses and looking at the operation of the legal system, I have begun to understand certain questions cannot be understood in the lab. I am beginning to gain a broad perspective on how to best answer questions in different areas. I have acquired a better appreciation for other approaches to knowledge. I have gained some practical experience in court and feel there are some questions we simply do not have the answers for, and we cannot necessarily find them using measurement and experimental design. From this, I have gained an appreciation for people that simply spend a great deal of time thinking and debating the hard questions.

There are certain things where we never know what ground truth is. However, even though I have an appreciation for debate or discourse that attempts to get at questions that do not, or appear to not, have an answer, it does not mean we cannot move closer to the truth through replication and good methodology. We can move towards the direction where we become more confident with those results. Of course, we have to be open to the fact that we could have been wrong. Having good methodology and replicating studies will increase our confidence in those questions that seem difficult to answer. Sometimes it is really more of a philosophical question such as “What is a natural human right? What are human rights?” these sorts of question can only be debated and not measured, as far as I am concerned. However, so many questions can be measured. It is about getting the right study, asking the right questions, gathering the information and bit by bit and we get closer to learning the answers.

#### **8. If you had sufficient funding, what would you most enjoy researching?**

I am notoriously bad for being interested in too many areas. If I had unlimited amount of funds, I would probably, staying in my own area, travel to different countries and observe different legal systems. I would talk to jurors that I am allowed to talk to, and do decision-making research. I would compare the different country’s legal systems, and their different approaches. These are important questions. I consider how we treat people in the legal system from the time they are arrested to the time they are acquitted or convicted says a lot about our society as a whole, and looking even to our most direct neighbours there is a good deal of difference. It is evident in the standard of living and the quality of life for the citizens. I would love to do a kind of the international – it seems somewhat idealistic, but you have given me unlimited funding – I would like to do an international comparison of different legal procedures and look at which ones seem to have the best outcomes, and the least consequences. I think the treatment in some countries in

some areas less than humane and there is a lot of room for improvement, just through the legal system, e.g. through prosecution, conviction, acquittal, wrongful convictions, how people dealt with in the community, how people are released and rehabilitated in the community.

**9. For students looking for fame, fortune, and/or utility (personal and/or social), what advice do you have for undergraduate students aiming for jobs/careers in Psychology?**

For students looking for fame, write a good ‘catchy’ book, because you will not become famous doing the hard-core science: being an experimental psychologist. Some do, but much of your hard work and time will be spent in front of a computer. I do not think it is about being famous. One of the things I have learned over the past couple years is a lot of my time is spent writing...alone- writing for myself and not really for other people. It is something you do because you are simply motivated. You will not have that constant positive reinforcement, especially those looking to become famous. If you are lucky, I think you can become a successful psychologist. Yet, I truly think those who become famous are rare. I suspect for the most part an academic career, in experimental psychology, means spending a number of hours in solitude in your room, office, or lab with your own ideas...But there will always be time for fun.....at conferences.

**10. Whom do you consider your biggest influences? Could you recommend any seminal or important books by them?**

I tend not to have famous people as influences. I tend to look up to people who I have contact with on a regular basis. Those are the people that I consider my role models. Obviously, my current supervisor. I think she is a great fit for me. I have a great deal of respect for her. She is a very hard worker. She knows a lot about the area and is very dedicated. She is someone I

consider a role model and has a lot of influence in my current life. Of course, Dr. Danny Bernstein is perhaps the most influential in my undergraduate career. He pushed me to work harder than I ever imagined. If it were not for him, I would not even know what I could do. In addition, he helped me become a better writer, which is a difficult skill to improve on once you begin to get A's on all of your papers. Working with him really improved my skills. I am grateful to the entire Psychology department because it is a good set of instructors. I find, probably across my lifetime and especially in my time at Kwantlen and SFU, teachers have had the greatest influence. So, I can only recommend two books because I do not really read many books, unless they are assigned to me: the Road and the Count of Monte Cristo. Although, if you are like me, and kind of a crier, then you might not want to read the Road. The only famous person that has really influenced me is Camus. I do not even really know why, but I think his viewpoints or writings during World War II are moving. If I was to pick a famous person, it would be Camus, and the book would be the Plague or perhaps the Outsider – not the Outsiders – but the Outsider. I did not read the French version of either, and I will admit to that, but the Plague would probably be my favourite.

---

## **DR. DANIEL BERNSTEIN: PSYCHOLOGY INSTRUCTOR**

### **KWANTLEN POLYTECHNIC UNIVERSITY**

---

**Issue 1.A, Subject: Psychology**

**1. What positions have you held at Kwantlen? What work have you performed here?**

I have been an instructor of Psychology since 2005, when I began working at Kwantlen. In addition, I have sat on various departmental and university-wide committees while at Kwantlen.

**2. Where have you worked prior to Kwantlen?**

After I graduated from Simon Fraser University with my Ph.D., I was a Postdoc from 2001 to 2004 at the University of Washington. I started working at Kwantlen in 2005, and for the first year at Kwantlen, I was a visiting assistant professor at the University of Washington,

**3. How did you gain interest in Psychology? Where did you acquire your education?**

I was always interested in Psychology. I was the go-to person when I was young for friends' troubles. I was always the mediator for relationships going askew because I never managed to have lasting romantic relationships of my own. When I was young, I took a real interest in the Clinical aspects of Psychology, the areas that tend to be of most interest to people. Later, I started taking an interest in the non-Clinical aspects of Psychology.

My undergraduate degree was from the University of California Berkeley. Following this, I did a Master's degree at Brock University in Ontario. Then, I did my Ph.D. at Simon Fraser University, and finished a Postdoc at the University of Washington. That is all of my Postsecondary education.

**4. What kinds of research have you conducted up to the present? If you currently conduct research, what form does it take?**

That would take a long time to answer. I will give you very broad-brush strokes. I started doing work in sleep and dreams as an undergraduate student. I continued that work as a Masters student. I did my undergraduate and master's work on sleep and dreams. While a Masters

Student, I became interested in the cognitive effects of mild traumatic head injury. I continued that work when I started my Ph.D., but that was not the subject matter of my Ph.D. My Ph.D. work was on memory. More specifically, I studied how people make mistakes when thinking about the past. During my post-doc, I studied cognitive biases - or how people err in their cognition. I continue to pursue this work now.

**5. Other institutions in Canada host more research-activities. Where would you like to see research move forward in Kwantlen?**

I would like to see Kwantlen embrace a research culture without being bogged down with the treadmill mentality of chasing publications for tenure, and that is a fine balance to strike because it is hard to get people interested in research if that is not part of their job. I would like to see Kwantlen develop more of a research culture by offering and attending research talks and colloquia. Exposure to research will stimulate discussion about research. Currently, most conversations at Kwantlen center on teaching. This makes sense, after all, because Kwantlen is primarily a teaching institution.

**6. Since you began studying Psychology, what controversial topics seem pertinent to you? How do you examine the controversial topics?**

I think the first controversial topic that I really sank my teeth into was mild traumatic brain injury, which came from my own experience of skiing into a tree while a senior in High School. I had other head knocks growing up playing sports. I was just very interested in how these experiences affect someone's cognition over the long term. The prevailing wisdom in 1993 was that people recover almost entirely from these head knocks within a short period, typically within 3 months. I did not believe that. I also did not believe that researchers were using the right tasks to elicit long-term cognitive deficits associated with mild head injury. Therefore, I took a

controversial stance and argued, along with others, that these injuries possibly never resolved completely. I thought that if you smack your head hard enough that you have to stop what you are doing because you are dizzy, disoriented, or unconscious, you will have subtle residual deficits for the rest of your life. It does not mean everybody will have these deficits after a mild head injury. Instead, it means that when compared to individuals who have not bonked their heads, those who have sustained mild head injuries, will perform worse on highly demanding cognitive tasks years after the injuries. I think the tide is changing, and more people are open to this possibility.

