The following article on memes first appeared in the journal of the Saskatchewan Counselling Association. I believe that the new science of memetics has the potential to unite the fields of biology, psychology and sociology. In a presentation to the Native Mental Health Association of Canada I have suggested that the study of memes may rejuvenate the practise of community development as we can now map out the "mind" of the community. I invite you to read the following article and contribute your ideas to our discussion group on this subject.

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Sincerely,

Lloyd Hawkeye Robertson

The new science of memes
by Lloyd Hawkeye Robertson

I needed one more true and false question for the final exam. I decided it would be: "The majority of people who suffer from Acquired Immune Deficiency come from Africa (T/F)". Even tho we had not specifically covered this question in class, the answer was found in the textbook and, besides, I was teaching bright Northern Teacher Education (NORTEP) students.

Every student circled "F". If they had only flipped a coin half of them would have had it right! Something must have been biasing them to give the wrong answer.

The classic film "Casablanca", starring Humphrey Bogart, immortalized the words "Play it again Sam". Except those words are not found anywhere in the film. Generations of movie goers, in effect, re-wrote the script which said "Play it Sam, for old time's sake", Why did the mistake survive and thrive while the original words were forgotten?

The new science of memes promises answers to these questions and increased precision in counselling. It has even been suggested that memetic evolution may be so powerful that genetic evolution, the kind envisioned by Charles Darwin, has been stopped for the past 50,000 years.

The meme did not begin with psychology. During the 1970s biologist Richard Dawkins noticed that just as life evolves, so does culture. In fact, culture is so good at evolving in response to environmental pressure that we no longer have to evolve genetically to survive in harsh conditions.

Dawkins searched for a mechanism of cultural evolution analogous to the physical world's "gene". In his 1976 book, The Selfish Gene he named this "smallest unit of culture that is self-replicating", "meme".

The concept of an arch is a meme: not the brick and mortar physical thing but the idea that had to be in someone's brain before the physical structure was built.

"Free will", "liberty", and "media" are examples of other memes. Dawkins found that some memes attracted each other. For example, the meme "god" is almost always found alongside the meme "faith". The two reinforce each other in the mind of the individual. Some memes repel each other. For example, it takes psychic energy to keep the meme "faith" alongside the meme "reason" in one belief system. In a sense our minds are a battleground where different memes form alliances to compete with other groups of memes for dominance.

What does this have to do with my education students? As a society, we have spent considerable resources emphasizing that AIDS is an epidemic. Attention has been given to the concept of "safe sex" which has been modified to "safer sex". Everyone is "at risk" unless you abstain entirely. The fear of AIDS effectively stalled the 1960s sexual revolution. The AIDS epidemic has resulted in the humbling of the once proud Canadian Red Cross Society. Over the past two decades an anti-AIDS memeplex (group of mutually attracting memes) has developed in North America that has the side effect of repelling the idea that the majority of AIDS cases are in Africa. It gets to the level of feeling. If your mind has adopted the North American anti-AIDS memeplex then the right answer to my exam question doesn't feel right. The implications of the memetic process go far beyond education.

Recent polling of adults in the USA revealed that only 37% were able to correctly answer "Was there a time when humans and dinosaurs both lived?"; 25% were able to correctly answer "Do antibiotics kill viruses?"; and, 43% were able to say which was smaller, electrons or atoms. In each case, had they known nothing, 50% of U.S. Americans would have selected the right answer. There must be memeplexes in U.S. culture biased against the right answers to these scientific questions.

