

Calling All Research Brainiacs

By David M. Boulding

On behalf of legal professionals, I am asking the brain research community for help. Fetal Alcohol is a physical disability like blindness or quadriplegia. Fetal Alcohol, combined with other brain injuries, is the single biggest, most perplexing and difficult problem facing the criminal law today.

Justice system professionals need help because Fetal Alcohol and the attendant legal issues cannot be solved without the intellectual resources of brain scientists. I have tried to persuade judges, lawyers, police, probation, corrections, policy makers, and others that we need to do something different. Our method of jailing folks and then jailing them for longer and longer periods because they fail to grow new brain cells and develop new brain abilities while in jail the first time is not working.

Lawyers desperately need research they can provide to a trial court judge, and research that makes sense to probation officers, prison administrators, and policy makers who advise the politicians what to do when amendments to the criminal code are discussed. And this daunting task requires brain research to back up what most criminal lawyers know from daily experience.

The system is failing because the criminal law system is built on two assumptions that are not valid for persons with Fetal Alcohol or with other brain-based difficulties. First, the criminal law assumes all citizens can learn from our mistakes. Second, the system assumes those arrested and convicted and other nascent criminals who hear about the convictions can learn from the mistakes of others. These principles are called specific and general deterrence. These technical terms, if they have any validity, are only valid when you have a brain comparable to the brain of an appellate judge. I have never met a criminal who said, "Just before I smashed his head to the wall, I considered what the newspaper and other media said last week about the Court of Appeal's game changing ruling in R. v. Concrete."

The modern criminal law system was largely formed in the 1800's, when knowledge about brains was concerned about counting bumps on the skull. The signal feature of criminal law in all democracies, again from the 1850's, is the set of rules developed about insanity. Known as the M'cNaughten Rules, these rules speak to mental states and what defences are available. They were made law some 16 years before Sigmund Freud was born. The Rules written by the House of Lords, in effect, say: "if you knew it was wrong, you are not insane and we can hang you."

Daniel M'cNaughten was a paranoid schizophrenic and an angry Scotsman who desired a Scotland free from domineering English rule. He aimed to shoot the English Prime Minister and missed, killing his secretary instead. He was acquitted by a jury based on a defence that he was insane. The House of Lords, Queen Victoria, and much of the English elite society were not amused. The House of Lords essentially held another trial for themselves without Daniel. After listening to the experts and reviewing the transcript, they formulated a series of rules to bring clarity to the law, or as some believe, to make sure this miscarriage of justice never happened again.

The problem is not that the House of Lords made mistakes: it is that the courts have not kept up with brain research and the system is mired in thinking that was current a generation before Freud was born. The House of Lords had no access to modern thinking, let alone Magnetic Resonancing Imaging (MRI) technology and other modern tools we regularly use to see the brain.

Thus, the legal system has a tendency toward failure for brain-injured persons because modern science

is not a part of the legal process. Modern brain research has not permeated deep enough to change the fundamental Victorian mindset that underpins legal thinking all over the world. We have been tinkering at the edges and refuse to consider that the whole enterprise may be fundamentally flawed at the core. We quickly resort to wholesale accusations of “bad character“ or “bad upbringing” or “bad environment” or the latest, “bad genes,” rather than consider the individual’s brain relying on the modern research.

I am confident that if policy makers, judges, lawyers, police, probation, and prison officials knew what the brain research community knows today, the laws would be different. I believe that only brain researchers can provide the needed information required to update the M’cNaughten Rules.

The M’cNaughten Rules are only one aspect that begs for change. Our practices on sentencing, our notions of guilt and degrees of guilt, and foremost, the threshold to charge a criminal offence, will someday soon all change when brain research is brought, probably screaming and kicking, into Parliament and into the courtroom.

Research that connects the advances in brain science to the problems seen in trial courts is available. Judges and lawyers do not have time to read *Nature*, the *Journal of Cerebral Blood Flow and Metabolism*, or *Molecular Psychiatry* in addition to their heavy case loads. Judges and lawyers must read thousands of pages of materials weekly merely to keep up with the advances in law. At continuing legal education seminars, lawyers are always interested in the advances in brain science. These seminars tend to be aimed at the lawyers who do car accident and medical malpractice law. Sadly, family and criminal lawyers are the ones who should be considering brain science most often. Most child custody cases have issues involving brains. It may be that the parents have a mental health issue or a cognitive disability. The judge must decide which one has the more competent brain with which to raise the children.

We know more about brains than we did when I was in law school in 1984. And I am learning now that we in the legal field really know very little about brains. Judges are faced with a complex problem. Judges rely on experts chosen by the lawyers. The lawyers choose experts the lawyers believe will win cases. Here self promotion, publicity, and notoriety seem to overrule science. And then the beleaguered judge must decide. Often what happens is that the Judge falls back on “common sense.” This is likely to be disastrous if the common sense comes from television or from conversations over coffee with other judges.

We are all aware of judgment after judgment where basic brain science is ignored.