When I was an undergraduate student, I studied dreams too, which was controversial by its very nature. While working on my post-doc much later, I got interested in False Memory. A highly controversial topic. I worked on this topic with Elizabeth Loftus, who served as a kind of lightning rod in this controversy. Beth showed me how to navigate controversy. In addition, while doing my Postdoc, I got interested in doing Hindsight Bias and Theory of Mind. Theory of Mind is the understanding that other minds are different from one's. The prevailing wisdom in the developmental psychological field is that by the age of four and a half or five, children develop a theory of mind. It is as if a 'light bulb' goes on inside the child's head. You not only understand that other minds are different from your own but that other people can hold mistaken beliefs about the world. Once you have this mature theory of mind, it is not something that extinguishes. But the acquisition of theory of mind is regarded by many as all or none – you have it or you do not. Very few things in psychology or in the world at large are all or none. With the exception of neurons, which either fire or do not fire, I can't think of other examples of all-or-none constructs. I remember that in graduate school I was taking a seminar course on neuroscience. One of my colleagues in the program was doing his presentation on gender

differences in the brain. He had racked his own brain for hours in preparation for his presentation and he had come into the presentation without any sleep. He came to class dishevelled the morning of his presentation. He said something to the following effect: “It occurred to me a few hours ago. The problem with this field is that gender is not discrete. It is continuous. It is not a categorical variable. Moreover, the reason that this field is so fucked up is that people refuse to appreciate the nuances of continuity. Instead, they want to slot you into this gender or that gender. Then, they look for differences in the brain. Well guess what folks, these differences are very difficult to detect on a consistent basis.” This was a deep insight. As I said, with respect to Theory of Mind, most people believe that it is categorical, you have it or you don’t. I am trying to show that it is not categorical. This is a controversial topic in a controversial field.

**7. If you had sufficient funding for any topic, what would you research?**

Exactly what I am studying now: Hindsight Bias, Theory of Mind, and False Memories.

**8. Many assume scientists and social scientists to have ‘Eureka’ moments, where they discover some fundamental process about nature in an instant. Yet, the truth of research comes from the rarely heard story of the scientist or social scientist assiduously working for years in the laboratory, and finding clues to fundamental processes in nature. How do you conduct research? What do you consider your methodology for coming to new ideas, developing research hypotheses based off them, and designing experiments and requisite materials for said ideas?**

I do not know. I do not think that I am very organized about it. I pursue questions that are interesting to me. Sometimes I wonder if I am interested in too many questions. Something will occur to me and I think it is a good question. I talk to colleagues, and they sometimes agree that



it is a good question. Sometimes, they disagree and tell me that it is not a good question. If I think that a question is worth pursuing with an experiment or set of experiments, then I will set out to design the simplest experiment(s) to answer that question. Very few questions can be answered with a single experiment. I start with an experiment that can answer part of the question. As I delve more deeply into the question, I realize that I am signing onto years of experiments to answer the question more fully. I speak here only for myself. Many questions I choose to ask will not have ready answers, and I know that they will take years to answer. I probably choose hard questions intentionally. Who wants to answer easy questions? I find that boring. In fact, in research, I do not think I have answered fully any question I have asked. However, I am not alone. I do not think Psychology fully answers the questions it asks. Psychology is too variable. It is too multifaceted, and it is too fraught with interactions. We try to simplify things as much as possible so that we can do our experiments and talk about the nature of behaviour as if we understand it. Moreover, the busiest we ever seem to get in an experiment is a 3-way interaction. Really, folks? We are studying human nature and behaviour after all. Thus, it is unlikely that we will derive a satisfactory explanation from a 2-way interaction or a 3-way interaction. Our answers will probably require a 100-way interaction. We are years away from answering even the most fundamental questions regarding human behaviour precisely because those answers require extremely complex interactions. Perhaps we ask hard questions in Psychology because we do not want to answer those questions quickly. We want a good set of questions that we can pursue long into the future.

**9. For students looking for fame, fortune, and/or utility (personal and/or social), what advice do you have for undergraduate and graduate students in Psychology?**

Read. As much as possible and widely. Do not be afraid to ask difficult questions. Do not be discouraged by people's attempts to tell you that you are wrong. In the end, it is not so much about who is right or wrong, but about sticking to your guns and pursuing your questions, being open to criticism and feedback, valuing criticism and feedback, incorporating it into your pursuit, and adjusting your pursuit accordingly. That said, I remember reading an article some years ago in the APA monitor, the magazine of the American Psychological Association. The person who wrote it was a long-time cognitive psychologist. He had supervised some of the most influential cognitive psychologists working today. His advice was that it is just as important to have a good question that you can pursue for a long time, but that it is also important to be able to give up if the question is intractable. If you are pursuing a question that does not seem to be yielding at all, then it is time adjust your question, potentially ditch it and find a new question that does yield.

**10. Whom do you consider your biggest intellectual influences? Could you recommend any seminal or important books by them?**

Thomas Kuhn, *The Structure of Scientific Revolutions*. I took a course as an undergraduate with George Lakoff, who is a modern Whorfian and a linguist. Lakoff believes that our language and metaphor dictate the way we think rather than vice versa. This idea turns cognition on its head. It is not so much the way we think that dictates the way we speak, but the way we speak that dictates the way we think. The course was on metaphor, and the course was pivotal in shaping my interests. This course taught me to ask big questions, and to embrace controversy. In this class, we read "Metaphors We Live By", Lakoff and Mark Johnson. Great book. Also as an undergraduate, I read Freud's *Interpretations of Dreams* in my second year, when I took a directed study with my undergraduate supervisor Arnie Leiman. More than Freud, Arnie Leiman sparked my intellectual curiosity. Leiman was incredibly well read and once told me that, "When

you cease to be well-informed, you become an asshole.” He was describing academia and beyond. If you want to be a responsible academic or world citizen, you should be well informed. This reminds me of Bob Dylan’s great line in a Hard Rain’s Gonna Fall, “I’ll know my song well before I start singing.” Other intellectual influences? During my Ph.D., I worked with two smart people: Vito Modigliani and Bruce Whittlesea. During my post-doctoral work, I had the great fortune of working with Elizabeth Loftus, whose “Eyewitness Testimony” profoundly shaped the way we interview witnesses and view their testimony in legal cases. In addition, during my postdoc, I worked with Geoff Loftus and Andy Meltzoff who have both had huge impacts on psychology and my intellectual development. Other great academic works: Vygotsky’s Language and Thought and Mind in Society. Works of Fiction: Brothers Karamazov by Fyodr Dostoevsky. I once read or heard, but have not verified that Freud called Dostoevsky the greatest Psychologist. I think writers of fiction have a finger on the pulse of human nature and human behavior, and psychologists often overlook this fact.

---

---

**DR. KEVIN HAMILTON: PSYCHOLOGY INSTRUCTOR**

**KWANTLEN POLYTECHNIC UNIVERSITY**

---

---

**1. What positions have you held with Kwantlen? What work have you performed here?**

I have been a faculty member of Kwantlen's department of Psychology for approximately 15 years, teaching, and conducting applied research in an area known as Human Factor's Psychology. During that time, I have been involved in a number of department and institutional initiatives.

