

# **ADDICTION AS AN ATTACHMENT DISORDER**

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- **AN INTEGRATION OF THE NEUROBIOLOGY OF ATTACHMENT & THE NEUROBIOLOGY OF ADDICTION**

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## **QUESTIONS: HOW MANY PEOPLE HERE...**

- WORK PRIMARILY WITH ADDICTIONS?
- WORK PRIMARILY IN CLINICS, HOSPITALS, TREATMENT PROGRAMS?
- OUTPATIENT PRIVATE PRACTICE?
- UTILIZE AN ABSTINENCE BASED MODEL?
- UTILIZE HARM REDUCTION MODEL
  - CLARIFICATION & CONFUSION
- ECLECTIC ?????

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## **A CAVEAT: POLITICAL CORRECTNESS:**

### **DIAGNOSTIC CRITERIA CONFUSION**

- ADDICTION (ADDICTS & ALCOHOLICS) vs.
- SUBSTANCE USERS (“PROBLEM DRINKERS”)
- SUBSTANCE ABUSERS
- SUBSTANCE DEPENDENCY
  - TOLERANCE & WITHDRAWAL
- **ADDICTION AS A BRAIN DISEASE**
  - UNPREDICTABILITY & LOSS OF CONTROL DUE TO ADAPTATIONS IN NEUROBIOLOGY.
- “WHILE THERE IS A LOT OF DRINKING AND DRUGGING THAT IS ENVIRONMENTALLY OR PSYCHOLOGICALLY INDUCED, THIS IS NOT THE DISEASE OF ADDICTION.”  
(ERICKSON, 2004, UNDERSTANDING THE ADDICTED BRAIN).

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# “WHEN DOES A CUCUMBER BECOME A PICKLE?”

ALCOHOLICS ANONYMOUS

- NEUROSCIENCES CONFIRMS THAT ADDICTION IS A BRAIN DISEASE

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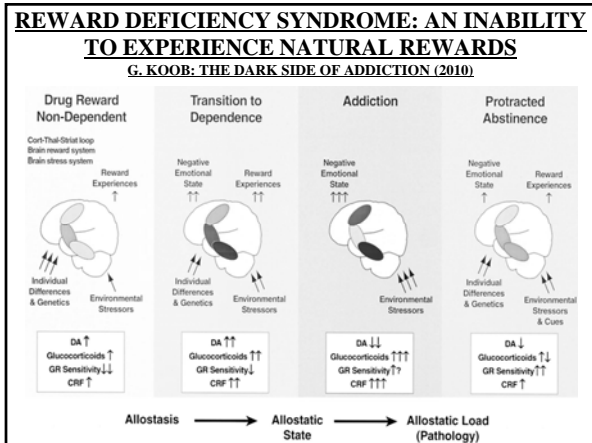
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## ADDICTION AS BRAIN DEGENERATION & RECOVERY AS BRAIN REGENERATION

- THINGS THAT DEGENERATE THE BRAIN
- ALCOHOL & DRUGS (especially chronic use)
- CHRONIC STRESS (cortisol = alcohol)
- ISOLATION
- TOXIC RELATIONSHIPS (create them or pick them)
- POOR NUTRITION
- INACTIVITY & IMMOBILITY
- INDECISIVENESS
- \*DULL, MONOTONOUS ENVIRONMENTS
- \*INATTENTION & LACK OF EFFORT

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**“THE BRAIN IS NOT A BOWL OF SOUP. YOU CANNOT JUST ADD A CHEMICAL AND STIR. IT IS A VERY INTRICATE WIRING SYSTEM”** (HELEN MAYBERG, MD)

- THE BRAIN IS NOT AN INANIMATE VESSEL THAT WE FILL OR A LIKE COMPUTER. RATHER, IT IS MORE LIKE A COMPLEX, DYNAMIC ECO-SYSTEM.
- OUR EXPERIENCE-DEPENDENT BRAIN IS HIGHLY ADAPTIVE & IS NOT A PASSIVE RECIPIENT TO EITHER INTERNAL OR EXTERNAL ENVIRONMENTAL INFLUENCES.
- WE CANNOT EXPOSE OUR BRAIN TO TOXIC RELATIONSHIPS ANY MORE THAN WE CAN INTRODUCED DRUGS INTO THE SYSTEM AND EXPECT THE ENTIRE BRAIN TO NOT BE PROFOUNDLY IMPACTED.

