

Touch the Future
The Origins of Love & Violence
And The Developing Human Brain
James Prescott, Ph.D.
A conversation with Michael Mendizza

If there were one thing that you could do to reduce violence, what would it be?

There are two fundamental issues. One is the issue of the bonded and unbonded child. The other is full gender equality. Until women are able to control their own body, and not just reproduction but the whole spectrum of her sexuality, it will be very difficult to achieve the first step which is the bonded child. Just look at all the violence against women, the rapes, domestic violence, battered women, it's epidemic, as is child abuse and neglect.

Most people would say that we males cause most of this violence.

So, we have to trace the roots of what produces the violent male? And also ask the question, why more and more women are being violent against their own children? What causes the anger and rage which leads to violence? What encodes the brain for anger and rage, as opposed to peace and tranquillity? We have answers based on substantial scientific data. Yet the deeper question remains. What prevents us from acting on the data we have gathered over the past twenty-five years?

David Bohm and our Dialogue project looks at this question. Professor Bohm points out that we have constructed very deep and powerful defense structures which distort our perception and these barriers are built into the nervous system.

Wilhelm Reich, the German Psychoanalyst, who had major differences with Freud, saw sexuality, when abused in childhood, leading to what he called the emotional plague; and the "armor" we develop is to protect this emotional-sexual core.

For example?

With the ability to experience joy and pleasure, you have a more openness toward life and change. People who are rigid, highly armored, are limited in their capacity to feel empathy, compassion or to change. Bohm's work or any attempt to deal with adults who are already structured, already armored, requires an enormous amount of work. From a purely statistical point of view we have to question if this will bring about an significant change.

The ability to experience pleasure is blocked by this armor. Yet, pleasure is natural and necessary.

Unfortunately our society and culture are based on philosophical and religious world views and values. We have a moral philosophy which says that pleasure and the body is evil and the spirit or soul is good. There is a division between the natural state of the body and our ideas about good and evil.

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We are at war with our own bodies and in many ways women, her body and children are the targets in this war. The very idea of Mother Earth carries the archetype of the body which implies pleasure, particularly, sexual pleasure. The Body, Woman and Pleasure however, have been equated with evil and wickedness by Plato and Pythagoras, in the old Testament and in most, if not all theistic religious traditions. There's no major religion that affirms the full equality and dignity of woman with man. She's always subordinate.

These religious systems have been used to control the individual and therefore society. This control is achieved by limiting access to pleasure. When young children are not touched, held or surrounded with affection, the neural systems required to experience pleasure are not developed which leads to an individual and a culture that is self-centered, violent and authoritarian.

Let's go into that.

When the experience of physical pleasure is morally sinful, this impacts on the ability of adults to rear their children in environments of pleasure and affection, as opposed to pain and suffering. Then couple this with a value system that is racist, sexist, anti-Semitism, etc. and you have a package that establishes both the "engine" and the "guidance system" for violence. The repression of pleasure sets up the reservoir of rage; and the belief system or values create the target. Both work together and it is this bi-directional system which has to be changed.

It's easy to accept the need for being touched, which is pleasurable, when responding young children who are pre-sexual. When sexuality clicks in however, touch often becomes taboo.

We have to look at sexuality in quite a different context, that is, as an integral part of who we are. Children are punished for touching their genitals which creates a neural-dissociative state in the brain. The sensory deprivation of pleasure results in the failure of certain neural pathways to develop to develop properly. Sensory stimulation acts like a nutrient for brain growth and development. The richer the networks, the greater the interconnectivity and neural integration of the brain.

The integration of our sexuality with our total "persona" is a critical aspect of our development as human beings.

Simply stated, in order for the brain to grow and to develop, it needs to be stimulated?

A rich array of sensory stimuli, of all the senses, maximizes development of the brain. If we do not get the sensory stimulation we equate with love, bonding and intimacy during

the formative periods of brain development, we're going to be impaired, if not crippled in our ability to experience and express this "language of love" later in life.

When we first met I suggested that love is a hardwired capacity, everybody has it. You said, "Yes, But"— If a child has not been exposed to these specific sensory (love) experiences the neural-perceptual pathways needed to experience and to express love are not fully developed. You compared it to being color blind. One might be surrounded by color, but if your brain system hasn't plugged itself together in such a way to experience color, all that is seen are shades of gray.

Our sensory systems have a genetic pre-disposed structure for function. When light hits the eye the iris will dilate. You don't control that. We have a natural propensity to avoid pain and to seek pleasure. Following the path of pleasure provides the basic building blocks which ultimately lead to the experience of what we call love. The ultimate foundation for a system of ethics therefore, has to get back to the neuropsychology of pain and pleasure. If we violate these basic principles, which many of our philosophies and theologies have done, by creating a war against the body, against women and children, then we pay a very high cost.