A little over 10 years ago, I headed a committee responsible for developing the first applied academic degree, namely the Bachelor of Applied Arts in Psychology (BAA). This degree focused on workplace psychology, community service, research methods, and data analysis. The BAA was designed to provide employability skills including those necessary for further graduate training. Later I headed a committee that initiated Kwantlen's Office of Research and Scholarship and our current Institutional Research Ethics Board (IRB). From 2008 to 2011, I served as Department Chair for Psychology, during which time our first formal program review and strategic plan were completed. Currently, I serve on Kwantlen's IRB and on the Senate Task Force for Academic Rank and Advancement.

## **2. How did you gain interest in Psychology? Where have you acquired your education?**

I became seriously interested in Psychology while completing a Master's Degree in Environmental Studies at York University in Toronto. Prior to studying at York I completed an Honours BA at the university of Prince Edward Island with a double major in Philosophy and English. In secondary school I was enrolled in a pre-engineering program.

At York, I studied with Dr. Daniel Cappon, a physician who investigated human behaviour and health in the context of the built environment, architectural design and building interiors. While completing this degree, I was a teaching assistant for a professor in the Psychology department, who conducted Human Factors research, and was later introduced to Dr. Barry Fowler a

Psychologist who worked in this same area with the School of Exercise and Sports Science. Dr. Fowler specialized in extreme environments and human performance. My doctoral work with him examined cognitive impairment associated with deep sea diving – *inert nitrogen narcosis*. My comprehensive area focused on biological rhythms and shiftwork. As part of my doctoral studies, I was employed as a research assistant and helped manage some of Dr. Fowler's research contracts with Defence Canada.

Following my Ph.D., I was awarded a Post-Doctoral Research Fellowship, funded by the Natural Sciences and Engineering Council (NSERC). In this capacity, I became further involved with Defence Canada for 2 years studying spatial disorientation effects associated with pilots training on flight simulators.

### **3. Where have you gone to work prior to joining Kwantlen.**

In 1989, following my Post Doc, I began work as a Defence Scientist at the Defence and Civil Institute of Environmental Medicine (DCIEM) in Toronto. DCIEM is a Human Factors Lab and in this position I was engaged in a number of projects concerned with the performance of military personnel in a variety of extreme and unusual operational environments. Here, I developed considerable expertise in Environmental and Human Factors Psychology.

After approximately 7 years, I left Defence Canada and moved to Vancouver to take a job with Hughes Aircraft as a Human Engineer, helping to redesign Canada's air traffic control systems. The project was called the Canadian Automated Air Traffic Control System (CATS) and focused largely on workstation and computer interface design and large scale evaluations. As CATS neared completion, I was hired by BC Research Inc. (BCRI) as a Senior Ergonomist. At BCRI I was involved with several Coast Guard and US Army projects, again focused on performance in

extreme operational settings. In 1997, I moved to Kwantlen to help teach in what was to become a new Applied Psychology Program.

**4. What kinds of research have you conducted up to the present? If you currently conduct research, what form does it take?**

In addition to the work I've already described, I have had a number of Honours students at Kwantlen and have supervised their theses in areas including Post Traumatic Stress in firefighters; computer interface evaluation with online learning; GPS integration in aircraft cockpits, and, most recently, hazard recognition training with coastal tree fallers - the most at risk profession in North America for accidents and fatalities. Currently, I am helping WorkSafeBC looking at the use of 3D degraded imagery in hazard recognition training.

**5. Since you began studying psychology, what controversial issues seem pertinent to you?**

Working in applied research, I have seen several instances of people's and organization's agendas getting intertwined with how information is collected and reported. I learned that 'politics and science' can frequently become intertwined. As a researcher, I firmly believe that we need to be very cautious of such influences and that we should strive to be as objective as possible, regardless of research outcomes. In my view, the best approach is to let the science speak for itself.

**6. How would you describe your philosophical framework for understanding psychology?**

**Have your philosophical frameworks changed over time to the present?**

I suppose I would say that I try my best to strive for a philosophical perspective that is broad, all inclusive, and as objective 'as possible'. Human Factors research utilizes a systems approach in trying to understand the complex relationships between human beings, their behaviour, the tools

they use and the environmental contexts in which they work and live. These relationships are the result of a multitude of variables interacting. Identifying relevant variables, their relative contributions to system output, and how they coexist dynamically, I believe is the key to really beginning to understand how things work. However, developing this kind of perspective is ongoing and rooted in accepting that we must continuously change how we look at things. Science in itself is but one system of comprehension, founded on assumptions which have their own logic and reality. I am intrigued when modern physicists argue that what we used to consider inarguable realities, such as time and causation, may in fact be mere mental constructs – lenses through which we view the world and ourselves in it. That James Lovelock, the reputed NASA scientist, in his mid-nineties decided we need to re-think everything and consider earth is one living organism is indicative of the value of fostering ever changing and broader perspectives. The universe and understanding what's in it and how it works may be out of reach for mere human cognitive capacity. But the privilege of being able to contemplate such matters is a gift beyond compare. Perhaps the Taoists had it right when they said that as soon as you begin to use language to differentiate thought real comprehension becomes impossible. In answering your last question – “have your philosophical frameworks changed over time” – absolutely – and I am excited by the prospect that they will continue to do so!

---

---

**LOUISE MEILLEUR: GRADUATE STUDENT**

**OHIO STATE UNIVERSITY**

---

---

**1. Ohio State University How did you gain interest in psychology? To date, where have you acquired education?**

I was first interested in Psychology in high school, but I knew that I wasn't interested in counselling as a profession and, like many, I didn't really realize that Psychology involved much more than counselling. In 2004, I looked for a career change. I decided to attend an information session on the Bachelor of Applied Arts in Psychology and the whole world of applied and experimental psychology was opened up to me. I could see how I could pursue Psychology, but also leverage my experience working with technology. Before that, I felt held back by the idea of "starting from scratch", but when I realized that I could build off of my past experiences, rather than leave them behind altogether, returning to school to pursue a BA didn't seem quite so over whelming.

I received my Associate of Arts and my Bachelor of Applied Arts (Hons) from Kwantlen Polytechnic University. I am currently working towards a Ph.D. at Ohio State University. I will receive my MA in Psychology in December 2012. I'm also working on a Master's of Public Health in Health Behavior and Health Promotion which I'll receive in May of 2013. If things continue as planned, I should be finished my Ph.D. in May of 2015.

While I was still working, I also completed a couple of programs that helped to further my telecommunications career. I received a certificate in Telecommunications Management from Vancouver Community College and a Data Network Administration certificate from Langara College.

**2. What did you pursue prior to your interest in Psychology?**



I spent 12 years working in telecommunications. I started in a Call Center, providing bilingual (French/English) customer service for long distance customers. From there, I started night school to move ahead and ended in management positions at companies like Bell Canada, Telus, and Best Buy Canada.

### **3. What kind of research did you pursue as an undergraduate student?**

I worked in Dr. Bernstein's Lab for two and a half years studying various aspects of social cognition. The B.A.A. at Kwantlen allows you to experience a lot of hands-on research. I was able to pursue projects in many different domains, which helped to refine my interest and led to my honours project - studying the effects of perceptual fluency on risk perceptions. More broadly, I became interested in how our judgments and decisions, and subsequently our behavior, are influenced not just by pertinent information, but erroneous sources that "rationally" should not affect our behavior.