International tests of high school students show that Japanese, Western Europeans and Canadians (at least in British Columbia) at or near the top for science literacy while USA students lag far behind. There appears to be an anti-science bias in the United States which is reflected in their educational system. Religionists from fundamentalist Christians to "New Agers" have waged a propaganda war picturing science as just another "faith" in which one can choose to believe or not believe. Certain scientific theories, such as the theory of evolution which forms the basis of modern biology, is not taught or not adequately taught in a majority of U.S. jurisdictions. In addition, there is an image of scientists in U.S.America as being somewhat "nerdy" and "out of touch" with "real life". This combination of memes, an anti-science memeplex, leads to less science literacy in the U.S. and allows memes planted by their entertainment industry which, for example, often pictures humans and dinosaurs in the same plot, to predominate. A side effect is that the U.S. must now import many of their top scientists from other countries.

Polling in Canada consistently reveals that most Canadians believe that the murder rate is increasing. In fact the murder rate has been dropping in Canada for the past 20 years. But whole memeplexes introduced by feminist groups who want to "take back the streets", right wing lobby groups who want "a capital punishment for a capital crime", religious groups who see society as

"violent and evil" and news media who report on murders in the United States (where the murder rate is 10 to 12 times our own) create the illusion that our murder rate is increasing.

Memologist Richard Brodie says that we can become infected by "mind viruses" which then dominate our thinking. It may be that the recent Taber murder is a copycat of the Colorado murders. Cluster suicide may be another example.

The implications of memetics go beyond both education and mental health. Advertising executive Derrick Gatherer is building his business on the concept of the meme. The idea is that you don't just advertise the product directly. You implant memes into a subculture that are designed to be attractive to the product you want to sell and/or repellant to those of your competitors. This concept was pioneered by Ronald Reagan's handlers in the United States.

It used to be that politicians would hire polling companies so they could say what the voters wanted to hear. In Canada some politicians got into trouble for telling voters one thing in Ontario and another thing in the West.

Using a battery of psychologists and advertisers, Ronald Reagan's Republican handlers in the U.S.A. began using sophisticated polling so that they could plant ancillary ideas into the population that would eventually result in a public opinion ready to accept their political agenda. They then trained former Prime Minister Brian Mulroney in their method.

Remember when Mulroney said that free trade was a non-issue during and after his first election? Had he admitted his true intentions at the time the opposition to free trade would have overwhelmed him. Remember that the memetic method involves controlling and manipulating information so that memes that are attractive to the product being sold are implanted in the minds of people before the sale is ever suggested. In time the sale comes to appear inevitable.

Mulroney's memetic campaign included an undermining of our belief in Canadian independence, an undermining of our self-confidence, a glorification of things U.S. and an identification with "bigness". The media was used in this campaign to place the budget ahead of unemployment in the minds of Canadians. Our health care system was undermined because we could not afford it and then it was compared, unfavorably, to the one in the U.S. Laws were passed accepting the "intellectual property rights" of U.S. pharmaceutical companies thereby given them extended patent protection with the implication that they had, somehow, the moral "high ground". Fears were cultivated over our "isolation" given the economic successes of Japan and the European Union. The image of the U.S. as our "big brother protector" and friend was promoted in the media. The image of a personal relationship with the U.S., not shared with any other country, was given a boost when Mulroney and Reagan publicly sang "Irish Eyes Are Smiling" at a summit in Quebec. The result of all these memetic triggers was that a population that had been overwhelmingly opposed to free trade came to accept it on terms offered by the United States.

The memetic effects of that campaign have continued. Molson's has discovered that it is now easier to market Budweiser Beer than it's own Canadian brands. Despite a World Health Organization study showing that, in a comparison of Canadian, Cuban and U.S. health care, we

ranked first and the U.S. ranked last, Alberta continues to push for some kind of privatized or two tier health care system.

In Darwin's Dangerous Idea, arguably the most thought provoking book published during the 1990s, Tufts University philosophy professor, Daniel Dennett writes that memes, to be successful, need only replicate. This is not directly tied to our own survival as human beings. A simple melody or advertising jingle that comes, unbidden, into our minds is obviously a good replicator. The phrase "Play it again, Sam" is a better replicator than the phrase "Play it Sam, for old time's sake". A suicide cult that results in the death of its members does not result in the death of the memeplex of the cult if the murder/suicide has the effect of spreading the memes involved to other minds.