Let's create the best hypothetical world we can, the most enriching, nurturing, affectionate, bonded environment for a human nervous system to flourish. Describe what those characteristics might be.

First, every pregnancy would be wanted and every child is a wanted child, which gets back to our first point, that woman must have control over her own body.

Thousands of babies that are being born to unwed teen mothers. These young girls think that they want to have a baby until they get pregnant. Actually the majority of pregnancies are unplanned, regardless of social or economic conditions.

Many teenagers seek sexual relationships to get the physical contact, affection and pleasure they were denied as infants and children which is a major driving force behind teenage pregnancy. Secondly, they want a child who will love them in return because they didn't get love in their own infancy and childhood.

With many, the intention of the pregnancy is to fill a need in the young mother, to give her self-respect, to give her pleasure, to fill a void. It goes right back to the same common ground, a failure of affectional bonding to meet the basic, fundamental, emotional needs of the infant and child.

We often miss the impact fear and anxiety have on human development.

Fear has been used by our religious systems for centuries to control pleasure. Today the medical and scientific community use fear very effectively to keep woman, her

pregnancy and birth under their control. We force them to do all sorts of unnatural things. Having her lay flat on her back during delivery, for example. No other mammal gives birth on its back. We know that premature cutting of the umbilical cord is damaging and the benefits of placing the infant to the breast of the mother right away, and of maintaining close physical body contact. But the medical profession routinely intervenes and takes the baby away from the mother. Deny direct contact with the mother and we set the stage for fear, anger and rage right at the start. No other mammal separates the newborn from its mother at birth.

Isn't this what Harlow did back in the 50's - he separated mothers and infant monkeys at birth with devastating consequences?

We need to begin before Harlow. Rene Spitz, John Bowlby, and Wayne Dennis noticed that many children reared in orphanages or institutions had arrested emotional, social and intellectual development. Bowlby found a link between these early separation experiences and later delinquency—findings that my cross-cultural studies, which we will go into later, supported.

Spitz noticed that these many of these institutionalized infants, who had the best medical and physical care but no “mother love”—nobody touched, held or hugged them, had depressive and autistic-like behaviors. Spitz called this Marasmus—sickness and death due to depression associated with loss of mother love. With deprivation of physical affection and body contact, which is the biology of love, these infants and children withdrew into their own world and in extreme cases, they gave up and died.

How did you get involved in this field?

Harlow was attempting to find a cost effective way to raise monkeys for research so he separated infants from their mothers and housed them alone in cages. These infants would immediately protest being separated by crying and by being agitated. When nothing changed, they became profoundly depressed, engaged in chronic rocking behaviors, self-stimulation, and tactile avoidance behavior. By depriving intimate body contact between mother and infant, Harlow created emotionally, socially and sexually dysfunctional animals.

As the animals grew older, Harlow saw them developing more abnormal behaviors, self-mutilation. And then pathological violence as juveniles and adults. They could not engage in normal grooming and sexual behavior. Their reproductive system was intact, but the emotional and social skills that goes with normal sexual behaviors were destroyed.

Drs. Bill Mason and Gershon Bersken also studied infant monkeys reared in isolation but they added a surprising variable. Some of the surrogate mothers, a fur-wrapped

Clorox bottle with a pie pan attached to the bottom, could move and others were stationary. A rod was placed through the Clorox bottle, which could be moved by a cam operated device or it was bolted to the floor. That one simple change, adding movement had a tremendous impact. The infants reared on the moving surrogate did not develop the broad range of emotional-social psychopathology that had been so well described in isolation reared monkeys.

They were not autistic, they were not depressed, they were alert, they were inquisitive and would physically touch and interact with human attendants, which the “none-moved” infants could not do. There was no anger or rage or violent behaviors observed in these animals. Clearly, “movement” had a powerful affect on the emotional, sexual and social centers of the brain.

And the only difference was clinging to a moving rather than stationary Clorox bottle.

Yes. The areas of the brain which control emotional, sexual and social development, including pleasure, pain, rage, peace, affection were being affected by stimulation from the Vestibular Cerebellar Complex, which is the brain system that mediates body movement in space and balance.

And love?

When touch and movement are added “love” reflects an integrated system of complex neural responses involving the frontal lobes which are deeply connected with the Limbic system. My hypothesis is that pleasure, which occur through touch and movement, becomes integrated in the higher brain centers of the frontal cortex.