### **4. What have you specialized in at Ohio State University? What do you currently research as a graduate student?**

Officially, my specialty is Quantitative Psychology but my focus is in Judgment and Decision Making, which is grouped together with Quantitative Psychology at Ohio State University. What that means is that my required coursework is mostly in stats, while I pursue my own interests/research. I'm in the CAIDe (Cognitive and Affective Influences on Decision making) working with Ellen Peters. My main interest is in Medical Decision Making and I have been studying how we can manipulate attention to improve health decisions. One of the ways to measure attention is through eye movements. Therefore, much of my data is collected using eye tracking equipment.

**5. Since you began studying psychology, what controversial topics seem pertinent to you?****How do you examine the controversial topic?**

To be honest, I am not terribly concerned with controversial topics. I am much more interested in the application of psychology to improve people's lives. For example, how can we change the way that information is presented so that it actually changes behavior? In my area of research, the biggest controversy that I perceive is the ability to use what we learn to impact people's behavior, specifically their health related behaviors. The question is, "Where do you draw the line between libertarianism (free choice) and paternalism (influencing people to do what you think is best)?" We want to construct an environment that leads to people making the best choice, but who decides what is the best option? As a scientist, my interest is predominantly in how I can affect behavior, but I also need to consider the ethics of using my knowledge in a way that might impede free choice, as well as consider any unintended consequences of any intervention I might construct.

**6. How would you describe your philosophical framework for understanding psychology?**

In general, I am a pragmatist. I am open to using any reliable methodology that allows me to answer the questions I want to ask. I ask questions with a pragmatic nature. In that, they have a clear application with the intention to improve or "fix" a real life problem.

**7. If you had sufficient funding for any topic of research, what would you like to research?**

I am in the enviable position to have the necessary resources available to conduct the research most interesting to me at this time. Later on in my career, I hope to apply my training in psychology and public health to conduct research in order to develop public policies and programs that can successfully improve people's health. We focus so much of our attention on

disease, but the major causes of death and disease are due to health related behaviors (e.g., tobacco use, over eating). I would like to continue to research ways to help people improve their negative and positive health behaviors.

### **8. What advice do you have for undergraduate students intending to pursue graduate-level studies and research?**

The most important thing is start early. Get involved in as much research as possible, go to as many conferences, and if possible present. Start studying for the GRE early; it took me at least 100 hours of preparation. There are dozens of reference books that will tell you what you need to do to get into grad school. Read them because they are mostly correct. The thing that cannot be stressed enough is the importance of selecting an advisor. This is true in undergrad for your honours thesis, but it is critical for graduate school. In a sense, I was lucky when applying to graduate schools; I did not have a clear understanding which schools were good, bad, or average - particularly the American schools. Specifically, I focused on finding people I was interested in working with rather than schools I wanted to go to. I contacted all of the people I wanted to work with via email, phone, and in person where possible. When it comes to the selection process, as much as they are interviewing you, you need to interview them to make sure you can work with them for the next five plus years. Regardless of how great a program, student, or advisor is, if the fit is not right, everyone loses. Even at Ohio State, where the competition to get in is fierce and the faculty are amazing, I have peers who are stagnating, partially due to mismatch with their advisor and, as a result, a number of them have left the program. I am lucky in that my advisor and I have very similar interests and we work well together. It has made all the difference in my research productivity.

One final note, if you do choose to go to grad school you need to prepare yourself for a big change in perspective. Overnight you go from being one of the top students to being decidedly average, and if you don't feel stupid on a regular basis, you're probably doing something wrong and aren't being challenged sufficiently. It gets better, but there will always be someone who is smarter, progressing faster and publishing more than you. You'll need to make sure you don't compare yourself to others and focus on challenging yourself based on your own goals (and those of your advisor).

### **9. What individuals have influenced your thinking the most?**

Except for the obvious choices of my advisors, I think I am too green to name someone who has influenced my thinking most with respect to psychology. I will have to get back to you on that. I will say that I have been enormously influenced by various mentors and teachers throughout my life. When I think of the trajectory my life has taken, and try to pinpoint a single thing that has enabled me to pursue my goals, what is most salient to me is the impact that my second grade learning assistance teacher had while helping me to improve my reading skills. I was told, in no uncertain terms, that I was not allowed to use the phrase "I can't" ever again, followed by frequent reinforcement over the span of a year. Looking back through the lens of my psychology training, I am certain that banning "I can't" at such an early age had a much greater effect than simply changing my vocabulary. Asking the question "how do I," rather than immediately saying "I can't," led to small successes that grew over time and helped me to develop a strong sense of personal agency, that has impacted every aspect of my life including how I approach my education and research.

### **10. If you have any books to recommend for people, what would you recommend as seminal/influential/required reading?**

For a general overview of judgment and decision-making, the Blackwell handbook is quite good.

It is a collection of chapters written by leading experts in various topics within judgment and decision-making.

*The Blackwell Handbook of Judgment and Decision Making.* Eds Derek Koehler & Nigel Harvey, 2007

*Heuristics and Biases* is another collection of papers by various researchers, but it focuses on intuitive judgments, which is of particular interest to me.

*Heuristics and Biases, The Psychology of Intuitive Judgment.* Eds Gilovich, Griffin & Kahneman, 2002

A couple of more commercial books that deal with intuitive decision making that I really enjoyed:

*Blink: The Power of Thinking without Thinking.* Malcolm Gladwell 2007

*Nudge: Improving Decisions about Health, Wealth and Happiness.* Thaler & Sunstein 2009



2013, Spring

Issue 1.B, Subject: Psychology

# In-Sight

INDEPENDENT  
INTERVIEW-BASED  
UNDERGRADUATE  
JOURNAL





---

---

## THE UNIVERSITY AFTER THE YEAR 2000

SVEN VAN DE WETERING, PSYCHOLOGY INSTRUCTOR

UNIVERSITY OF THE FRASER VALLEY

---

---

### Issue 1.B, Subject: Psychology

<sup>9</sup>I am a product of university education. I have three university degrees, and am well on my way to earning a fourth. I should be trying to use myself as a model of what is good about university education. And yet, my first response to a competition for the most interesting essay on the topic of "The University after the Year 2000" was to write a truly boring essay on that topic. What does this say about the education I have received?

I wish I could say I am an exception, that the university is in fact a highly interesting, stimulating place in which undergraduate students, intoxicated with learning, move eagerly from class to class, enjoying a heady mix of exciting, cutting-edge knowledge and profoundly engaging instructional techniques. I would love to say those students are brimming with enthusiasm, and that everything they do is imbued with that enthusiasm. It would be good to believe that their discussions are animated and their papers overflowing with intellectual *joie de vivre*.

Sadly, I have come to the conclusion that this is not so. For one thing, it is evident that undergraduate students are being induced to write papers just as boring as mine. I know, because

---

<sup>9</sup> In the submission format or 'B' section of the issues, the indentation continues to keep with standard procedures of essay submissions.

I have read numerous student papers as a teaching assistant. Many student papers come close to putting me to sleep. Furthermore, students are often bored, as well as often boring. I can see it in the glazed eyes at lectures, the apathetic silence in tutorials, the slumped postures in library carrels. The primary motivating factor for undergraduates at every university I have attended is the same: terror of getting poor marks. Compared to this, the intrinsic joy of acquiring exciting new knowledge seems to be a feeble motivator; sometimes students actively suppress their drive for new knowledge for the sake of greater efficiency in chasing marks.

How did the university get to be such a boring place? Part of the problem, of course, is the competition for marks, which is fueled by the equally frantic competition for various other goods that are dependent on marks, such as scholarships, places in graduate school, jobs, and maybe even self-esteem. For better or for worse, we live in a competitive society, and this society creates a context where competition for marks may be inevitable.