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**THE BIOLOGICAL LIMITATIONS OF SELF REGULATION CNS IS AN OPEN FEEDBACK LOOP**

- 1. EVIDENCE IS UNEQUIVOCAL: OUR CNS IS NOT A SELF CONTAINED, CLOSED SYSTEM.
- 2. IF WE ARE NOT GETTING OUR CNS REGULATED BY PEOPLE, WE WILL TURN TO OTHER SOURCES OF CNS REGULATION, MANY OF WHICH ARE ADDICTIVE.
- 3. ALL SOCIAL MAMMALS REQUIRE EXTERNAL REGULATION TO KEEP THEIR CNS UP & RUNNING AT OPTIMAL LEVELS.

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**PARADOX OF ATTACHMENT**

- SECURE ATTACHMENT LIBERATES!
- THE DEGREE TO WHICH A PERSON CAN REGULATE THEIR OWN EMOTIONS IS DETERMINED BY THE LENGTH & STRENGTH OF THEIR EARLIEST ATTACHMENT EXPERIENCES.
- FED CHAIR ALAN GREENSPAN

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**EVOLUTION, ATTACHMENT,  
AFFECT REGULATION & SURVIVAL**

- OUR CHANCES FOR SURVIVAL ARE GREATLY ENHANCED IF WE HAVE A PARTNER, WHETHER ONE IS ON THE PLAINS OF THE SERENGETI, A DARK ALLEY IN NEW YORK CITY, THE SUBURBS OF ATLANTA, OR BATTLING A SERIOUS CASE OF CANCER.

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**THE MANDATE FOR ATTACHMENT:  
INTERPERSONAL RELATIONSHIPS (SECURE  
ATTACHMENTS) ARE ESSENTIAL FOR  
OPTIMAL BRAIN FUNCTIONING.**

- ATTACHMENT CANNOT BE REDUCED TO A SECONDARY DRIVE. (DIAMOND & MARRONE, 2003).
  - THE SAME AREA OF THE BRAIN THAT MEDIATES SEX, THIRST, HUNGER, FIGHT-FLIGHT (SURVIVAL) ALSO MEDIATES ATTACHMENT.
- THE CNS OF ALL SOCIAL MAMMALS IS AN OPEN FEEDBACK LOOP REQUIRING STABILIZATION (LEWIS, AMINI, & LANNON, 2000) AND ONGOING EXTERNAL REGULATION BY ATTACHMENT RELATIONSHIPS (SCHORE, 2003).
- THIS REQUIREMENT FOR EXTERNAL REGULATION AND STABILIZATION IS A BIOLOGICAL NECESSITY AND IS NOT AGE OR PHASE SPECIFIC (BOWLBY, 1983; SIEGEL, 1999).
- THE ESTABLISHMENT OF ATTACHMENT AND SECURE BASE IN THERAPY PREDICTS SUCCESSFUL TREATMENT OUTCOME. (SAFRAN & MIRAN, 2006; NORCROSS, 2002).
- ONE'S ABILITY TO ESTABLISH HEALTHY REGULATORY RELATIONSHIPS OUTSIDE OF THE THERAPEUTIC MILIEU IS SYNONYMOUS WITH MENTAL HEALTH AND IS INDICATIVE THAT PSYCHOTHERAPY TREATMENT HAS BEEN SUCCESSFUL (KOHUT, 1982).

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**KOHUT'S DEFINITION  
OF CURE**

- HOW DOES ANALYSIS CURE? (1984)
- " I BEGAN TO THINK WE CAN ONLY GET BETTER HAVING PEOPLE AROUND US WHO RAISE OUR GOOD FEELINGS."

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George Eliot: 1874

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**“UNLESS PEOPLE DEVELOP THE CAPACITY TO DERIVE PLEASURE FROM RELATIONSHIPS AND ATTACHMENT, WE HAVE ACCOMPLISHED VERY LITTLE IN THERAPY”**

LARRY YOUNG, EMORY U. (2009)

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**EMPIRICAL EVIDENCE: INSECURE ATTACHMENT STYLES & ADDICTION**, (M. Rose, 2003, Marinkovic, 2009)

- **SUBSTANCE ABUSERS (SA) WERE ASSESSED FOR ATTACHMENT STYLES (AAI).**
- **SA HAD A GREATER PREVALENCE OF INSECURE ATTACHMENT STYLES THAN GENERAL POPULATION.**
- **INSECURE ATTACHMENT STYLES WERE RELATED TO EARLIER AGE USAGE OF SUBSTANCES.**
- **RECOVERING ADDICTS & ALCOHOLICS (10 + YEARS) REVEALED GREATER SIGNIFICANT SHIFT FROM INSECURE TO SECURE ATTACHMENT STYLES THAN THOSE WITH LESS THAN TEN YEARS OF RECOVERY.**