This leads to the altered state of consciousness we experience as love. To explore this and to reveal the consequences of not providing the essential stimulation for this full integration of the brain, I obtained several adult, isolation reared violent monkeys. We were the first to discover brain abnormalities in these mother deprived monkeys and our research implicated the cerebellum, which had not previously been linked to emotional, sexual and social behaviors. Further analyses revealed that all of the sensory systems are not equally important for healthy emotional development of the infant and child. In other words, congenital blindness or congenital deafness will not lead to these devastating emotional disorders, provided there is somatosensory affectional stimulation, that is, body touch and movement between mother and her infant.

What else did you learn?

Two other consequences of early sensory deprivation need emphasis. One is the tactile avoidance and the other is impaired pain perception. When the two sensory systems for primary socialization are damaged: pain and pleasure, the consequences of

this damage is asocialization and violence. Early sensory deprivation also leads to stimulus-seeking behaviors. The animal will engage in behaviors that seek the sensory stimulation which it was deprived of early in life. Thus, the self-stimulation of stereotypical rocking, toe and penis sucking, self-mutilation and violence, so common in Harlow's monkeys.

When deprived of normal affection, being touched and held, what takes place internally?

A small stimulus evokes a big response. When these deprived animals are touched their response is explosive. Ordinarily, a light touch doesn't produce that kind of response, but in sensory deprived animals it does. That's what sensory deprivation does. It produces a hyperexcitable state which demands sensory stimulation which may include the chemical stimulation of drugs.

How does this translate into the explosion of human violence, the anti-social behavior, car-jacking, gangs, aggressive-sexual media and increased drug abuse?

All of those reflect stimulus-seeking behaviors. We need sensory stimulation and will get it one way or the other. We have to look at the brain in terms of the "engine" and the "guidance system". The engine is the emotional center — the Limbic system and the brain stem which includes the arousal system. The emotional-arousal system creates the energy but doesn't tell you where that energy is going. That comes from the cognitive brain, the neocortex with its values and rules of behavior.

Sensory pleasure deprivation builds up in the system as an anger or rage reflex. The thinking brain, the cognitive system gives direction to that reflex. If you happen to have a racist ideology or sexist ideology, that reflex-rage response is going to be directed at women or blacks or minorities, or whatever. They become the target. The cognitive map, or values, create the "guidance system". Keep in mind however, that our ideas, our religious and philosophical beliefs have a tremendous impact on the sensory environment we are exposed to as children, which, in turn, sets the stage for rage and violence or for joy and peace. It is religious values and customs, for example, that dictates genital mutilation, for example the circumcision of children.

Lets to back to the mother and her new baby.

Given this research, the single most important recommendation I would make that would reduce violence would be that every newborn should be carried on the mother's body as much as possible and for extended periods.

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That movement provides continued vestibular cerebellum stimulation which is the dominant form of stimulation in-utero. And it's that movement and close physical contact with the mother that creates the sensory-environment.

The umbilical cord of "Basic Trust" If this bond is suddenly broken at birth, that sensory loss is a profound shock. The brain is not receiving the stimulation it needs for normal growth and maturation. Deprivation of this sensory connection with mother significantly alters brain development resulting in a predisposition to anger, rage and violence. When provided however, this stimulation is incorporated into other sensory systems, which create the foundation for human love and affection.

Tell me about your cross cultural studies.

Mason's and Berkson's study involving the swinging mother surrogate was crucial for the formulation of my cross-cultural studies. Clearly, vestibular cerebellar movement of the infant was the most important variable. The question is, how to test this on human populations? I wanted a data base that would involve entire human cultures. At that time John Whiting, Professor of Cultural Anthropology at Harvard, happened to be a member of our National Advisory Counsel of the National Institute of Child Health and Human Development. He pioneered many of the basic studies of child rearing practices in primitive cultures. So I asked if he knew of any information on child rearing practices. Fortunately, a book had just been published by R. B. Textor in 1967 which contained systematic correlation's between every behavior that cultural Anthropologists had measured on "primitive" cultures.

This information provided a statistical data base to test my hypotheses that maternal-infant affectional bonding was related to adult peaceful or violent behaviors. There were three variables in my study. First, I selected every culture in which there was information on the practice of carrying or not carrying the infant on the body of the mother. The second variable was data on peaceful or violent behaviors. And the third involved sexual behavior, specifically whether adolescent sexual expression was permitted or punished. In the 400 culture data base, information was available on both child rearing practices and violence in 49 primitive cultures, which became my study. To my great surprise there was a 73% accurate classification of cultures as peaceful or violent based on that single variable, whether the infant was carried on the body of the mother throughout the day.