In a famous murder case, a prosecutor said on Canadian national television that “the accused has two different diagnoses of Fetal Alcohol: one when he was 12 and a second one when he 15 years old. The prosecution believes the accused--now convicted of first degree murder--has outgrown these diagnoses now that he is an adult at 22-years-old.”

Brain research does not support the notion that he grew new brain cells after his 18th birthday.

A second case was a sex assault guilty plea. Hint: Fetal Alcohol clients almost always have guilty pleas. The good judge writes: “I find that the accused had Fetal Alcohol at the time of the offense”. He was a good judge because he considered the expert report, which said, among other things, that the accused had the developmental skills of someone of about 12 years old. Sadly, the judge continued saying “and I find that his Fetal Alcohol did not impair his judgment to the extent he was unable to appreciate the wrongfulness of his behaviour.”

The judge in the second case knew little about brain science. And it is not his fault. The lawyers should have told him and sadly they did not because they too knew little about the brain science. The lawyer for the defence was probably so excited to get a good judge and a good deal on sentence that he was reluctant to point out the fatal mistake in the otherwise positive judgment.

To solve this problem of inadequate brain science knowledge, I need Harry Potter's magic wand. Equipped with a magic wand, I would like to stop time and bring the people of the legal system--all of them--into a locked arena bigger than the Coliseum and begin a teaching session on basic brain science.

I would rely on Dr. Kathy Sulik from the University of North Carolina, Dr. Brian Christie from the University of Victoria British Columbia (B.C.), Dr. Sterling Clarren, formerly from Seattle and now in Vancouver, B.C., Dr. Ed Riley from San Diego State University, and Dr. Catherine Gould from Princeton. I would also require essay questions compelling these legal professionals to read Carl Sagan, Loren Eiseley, Lewis Thompson and T.S. Kuhn. This fantasy is impossible, well, and probably impossible.

So, your help is necessary. Brain researchers are required who can write about brains the way Carl Sagan wrote about the Cosmos. If brain researchers would read the criminal cases from Australia to Alaska and from Alberta to East Anglia, you would call up the criminal lawyers involved and say, "You need to read my paper".

Lawyers need brain research to be digestible, so when a police constable in Tasmania or Texas reads it, he knows the guilt of the person he has arrested is not the issue. The issue is always: what do we do now.

I know that researchers want this brain information out there where it can be used for the public good. When I have telephoned experts like David Nutt, Brian Christie, Ed Riley and Kathy Sulik, all of them have answered with emails and phone calls, and when cornered at a conference, all have been extra generous with their time and expertise. One expert lamented. He wished he had a person on staff he could talk to, and then the person would go away and write up his research for him so that could be published in a popular magazine.

I would like NOFAS to set up a brain research listserv for the legal system, a computer- driven chat room specific for purpose of sending useful brain research to the legal system. I would like members of the brain research community to call some folks I know who would spread the information to where it would do the most good:

Tom Smith is a retired judge who writes to educate other judges.

Diane Malbin is the author of the best book on Fetal Alcohol Spectrum Disorder ("FASD") entitled: Trying Differently, Not Harder. She is the innovator of the Neuro-Behavioural model.

Susan Brooks is an Associate Dean for Experiential Learning at Drexel University's law school in Philadelphia. She teaches law students.

Jan Lutke as the world's premier FASD advocate and the force behind the Vancouver FASD conference. She can inform the world.

Kristal Bodaly is a speech and language pathologist at the Asante Centre in Maple Ridge, B.C. She is writing 900-plus page interactive text on FASD and the legal system. It will soon be available for free on the internet for parents and legal professionals.

Rod Snow is the President of the Canadian Bar Association and is the force behind Canada's Fetal Alcohol Resolution (Niagara Falls 2009).

These are the people who will drive the movement to repair the M'cNaughten Rules. They will develop new programs, and they will bring some humanity to criminal law if they have the brain research they need at their fingertips. Many others would also gladly join a properly moderated listserv dedicated to explaining brain science to lawyers and judges. (An example of a successful multidisciplinary listserv is the one run by Professor Daniel Lietchy of University of Illinois, which is dedicated to the work of Ernest Becker.)

The brain research community also needs to find the grant money to start several blogs. Perhaps one could be named: Calling the Next Witness: Brain Science Gives Evidence in Court. Unless this new brain science information is shared with lawyers, we will continue to put many, many, many, people in jail and then when they re-offend, we will put them away for longer and longer prison times.

The standard objections I have heard to stopping this viral jailing of persons with Fetal Alcohol are:

- 1) Prisons may cost a lot but they save money in the end;
- 2) We are not wasting money because there are good union jobs in jails;
- 3) Jails are necessary because there is no other way to protect the public;
- 4) And the big one--this is not the right time politically to update the M'cNaughten Rules.