Whenever students focus on marks or other extrinsic sources of motivation, they are bound to lose awareness of their intrinsic sources of academic motivation, such as joy in acquiring new knowledge. If students don't believe they are motivated by love of knowledge, they genuinely do come to value knowledge less (except as a means to various ends). One result of this is the plethora of competent but uninspired term papers that afflicts university markers. Another is the large admixture of cynicism and apathy in students' attitudes toward higher education.

Competition for marks is not the only source of the problem. It is true that competition for marks tends to drive out students' intrinsic desire for knowledge. Nevertheless, this intrinsic desire for knowledge would not be so easy to drive out if this desire were firmly entrenched in the first place. Something that truly excites a person will continue to excite them even after they

find themselves doing it for ulterior motives. In this essay I want to discuss two problems that I believe have undermined the inherent excitement of learning by weakening the esteem in which academic knowledge is held. These problems are the breakdown of metanarratives of legitimation and the fragmentation of knowledge.

### **The Breakdown of Metanarratives of Legitimation**

Jean-François Lyotard (1979) defines the postmodern condition as a state of incredulity toward metanarratives. A metanarrative is a large narrative structure within which the day-to-day stories that help us make sense of our lives are embedded. The Christian construal of the course of world history, centering on the fall from grace, the incarnation of God, and the subsequent salvation of the faithful is one sort of metanarrative. Within this grand metanarrative, people could give meaning to their day-to-day activities by asserting that those activities helped glorify God, or else that they served to improve their personal chances of doing well in the next world. The enlightenment ideal of human progress was a very different sort of metanarrative, one that was particularly valuable in legitimating organized inquiry and making it seem meaningful. Marxism was one variant of that metanarrative.

Lyotard asserts that skepticism toward such metanarratives has become a standard feature of late 20th century discourse. He also claims that such skepticism is not necessarily a bad thing. I disagree. I believe that the inability of most people to heartily believe in some metanarrative has had very destructive consequences. For all their faults (chief among them being the fostering of intolerance and dogmatism), metanarratives do also have one important virtue: they give people a sense of being involved in an important shared enterprise. This sense of doing something important together is practically a prerequisite for enthusiasm. Without this sense, desire for individual accomplishment is the only spur to purposeful activity.

This individual competition is a poor substitute for shared goals as a motivator. Desire for individual accomplishment in the absence of superordinate common goals fosters competition for its own sake, without providing any sense that the activities that constitute this competition are meaningful in their own right. People who lose in the great competition have little with which to console themselves, while those who win must enjoy their laurels in an atmosphere poisoned by the resentment of those they have defeated. The people who hand out the winners' laurels find the atmosphere even more poisoned, because the competitors harbor lingering suspicions that the whole evaluation process was unfair.

It was not too long ago that the universities, and people engaged in the organized acquisition of knowledge in general, still had a metanarrative that helped them imbue themselves with an overarching sense of purpose within the larger society. This metanarrative was the story of human progress, a story that presumably ended with the protagonists living happily ever after. The systematic quest for knowledge that academics engaged in was at the cutting edge of the quest to improve the human lot. Knowledge meant progress because it led to the improvement of techniques for wresting the good things in life from intransigent nature, as well as helping to create more rational human institutions to take the place of institutions that had been built in ignorance and that therefore caused needless suffering.

In recent times, this dream of using knowledge to bring about steady progress in the human condition has become much less credible. The holocaust, the invention of the atomic bomb, and other horrors of the 20th century have made it much more difficult to equate the acquisition of technical, scientific, and social scientific knowledge with the general betterment of humanity. Academics can no longer assert that they are acquiring knowledge for the sake of a better world, at least not when they are trying to legitimate their demands on the public purse.

Instead, they must limit themselves to more limited and specific claims. "It may be that knowledge in general does not serve the human race," they will say, "but the particular type of knowledge I am trying to produce will be cost effective. It will have practical applications. Students who learn what I am finding out will be able to get better jobs, earn more money, and pay more taxes to the government." In other words, academic teaching and research is no longer an important, grand enterprise; at best, it is still a somewhat useful one. Small, practical goals are the order of the day. For an academic to claim any more grandiose ambitions would smack of megalomania. The professor who gets genuinely excited about what he or she is doing becomes an anomaly, a true believer in a world full of skeptics. It is often better for such enthusiasts to hide their enthusiasm beneath a veneer of hard-nosed pragmatism, at least in front of the uninitiated. The undergraduates in the lecture theaters are the first to feel the effects of this veneer, and we already know what happens to them: They get bored.

### **The Fragmentation of Knowledge**

My personal epiphany concerning the fragmentation of knowledge came when I was doing background reading on theories of prejudice, my personal area of graduate research in psychology. My interest in prejudice stems from my strong conviction that there is too much hatred in the world, and that the separation of people into myriads of mutually hostile groups is bad for everybody. As far as I can make out, virtually all researchers in prejudice share my convictions. Thus, I expected that researchers in prejudice would practice what they preach and reach out to all other researchers in prejudice, without regard to minor differences of research emphasis, departmental affiliation, or theoretical orientation.

This is not what I found. Instead, the study of prejudice is profoundly divided.

Researchers who study prejudice from a psychological point of view write as if the sociological

theories of prejudice did not exist. Most sociologists return the favor. Cognitively oriented psychologists who assert that much of prejudice is due to processes common to all of us tend to dismiss psychoanalytic theories that emphasize the role of bad child rearing in creating prejudiced individuals; however, they do not then replace this with a theory of their own that explains why some individuals are more prejudiced than others. The attitude of Marxist sociologists of prejudice toward neoliberal sociologists of prejudice borders on contempt. The attitude is mutual. There are many other divisions in the field of prejudice research; there are at least 28 different theories of prejudice. This sampling should give some indication of the extent to which prejudice researchers exhibit the same incomprehension, intolerance, and outright hostility among themselves that they decry among others. Even more disturbing, these researchers seem unaware of their own hypocrisy in this matter. The study of prejudice, with its obvious practical applications, is severely hampered by the many divisions within what should be a seamless web of knowledge and understanding.

Like the breakdown of metanarratives, the fragmentation of knowledge makes it more difficult for people in universities to believe that they are involved in a coherent, important enterprise. The causes of this fragmentation are quite different from those for the breakdown of metanarratives, though. One very simple cause of this fragmentation is the explosive growth of systematic knowledge, combined with the inability of individual human beings, with their relatively fixed resources of time and attention, to learn any substantial proportion of that body of knowledge (Thorngate, 1990). Collectively, academics come to know more and more, but one of the main effects of this growth of collective knowledge is that, individually, academics come to be ignorant of more and more.

The growth of systematic knowledge to the point where it exceeds the capacity of individual knowers is an irreversible process. Nevertheless, this process does not have to lead to the ever greater fragmentation of knowledge. Other factors that encourage this fragmentation can potentially be reversed.

One such factor is a widespread contempt for generalization and synthesis, at least within the hard sciences (Greene, 1997). Such generalization and synthesis are often equated with popularization, which is not considered a serious scientific activity. Progress in science is seen as being constituted exclusively by the discovery of previously undiscovered facts of nature. Organizing already discovered facts tends to be considered a reshuffling of existing knowledge, rather than the creation of new knowledge. Thus, organization and synthesis of existing findings is not considered research. A similar ethos exists in psychology, where people publishing empirical articles are considered to be engaging in active research, while those publishing review articles are not.