Dennett suggests that religious and political ideologies are vast and discreet memeplexes. The memes within reinforce each other and exclude competing memeplexes. In fact, the most successful of these memeplexes contain "attack memes" designed to weaken competing structures. The Christian meme "Satan" is an example of one such "attack meme".

Dennett says that these memeplexes are competing for a limited resource: our minds. They evolve according to Darwinian principles. Whatever replicates survives. He has no problem seeing these memeplexes as a kind of life form with our collective minds represented by the term "culture" as their ecosystem.

The early history of memetics has been dominated by biologists, philosophers and ad men. This is a curiosity because memetics is essentially a study of mind. Enter University of West England psychologist Susan Blackmore whose 1999 book, The Meme Machine, sharply divided evolutionary psychologists into two camps on the question of genetic evolution.

Until Blackmore, it was assumed that genetics held memetic evolution on a leash. Culture could change and evolve only within limits set by our genetic heritage. Blackmore turned this image on its head. She said that the evolution of human brains is a meme driven event. She pointed out that the size of our massive brains is far greater than would be needed to gain an evolutionary advantage over our nearest competitors. Further, the size of our brains is actually an evolutionary disadvantage in that it both makes birthing difficult (one woman suggested that I should imagine defecating a watermelon) and all human children are born premature as compared to other primates: we are virtually helpless at birth. Human evolution cannot be totally explained, therefore, using the traditional genetic model.

Blackmore's explanation is that once the brains of our ancestors reached a critical level whereby they produced simple memes, perhaps at the time when speech first evolved, then those humans who replicated the most memes appeared more attractive to members of the opposite sex. Put another way, the memeplexes that survived the competition for limited brain space contained a meme suggesting that intelligent sounding partners were preferred over stupid sounding ones. Hence, like a peacock's feathers, our brains kept evolving not because of their survival value but because of their sex appeal.

Blackmore's second major contribution has to do with the definition of self. The self is nothing more than a collection of these memes that we hold to be true for us. The circle of these memes gives us the illusion that there is, within us, a little man or "homonculus" pulling the levers that make us go. According to Blackmore, the self, along with the homonculus, is an illusion.

I would suggest that Blackmore has been prepared for her last conclusion by the memetic force of her Zen Buddhist background. Buddhists have, for centuries, taught that the self was an illusion. The original Buddha, Gautama Siddhartha, is said to have examined the "skandas" or Hindu / Buddhist pieces that form our existence, and declared that he could not find a self. This is a little like tearing down a wall and declaring that one cannot find a wall in any of the bricks. Blackmore has found the actual bricks of the self, memes, and, like the Buddha, declared that she could not find a self.

Memes belong to the universe of ideas. They do not have a physical reality. One cannot open up a brain and say "this is a meme". Nor can you open up a brain and say "this is a self" or "this is a mind". All, however, have analogues in the brain. It is now recognized, for example, that our thought patterns and emotional states can and do change the neural structures of the brain. Would Blackmore suggest that the forces responsible for those neural changes are not real?

Counsellors have long recognized that improved self-concept is a prerequisite for improved performance and improved functioning with respect to a host of mental health concerns. I submit that you cannot have a plan to improve a client's self-concept unless you have a concept of "self" with which to work. Blackmore missed a glorious opportunity to expand our understanding of "self" and thus improve our counselling strategies.

The "self" is simply all those things we believe to be true about who we are. Underpinning these beliefs is a collection of memes which form an interlocking shell supporting each other.

From where does this "self" come? A newborn baby has no "self". He is literally one with the universe. Over time he learns, often thru painful experience, that there is part of the universe that is not part of him. He learns that there is a "me" and a "not me". He begins to feel small and dependant. And if he is not part of a loving, nurturing family this "self" that is left over from the "not me" becomes largely negative.