That's pretty high.

Once I published that data, cultural anthropologists corrected several errors in the database, which resulted in 80% of the cultures being accurately classified as either peaceful or violent.

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Just based on whether or not the infant was carried by the mother?

It's that powerful.

Our entire culture is moving closer to what you're calling a sensory deprived state. It's not just happening with generation X. It's been building for a number of generations, to a point now when we are looking and asking what have we done?

In 1979, I published correlations between our infant/child mortality rates with homicide rates for the 50 States and D.C. which were calculated from 1940 to 1967. As we progressed from the 40's, 50's, to the 60's, the correlation's become stronger and stronger and more statistically significant.

And what are the implications?

Our infant and child mortality rates, as they progress from the 40's, the 50's and 60's, contain higher and higher homicidal factors, and the implication is that the reports of infant/child homicides are significantly underestimated.

There is something in common between the rise of the relationship between homicides and our infant mortality rates, and it is growing.

Are we creating, because of a lack of true intimacy a radically different perceptual system. Is human perception being altered fundamentally by this? Not only perceptions, but our social and moral value systems.

Why do you think so?

I think they're obviously linked. The increase in violent behaviors is a direct result of pleasure deprivation, which implies a lack of empathy, caring for others, a lack of compassion for the pain and suffering of others. It creates children without conscience and adults without conscience. Children are now killing children. More parents and adults are killing children. This depravation is fundamentally altering our entire human social context - the basic assumptions that guide human relationships and society.

Is there any link between this massive change taking place and technology. By that I mean the media, television and computers, in terms of pure stimulation?

There's only one kind of media stimulation, it's visual/auditory and that is not the important sensory input for the emotional and social-sexual development of the child. The enormity of media violence, however cannot help but shape the cognitive and emotional brain for violence.

So riding on mom is much more of a dance than riding in an automobile, dangling in a car seat or watching TV.

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Close, intimate body contact with the mother provides the foundation for emotional trust upon which other relationships will be built. Without that first foundation all other relationships will flounder or fail.

Let's say we provide this nurturing stimulation, being carried, close to mom, breast feeding, and then we throw the kids in school at age 4 or 5. Is it okay to cut the cord then?

You'll never really cut the cord because you will have established a basic intimate relationship, which continues throughout life.

When you establish a firm foundation of basic trust, that foundation will endure, provided it is reinforced through childhood and adolescence.

You mentioned that our higher states of consciousness are achievable through this maturation.

It's more than that, it's neural integration.

What's the difference between neural integration and maturation.

Integration implies that multiple sensory systems are being connected with one another in complex ways. The richer it is, the more connection it's going to have with other brain structures. The subtlety of potential mental states or experiences is increased by developing more complex neural networks.

How were your cross-cultural results impacted by belief systems?

I found that cultures which are nurturing to infants and are matrilineal and tend not to have a High God who interferes in human affairs. With patrilineal cultures there's a harsher treatment of children, and repressive, punitive attitudes towards sexual expression. In the patrilineal cultures the High God is very much involved in human reality. The divine becomes an instrument of individual and social control through control of physical affection and pleasure, first, in the maternal/infant relationship and, secondly, in the sexual relationship. We have to understand that moral philosophical and theological religious systems become the gate keeper of our sensory experiences, particularly those that involve pleasure and pain.

That's where they have their real control. They don't care whether we see three-dimensional color. There's no theology involving visual or auditory perception.

By controlling pain and pleasure during the formative periods of development, you control the structural and functional development of the brain. And also moral and social values associated with pain and pleasure, which becomes embodied in the whole body, not just the cognitive mind.

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Are you suggesting that our full development as human beings is being limited by the religious traditions of Western Civilization?

Yes. Only by taking a cold, hard look at the biological impact that these beliefs have, and by examining what occurs when we have a moral outlook where pain is good and pleasure is evil, will we arrive at the much needed and obvious affirmation of the unity of the body, mind and spirit. The warmth of human touch and security of body contact, are without question, the most effective way to reduce violence in our culture. Fragmentation and isolation of human relationships, the denial of true intimacy and the pleasure it implies, builds into the brain a predisposition for anger, rage and violence. The opposite is also true. It is really that simple.

END

James W. Prescott, Ph.D. is a developmental neuropsychologist and cross-cultural psychologist. He served as Health Scientist Administrator, Developmental Behavioral Biology Program, National Institute of Child Health and Human Development, NIH (1966 -1980) and has given expert testimony on the origins of human violence, particularly domestic violence, before the U.S. Congress; the Senate of Canada, and many other legislative and professional organizations.