This blinkered attitude toward integration can and should be changed. Incoherent knowledge is a contradiction in terms, yet incoherent knowledge seems to be the goal toward which we are steering. Greene (1997) fears that we are heading for a state of affairs in which the world is dominated by the products of hard science, but in which nobody within that world has a scientific world view. Such a state of affairs would be more than ironic; it could be catastrophic. The growth of human knowledge, even in its present fragmented form, has resulted in a growth of human power to change the environment. If this growth of power is not matched by a growth of wisdom, a growth of the capacity to understand the manifold consequences of human actions, then the human capacity for inadvertent destruction will also increase. It is hard to know how much more inadvertent destruction the world can tolerate before true disaster strikes.

## What Can Be Done?

People in the 21st century are not doomed to be unable to feel a sense of shared purpose. The academic world is not destined to break up into ever more numerous, more specialized, and more mutually uncomprehending fields of study. The students after the year 2000 are not yet condemned to four years of academic boredom. Such outcomes look probable, but they can be avoided if the problems discussed above are recognized and appropriate steps are taken to alleviate them.

Three changes will need to be made if universities are to combat the drifting purposelessness of postmodern skepticism and the stultification of fragmented knowledge. These changes will consist of the formulation of a new, credible metanarrative justification for the organized pursuit of knowledge; a change in incentives to professors to encourage the integration of knowledge; and a change of the undergraduate curriculum to encourage students to develop broad understanding. In the process of implementing these changes, professors and students may find that their enthusiasm for the life of the university is at last rekindled.

### **New Metanarratives of Legitimation**

When I speak of universities needing new metanarratives of legitimation, I am speaking of something more general than mere statements of purpose, such as the one recently drafted for Simon Fraser University by David Gagan (1998). This statement and others like it set out specific goals relating to teaching, research, support for international students, etc. However, a true metanarrative of legitimation does more than just set out specific goals for the institution: It narrates a project that is thought to comprise a goal of the society as a whole, and attempts to delineate the institution's function within that project. Statements of purpose talk about the goals



of the institution, but leave the larger goals of the society within which the institution is embedded implicit.

Many years ago, the organized pursuit of knowledge derived its sense of legitimacy from its pivotal role in promoting human progress. Nowadays, the grand epic of progress looks more like a farce, and the development of technology looks more like a way of creating amusing playthings to fuel increased consumer spending than it does like the best hope for the happiness of the human species. Nevertheless, the dream of progress was not a fraud. Many of the goals for which proponents of progress strove now look silly not because they were unrealistic, but rather because they have already been achieved, and are therefore seen as trivial. There are large sections of the world where nobody ever starves to death, where people seldom work themselves to death at mind-numbing manual labor, where capricious and arbitrary power is, if not eliminated, at least held within strict bounds. Access to education has become enormously easier. The sort of luxury and comfort that used to be the private preserve of the very rich and powerful has become common to all but the very poor.

The main reason for disappointment in the achievements of progress is not a shortfall of achievement compared to expectation, but rather the failure of people to be made happy by the fact that they are materially much better off than their remote ancestors were. Happiness does not come from the absolute level of one's comfort, but rather from the match between expectations and reality. Reality has improved, but expectations have increased apace, and the ratio of the two remains about the same.

The metanarrative of progress has not been discredited, but rather ended. Now we're in the part of the metanarrative that says "and they all lived happily ever after." Even as a child, I always thought that was the most boring part of any story. The ultimate goal is not to live

happily ever after, but rather to be involved in the sequel to the story. The end of one story is not the end of all stories. We have not reached the end of history, as Francis Fukuyama (1992) asserts. We are at the stage where we ask, "Where do we go from here?" This sort of identity crisis is difficult and painful, but should not last forever.

At the time of the rise of the metanarrative of progress, people were powerless in many ways. They had little control over the natural world, which sometimes bestowed its bounty, but sometimes brought plagues or starvation. Most people had little control over the course of their lives, which were heavily determined by the traditions governing their authoritarian societies, and by the positions into which they had been born.

Now technology greatly increases people's power over the environment, while liberal democracy allows ordinary individuals to have a greater degree of control over their lives than would have been imaginable a few centuries ago. The problem now is not powerlessness, at least not powerlessness of the same sort as that that troubled our ancestors. The problem now is that power has outstripped understanding. As a result, it becomes increasingly easy to be harmed by exercising one's power, rather than by being unable to exercise it. People in the richer countries no longer die of starvation because they cannot exercise the option of eating food, as opposed to not eating food. Instead, they die of heart attacks because they can exercise the option of eating food high in fats and salt, as opposed to food high in vitamins and complex carbohydrates. People are no longer at the mercy of arbitrary despots. Instead they are at the mercy of their own inability to distinguish an inspiring demagogue from a true leader at voting time. What people need now is not greater power over the environment and the course of their own lives, but rather sufficient understanding of the consequences of their actions to be able to make intelligent use of the power they already have.

This acknowledgment of the need for understanding is not the same as the widespread truism that we now live in an information age. Information can take the form of thousands of unconnected pieces. Information is the sort of thing computers deal with much better than humans do, yet computers are still more or less devoid of understanding. Computers can easily process huge volumes of information, but they are still incapable of doing many tasks that are easy for human beings. A large part of this inability has to do with something artificial intelligence researchers call the frame problem: Computers don't know when to invoke information from outside a specific knowledge domain to solve a particular problem, nor which information is likely to be useful. In other words, something more than mere information is needed for understanding. That something more is the integration of that information into a coherent whole, leading to an intuitive feel for what sort of information should be used for decision-making in what sort of context.

I believe that the search for understanding has the potential to be the next great epic, the grand quest our society can undertake now that the quest for material and social progress has reached the point of diminishing returns. This is the new metanarrative we need to tell ourselves. Our situation used to be like that of a gardener who had trouble with her garden because she had no way of killing weeds. She set out to acquire ways of killing weeds: detonating bombs, spraying with herbicides, setting fire to the garden, strewing salt over the ground. Now she has virtually unlimited power over the weeds. What is needed is not more power, but rather enough understanding to be able to use that power wisely, so that a healthy garden will be able to grow over the corpses of the weeds.

This quest for the understanding and wisdom needed to make good decisions is a longterm project for the society as a whole; nevertheless, it is clear that universities have a

special role to play within this project. No other institution is so well equipped to encourage people to think and to organize their understanding of the world. The university is the place where the atoms of knowledge that gave us power have the potential to be assembled into the coherent knowledge structures that may eventually allow us to use our power wisely. Of the various institutions that engage in research, only the university is sufficiently detached from short-term practical applications of research findings to be able to think about long-term costs as well as short-term benefits of new technologies and new knowledge.

If universities decide to tell this sort of story in order to legitimate themselves, they will have to change direction. One thing they will have to do is resist excessive encroachment of purely practical concerns in the curriculum. Practical knowledge is an important part of what universities have to teach, but it can never constitute the whole. Many people take universities to be little more than vocational training institutes. Vocational training is undeniably important, but the university itself will be dead if it ever devotes itself exclusively to such training. Short-term practical concerns create an atmosphere of excessive urgency. Urgency is the enemy of reflective, integrative thought of the type that leads to broad understanding. If the university devotes itself primarily to the immediately practical, it will have sacrificed the living, breathing metanarrative of the quest for understanding to the moribund god of the quest for material progress.

The other changes that this new metanarrative will necessitate will involve increasing the importance placed on integration of knowledge and the creation of broad understanding. Specific mechanisms for doing this will be discussed in the next two sections.