Each family has it's own culture. Immediately, at birth, the newborn infant begins absorbing that culture. The infant learns it's place including whether or not he will be shy, rebellious, brave, helpless, intelligent or a host of other memes that make up his "self".

This is not to deny the importance of nature. Evolutionary psychologists have found genetic predispositions for numerous personality traits. Yet even where those predispositions exist it is culture that determines how those characteristics are expressed. It is an interplay between nature and nurture that develops the child's sense of self with the child's family culture being the most important influence in early years.

Once the child develops a self he will fight very hard to keep it; or, more correctly, the existing self fights to keep itself from being replaced by alternatives. This is not to ascribe sentience or

"will" to the complex of memes that is the self. It simply means that new information, if it does not fit with the existing memeplex, is repelled thru a variety of psychological mechanisms.

For example, during my educational internship, a fellow intern decided to work on the self-concept of a class of "slow" grade nines. These were students who had experienced academic failure and were being streamed into industrial arts programs. Jim decided that these students were all going to "ace" the first exam in social studies which he planned to give. He reasoned that once they experienced receiving a good mark they would work harder to maintain that good mark in his subject.

Jim's class failed to absorb the message as planned. These students learned that instead of doing the minimal work necessary to "get by", in this class they did not have to do any work at all. Their self-concepts remained intact with reduced stress.

If one of my core beliefs is that I am stupid the other memes in my "self shell" support that idea. Now, suppose I "ace" an exam. Probably the exam was easy, or the instructor is trying to "set me up", or he gave me a good mark because my uncle has influence over the school board, or maybe he went out on a drunk and was too hung over to really mark the exams. If all else fails I will simply repress or forget that I ever got that good mark and choose to remember, instead, all the bad marks I have received. Thus, my self belief, that I am a poor learner, is preserved.

To the client it feels as tho there is a little person inside that shell pulling the strings that make us go. It feels as tho there are things that are absolutely true and unchanging for that homonculus within. As long as the client holds that illusion it is very difficult for him to change this "self". One of the promises of meme theory is that it will provide us with a powerful technique for assisting clients in changing and customizing their selves.

I can foresee the day when one technique in our psychologists' bag of tricks will be to prepare a memetic map of the self and, with the client, map out, with a minimum of intrusiveness, those memes that need changing in order that we produce a desired result. Such a method would have the advantage of identifying those memes, present in the self, that work to repel needed changes and bring about relapse. Thus, if one of my client's self-definitions is "I am an alcoholic" I should be able create a cognitive map with which I can show the client those memes that are holding this particular meme "alcoholic" in place.

I have begun preparing such cognitive maps with some of my suicidal and/or depressive clients. These clients have not responded as expected to cognitive behavioral therapy even when supplemented by techniques such as Eye Movement Desensitization and Reprocessing. Cognitive mapping involving only 40 to 60 interlocking memes produces a simplified picture of the individual self. The process of developing and analyzing their cognitive map gives clients a sense of control over their self, encouraging them to tackle changes with increased vigour. It also assists clients in identifying changes that are desirable allowing them to have an increased sense of control over the therapeutic process. Thirdly, the process allows the client and therapist to identify blockages to therapy that may not be readily apparent thru traditional means.

On a more holistic level, we can now study in more precise terms, the relationship between culture and self. In my model, culture operates at four basic levels: the individual, the family, the community and the mass society. Each level contains memeplexi competing for available mind space. Memes travel back and forth between levels serving to either reinforce certain beliefs, perceptions and attitudes or to change them. Hence culture at all four levels evolve.

Individuals may change their selves but if they return to their families and communities and if these larger entities fail to be supportive then the individual changes may not be lasting. The clients may find themselves bombarded with memes hostile to the needed changes. We can now map out memetic influences at the family, community and mass levels preparing the client to deal with those forces.

Meme theory is in its infancy. Its potential is enormous. It may give us the tools to redefine our society, our communities, our families and even our selves in more rational ways.

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