Brain science is desperately required to reform the legal system. If the facts are agreed upon, criminal law can usually be reduced to one question. And, for 99.9% of Fetal Alcohol clients, the facts are never in dispute. The question is: what were you thinking? And here is the surprise. Often the person was not thinking. Or at least they were not thinking like you and I think. People with brain insults, whether occurring in the womb or from a motorcycle accident, are not thinking like the clear-minded jurists who wrote the M'cNaughten Rules.

Criminal law, especially from the Legislature and Courts of Appeal, is written by and for people with complete brains. Good science always drives good social policy, and good social policy always produces good judgments. Lawyers need research that will help people with Fetal Alcohol to become taxpayers. Lawyers need research on what brain-based interventions work, and they need research on brains that show the reasons a particular intervention works and why. What does a successful intervention look like?

My assumption is this world needs all the help we can get and that putting people in jail a second, third, and fourth time is not helpful.

Here are two examples of what is needed.

I asked Dr. Christie what I could say to the legal system professionals in Iqaluit, Nunavut. He is doing brain research on mice. He has four groups of mice: (1) mice with Fetal Alcohol; (2) mice without; (3) mice with Fetal Alcohol with access to a treadmill; and (4) mice with Fetal Alcohol without access to a treadmill.

He says his research shows that the treadmill exercise helps brains repair some of the damage done by alcohol in the womb. This idea of the value of exercise is the subject of Dr. John Ratey's book entitled *Spark*. Dr. Christie said to me: "20 minutes of exercise in the morning, do not make them sweat, do not make it competitive, and repeat after lunch". In *Spark*, Dr. Ratey details the success of this in many schools.

While Dr. Christie's quip has the ring of simplicity, to probation officers, corrections staff, and judges it also has the ring of hope and gives meaning to some of the solutions they can try to create. This advice works on so many levels.

Another example of research lawyers can use in the courtroom is the mice brain photographs of Dr. Sulik and her team of embryologists. These pictures can be shown to members of the legal system because they are available for free online and they show the damage alcohol in the womb does to brains. The pictures diminish the value of any debate over the accused's inherent bad character, bad upbringing, bad genes, or bad environment, and show the way to creating solutions

It is a start. And it is not enough.

Judges need more brain pictures. They need intervention studies on brain-based techniques that work for certain ages, and for certain brain functions and dysfunctions. Probation officers and prison guards need research on diet. Lawyers need research to show conclusively that all behaviour is brain-based, and that by seeing how the brain works the legal system can help people. The system needs studies that show which part of the brain houses impulse-control, suggestibility functions, prediction, and abstracting skills. Lawyers need photographs a jury can see that will prove that the prisoner's brain is missing these parts.

We need more scientists like Dr. Fred Bookstein. He goes into the courtroom and tells the judge and jury: "if this part of the brain is damaged, the two central assumptions of the legal system that we can learn from our mistakes and that we can learn from the mistakes of others may not apply to the person in the prisoner's box." He is a statistical brain morphologist and explains what "normal" brains look like on MRI pictures. He puts up the prisoner's pictures and his own and explains the differences. Judges and juries always appreciate good information.

Someone needs to create a science of the whole person, a science of relationship. The roles of the cascades of chemicals in the brain when we love, smile, kill, hurt, or fail to act need to be explained like Newton's Laws were explained in high school.

Lawyers need scientists to design brain-based accommodations, so the good people in the prisons and the fine probation officers I have met can learn to access the person with Fetal Alcohol via their limbic system, and can develop meaningful relationships with their clients. Almost as if by inertia, prisons and probation services tend to rely on old behaviourist--punish or reward--style interventions. These methods fail those with compromised brains.

We need scientists to stand up and see their work as a part of the larger world, and those same scientists need to develop public speaking skills and go on You Tube, Facebook, Twitter, and listservs dedicated to educating legal system and the public about brain science.

I have found out that once people realize that the person with Fetal Alcohol has a brain that is missing pieces, everything changes. If they choose to develop a relationship in the sense of the renowned psychologist Dr. Carl Rogers, then we can create the "external brain"—a caring committee of

individuals--as developed by Dr. Sterling Clarren. And then everything gets better. These methods lead to positive outcomes, and jail is not always required. Without brain research these methods will remain esoteric, untested, and “on the fringe. “

A word here about the obvious. I am not trying to keep all people out of jail all of the time. In many cases jail is a good place and does make society safer for a short time. The incarcerated are warm, fed, and can sleep safely. The structured routine of jail can assist later release plans.

And, jail is a brutish place where many ugly rapes occur. I know. I object to the expensive warehousing of people with imperfect brains when other positive alternatives exist.

Jail is the default solution. When schools, social services, families, communities, and other safety net services fail, people with brain-based birth defects end up in jail because we do not have the science to convince governments to build more appropriate resources.

These cheaper resources include halfway houses with supervisors skilled in brain science, brain-based supervision in the community, and supervised “practice” jobs that lead to real jobs. They also include programs that develop our shared humanity by stressing research-based ideas that work, not programs that warehouse those with brain-based birth defects.

You have the science; share it please.

David M. Boulding, Port Coquitlam, B.C. Canada
April 2011