### **Change of Incentives to Professors**

People make fun of the "publish or perish" incentive structure that governs the careers of professors. Actually, the "publish or perish" mandate is not even the most pernicious pressure on academics. The worst problem is the type of publication that is taken seriously. In the hard sciences, and in many social sciences as well, what is expected is the publication of a relatively steady stream of empirical research articles in high-status journals. Professors have to demonstrate that they are at the cutting edge of new knowledge creation by designing and carrying out empirical studies nobody has ever carried out before. Writing a book that integrates existing knowledge into a compelling new framework is much less consistently rewarded, unless one hits the jackpot and achieves instant international fame with one's book.

The result of the mandate for academics to constantly carry out new empirical studies is that the academic world produces an enormous quantity of research. This can be considered good news, bad news, or terrible news. The good news is that most of this research is methodologically sound, and most of the findings are reliable. The bad news is that most of this research investigates completely trivial questions, questions whose answers, however reliable they are, have virtually no capacity to enrich our understanding of the way the world works. The really terrible news, though, is that it is becoming increasingly difficult to distinguish between profound findings and trivial findings, because nobody is rewarded for sifting through this great mass of findings and trying to figure out what they all mean. Occasionally a review article is published that attempts to survey the work in an area; even more rarely a book appears that tries to integrate the findings from several areas into a coherent framework. More often than not, these books are written by science journalists, rather than academic scientists, which is surely an indicator of the weak incentives present for this sort of integrating activity.

This lack of incentives for integration is not just a lack of incentives to publish integrative works; it also appears to consist of a disincentive against personal thought and the private integration of knowledge. Thorngate (1990) reports that professors of psychology typically spend only 3-6 hours a week reading scholarly literature. This is far too little to allow them to construct a comprehensive personal understanding of the context within which they work. Once again, the result is the sort of lack of perspective that encourages the publication of methodologically sound but trivial investigations.

The reasons for the small amount professors read is not hard to find. Professors are under tremendous pressure to teach, conduct research, and perform various administrative duties. Something has to be sacrificed in their busy schedules, and unless they want to give up sleep, reading and thinking are likely to be the first activities to be squeezed out. In order to reverse this trend, the universities after the year 2000 will have to either find incentives to encourage professors to read more or (probably more effectively) decrease the pressures for other sorts of activities.

Even if professors are allowed and encouraged to read a little more, the field of organized knowledge is too vast for individual scholars to completely understand the entire context within which their research fits. For this reason, Campbell (1969) advocates what he calls a fish-scale model of omniscience. This means that, although no individual can possibly grasp the whole of organized knowledge, nevertheless a large number of individuals have a better chance of evenly covering the field of what is known (instead of being sequestered in isolated sub-specialties and sub-sub-specialties) if every scholar attempts to be reasonably well versed in several separate fields, rather than thoroughly grounded in one specialty and almost completely ignorant of neighboring specialties. This can be done by promoting contacts between different departments,

encouraging faculty members to subscribe to idiosyncratic mixtures of journals, and fostering conventions that cross conventional disciplinary boundaries.

In addition to this emphasis on acquiring knowledge in different disciplines, there also has to be more reward given for active efforts at synthesis. Ongoing theoretical work that may eventually result in an integrative book should be rewarded in just the same way (i.e. in terms of its effects on career advancement, tenure, etc.) as ongoing empirical work that results in an extended series of short journal articles. After all, the work load involved in such theoretical, integrative work is equivalent or greater to that entailed by empirical work, and the benefits to knowledge (keeping in mind that knowledge must be known by somebody, and not just be sitting scattered and disorganized on library shelves) are also potentially greater.

### **Undergraduate Curriculum**

Because taking electives is a requirement for graduation, undergraduate students at Simon Fraser University and other North American universities are already encouraged to cross disciplinary boundaries far more than are the faculty members who teach them. Nevertheless, still more needs to be done to encourage undergraduate students to acquire the breadth of perspective needed to develop the kind of understanding I have been promoting in this essay.

One weakness of electives in promoting breadth of understanding is that there is no incentive for integration. Students are evaluated in each of the courses they take, and therefore spend a great deal of time memorizing course contents before exams. However, they are never, under any circumstances, required to make use of information from two different courses simultaneously. It is perfectly possible for an undergraduate student to take a course in ecology, another in economics, and a third in political science, and yet never have to deal with the fact

that ecological decisions have economic consequences, economic decisions have ecological consequences, and both types of decisions have political consequences.

What I would like to advocate is the creation of an undergraduate course called "synthesis", which would be compulsory for all undergraduates at the second and again at the fourth year level. This course would attempt to teach the ways in which several different disciplines can be brought to bear on a single problem. Each student would choose the problem to which they would try to bring several disciplines to bear. This problem could be either theoretical (e.g. "What does current knowledge on the psychology of motivation tell us about the plausibility of economic concepts of utility, and how does this relate to the economics of environmental protection?") or practical (e.g. "How can I promote racial and ethnic cooperation on campus?"). A requirement of the synthesis course would be that information from courses in at least three disciplines would have to be brought to bear on the chosen problem.

One important obstacle to the integration of knowledge is the fact that any given field tends to make knowledge claims that either contradict or are incommensurable with the claims of other fields. Thus, the budding undergraduate synthesist will have to have tools to assimilate diverging knowledge claims. This means that every student, regardless of their field of study, will have to study logic, rhetoric, and epistemology. This should probably accompany a more general grounding in philosophy. Many students seem to hate philosophy, but this does not mean they don't need it.

It will be recalled that the objective of increasing the breadth of understanding cultivated by undergraduates is to promote wise, knowledgeable decision making by people who graduate from university, in order to allow us as a species to use our great power without producing horrible side effects. Not all branches of knowledge are equally valuable in helping people



assess the potential side effects of powerful actions. Most of the side effects of human actions are either social or ecological in nature. Thus, the range of different courses students take should ideally include at least one, and preferably several courses in both the social sciences (e.g. anthropology, sociology, political science, psychology, economics) and in sciences related to ecology (ecology itself, other biology courses, chemistry, climatology, geography, etc.) It may also be appropriate to introduce the occasional problem-focused course, one that examines a single problem from several different disciplinary perspectives.

Needless to say, these rather elaborate breadth and integration requirements would exist alongside the more usual requirements for specific types of professional training in the field of the student's choice. The likely outcome of the addition of these requirements would therefore be to lengthen the time it takes to earn a degree, perhaps from four to five years. This is not necessarily a disadvantage; the increase in the capacities fostered by such an undergraduate program would more than compensate students for the extra time.

### **History Repeats Itself**

The present essay has focused on the evils of excessive specialization and the potential benefits of encouraging integration and the ability of both students and professors to perceive knowledge as an organized whole. This plea is not novel. Spranger (1910) reports that the same problem of overspecialization in higher education was widely perceived by intellectuals early in the nineteenth century, and that somewhat similar solutions were advocated. The fundamental unity of knowledge was a basic premise of this intellectual movement. The actions advocated to foster the ability of academics to perceive this unity were the integration of all branches of academic learning into a single institution, as well as centering that institution around the faculty of philosophy. The first of these proposed actions has been undertaken and not undone: Most

higher learning still takes place at universities that contain several different faculties. The second of these proposed actions was also undertaken, but has since come almost completely unraveled: Philosophy has assumed a very subordinate role in the university, and no other integrative discipline has taken its place. The present proposal to have students complete courses on integration, logic, rhetoric, and epistemology would effectively put philosophy back into the center of the university. If properly applied, this proposal could also increase the intellectual sophistication of the university's graduates, improve the general populace's ability to call on a wide range of knowledge when making important decisions, and might just make the world a better place, where the tremendous powers we have gained from sophisticated technology are used wisely, with an eye to both the benefits and the long-term costs.

Best of all, students might once again come to believe that they are involved in an important shared enterprise, one that enhances their dignity regardless of how well they do in competition with other students. This belief could make them more enthusiastic, and banish the boredom of student life.

### **Conclusion**

Universities have the potential to go in two different directions after the year 2000. One possibility is a continuation of the present course, where universities are seen rather cynically as factories to produce graduates who can get good jobs in a basically directionless society. Such a course, in addition to its potentially destructive consequences for the world as a whole, is damaging to the morale of students, because they see university education as little more than a hoop they have to jump through on their way to achieving their half-hearted hopes for a good life.

The alternative I advocate for universities in the new millennium is a revitalization based on a rethinking of the role of universities in the larger society. If it is realized that the major lack in western societies is no longer wealth but understanding, then universities will no longer be the servants of those that promote the production of ever greater levels of wealth. Instead, they will constitute the driving force of a cultural renewal with long term beneficial consequences. Such a change in the perception of the role of the university could not help but improve the morale of those associated with the university, as well as improving the quality of both the written products of academics and of the learning process of the students.

### References

Campbell, D. T. (1969). Ethnocentrism of disciplines and the fish-scale model of omniscience.

In M. Sherif & C. W. Sherif (Ed.s), Interdisciplinary relationships in the social sciences, pp.328-348. Chicago: Aldine.

Fukuyama, F. (1992). The end of history and the last man. New York: Avon.

Gagan, D. (1998). Proposed statement of purpose. Simon Fraser News, 12(2), 2.

Greene, M. T. (1997). What cannot be said in science. Nature, 388, 619-620.

Lyotard, J.-F. (1979). La condition postmoderne: rapport sur le savoir. Paris: Editions de Minuit.

Spranger, E. (1910). Wilhelm von Humboldt und die Reform des Bildungswesens. Tübingen

(Germany): Max Niemeyer.

Thorngate, W. (1990). The economy of attention and the development of psychology. Canadian Psychology, 31, 262-271.

## **INTELLIGENCE QUOTIENT (IQ) TESTS: ARE THEY A VALID MEASURE OF INTELLIGENCE?**

**LEO JUNG, CHAIRMAN OF VANCOUVER MENSA SPEAKER'S GROUP AND VANCOUVER AREA PROCTOR**

---

I conduct IQ tests in the Vancouver, B.C. area for people who wish to join the international high-IQ group Mensa. To join Mensa, the only criterion is to have an IQ in the top 2% of the population.

Three of the most common questions which people ask me about IQ tests are: 'Are IQ tests a valid measure of intelligence?', 'Can I improve my score by writing sample exams?', and 'what about other measures of intelligence such as emotional IQ?'

To answer these questions, I refer to the origin of the modern IQ test, which was invented in France in 1905. The object of the test at that time was to identify children with verbal disabilities. Later on, IQ tests were used as screens to identify students with the highest potential. Controversially, IQ tests were also used in the distant past to deny opportunities to students with different cultural and socio-economic backgrounds. This discrimination led some social scientists to try to disprove the effectiveness of IQ tests in general. Does this mean that the use of IQ tests to measure intelligence is in dispute? Not really. The Wiki write-up on Intelligence Quotient (2012) summarizes the modern consensus:

Well-constructed IQ tests are generally accepted as an accurate measure of intelligence by the scientific community, but a minority continue to contest its efficacy as a metric, claiming instead that IQ represents (only) a type of intelligence.

Modern studies tend to show that high IQ has a strong correlation with superior scholastic achievement, the ability to learn skills quickly to succeed in the workplace, and to gain monetary success.

In 1921, psychologist Lewis Terman began a study of 1000 children who scored well in IQ tests. Terman's study was to follow the group throughout their lives, and identify the group's common characteristics. In 2003, 200 of the original group were still alive and participating in the long-term study. Although Terman has died, scientists at Stanford University continue the study which will terminate when the last of the group die or drop out of the study.

Terman published the results in five volumes 'Genetic Studies of Genius.' The fifth volume represents the most recent follow up. Terman concluded that in the group of 1000, the gifted had good health and normal personalities. Most did well socially, academically, and had lower divorce rates. Most in the group were generally successful, with many awards reflecting their achievements academically and within society. (Seagoe, M.V., 1975) While most reached their potential in adulthood, a few children in this group did not do well due to a number of factors, which included personal obstacles, insufficient education, and lack of opportunity. (Bernreuter, et al. , 1942)

Other studies show IQ strongly correlated with academic success and superior performance in business, science, and sport. One of these studies demonstrated the use of IQ as a predictor of income by removing biases such as family socio-economic background.

Herrnstein published the study in the 1994 book "the Bell Curve", et al. (Herrnstein, et al., 1994) 'The Bell Curve' provoked controversy because it also tried to demonstrate racial differences in IQ. However, it has been shown by others that racial IQ differences are primarily due to different cultures having different educational and socio-economic opportunities. One can only compare IQ and success in groups with identical cultural backgrounds.

One of the more unusual studies was conducted at the University of British Columbia and Simon Fraser University in Burnaby, British Columbia. The study by Dr.'s Weinberg of S.F.U. and Bennett of U.B.C. was titled 'Human Perception: a Network Theory Approach,' published in the journal Nature. (Weinberg, et al., December 1968) The study measured participant's IQ scores and then correlated the ability of the brain of each subject to react to a strobe light. It found a linear relation: the higher the IQ, the faster the reaction time. To this day, one of the criterion in the U.S. Air Force in selecting fighter pilots is to screen for those with the highest IQ scores.

An interesting result of the Weinberg/Bennett study is that it suggests that IQ tests measure the ability of the brain to respond quickly, and to learn quickly. While a particular IQ test may require a working knowledge of English, or the ability to predict the next pattern, skills that involve some cultural bias, it is difficult to say why those with high IQ scores have brains, which respond more quickly to a stimulus.

Finally, what are other ways of measuring intelligence? Social scientists have identified over a hundred traits, which contribute to intelligence. One of the modern ideas was 'Emotional IQ' a term coined in Payne's 1985 Ph.D. thesis *Developing Emotional Intelligence*. While the ability of the use of such traits to measure intelligence seem plausible, only long-term scientific studies of a large cohort of subjects such as the study Terman constructed will demonstrate whether such conjectures are valid. Only time will tell.

### References

- Bernreuter, et al. (1942) 'Studies in Personality'
- Herrnstein, et al. (1994) 'The Bell Curve'
- Payne, W. (1985) 'Developing Emotional Intelligence' Ph.D. thesis
- Seago, M.V. (1975) 'Terman and the Gifted'

Terman, L. 'Genetic Studies of Genius' five volumes beginning 1926 as the ongoing study progresses

Weinberg, et al. (December 1968) 'Human Perception: a Network Theory Approach' Nature

Wikipedia (2012) 'Intelligence Quotient'



## License



In-sight by Scott Douglas Jacobsen is licensed under a Creative Commons Attribution-NonCommercial-NoDerivs 3.0 Unported License.

## Copyright

© Scott Douglas Jacobsen and In-sight, 2012-2013. Unauthorized use and/or duplication of this material without express and written permission from this blog's author and/or owner is strictly prohibited. Excerpts and links may be used, provided that full and clear credit is given to Scott Douglas Jacobsen and In-sight with appropriate and specific direction to the original content.