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**ADVANTAGES OF SECURE ATTACHMENT**

- **EVIDENCE WILL BE PRESENTED THROUGHOUT THE WORKSHOP WHICH SHOWS HOW SECURE ATTACHMENT ENHANCES SURVIVAL BECAUSE IT PRIMES THE BRAIN WITH A WHOLE HOST OF ADVANTAGES:**
- **1. PROTECTIVE FACTOR FOR RISKY GENES RELATED TO ALCOHOLISM & OTHER ADDICTIONS.**
- **2. ENHANCED CAPACITY FOR CORRECTLY READING SOCIAL CUES.**
- **3. INCREASE RESILIENCY TO LOSS, TRAUMA & STRESS.**
- **4. INCREASE OPTIMISM: “HIGH PLACEBO RESPONDERS.”**

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**ADVANTAGES OF SECURE ATTACHMENT II**

- 5. PROMOTES DEVELOPMENT & MAINTENANCE OF SYNAPTIC STRENGTH.
- 6. INCREASED FLEXIBILITY IN THE REGULATION OF PSYCHOBIOLOGICAL EMOTIONAL STATES THROUGH INTERACTIONS WITH OTHERS. (DISAGREE W/O BEING DISAGREEABLE)
- 7. BETTER STRATEGIES FOR SELF-REGULATION.
- 8. INCREASED CAPACITY TO DERIVE PLEASURE FROM HUMAN INTERACTIONS.
  - RESULTS IN MORE OXYTOCIN & VASOPRESSIN RECEPTORS IN BRAIN.
- 9. MORE SATISFYING SEXUAL RELATIONSHIPS.

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• **“MENTAL HEALTH IS A SUBSTANCE THAT ATTRACTS ITSELF AS READILY AS MONEY OR POWER: THE MORE YOU HAVE, THE MORE YOU GET”**

» Lewis, Amini, & Lannon (2000)

» Jekyll island

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**ATTACHMENT: A DEFINITION**

- HUMAN BEINGS ARE SOCIAL MAMMALS & ALL SOCIAL MAMMALS REGULATE EACH OTHER'S PHYSIOLOGY & ALTER THE INTERNAL STRUCTURE OF EACH OTHER'S NERVOUS SYSTEM THROUGH THE SYNCHRONOUS EXCHANGE OF EMOTIONS. THIS INTERACTIVE REGULATORY RELATIONSHIP IS THE BASIS FOR ATTACHMENT.

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**ADDICTION AS AN ATTACHMENT DISORDER**

**ADDICTION TREATMENT SPECIALISTS FAMILIAR WITH ATTACHMENT THEORY RECOGNIZE AN INVERSE RELATIONSHIP EXISTS BETWEEN ADDICTION AND HEALTHY INTERPERSONAL ATTACHMENT.**

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- “Feeling anxious about going to a party? Have a few drinks. Having difficulty talking with a member of the opposite sex? A little speed or cocaine will grease the larynx and make you funny and charming. Do you have to host an important dinner or gathering for your boss and a few important guests? A little valium or zanax will do the trick. Or is the thought of going out and meeting some new friends just too overwhelming? Why not stay at home and get stoned. After all, the relationship with marijuana is more reliable and much easier to control than the uncertainty of human contact.
- Recognize the pattern?

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**THE LINK BETWEEN SUBSTANCE USE & EMOTIONS THAT GET STIRRED BY THE UNCERTAINTY OF HUMAN CONTACT**

- FOR BETTER OR WORSE, THE MAJORITY OF MEMBERS OF OUR PRESENT-DAY SOCIETY HAVE BECOME INCREASINGLY RELIANT ON PSYCHOACTIVE SUBSTANCES TO HELP THEM MANAGE THE FEARS AND DIFFICULTIES STIRRED UP WITH INTERPERSONAL RELATIONSHIPS.
- MOST INDIVIDUALS ARE ABLE TO USE SUBSTANCES IN WAYS THAT DO NOT CAUSE THEM HARM OR DIRE CONSEQUENCES.
- HOWEVER, CERTAIN INDIVIDUALS, BECAUSE OF INTRAPSYCHIC DEFICIENCIES RELATED TO ENVIRONMENTAL, GENETIC & BIOLOGICAL SUBSTRATES, ARE MORE VULNERABLE TO DEVELOP ADDICTIONS TO SUBSTANCES THAT MANY OF US EITHER LEARN HOW TO USE LESS DESTRUCTIVELY, OR STOP USING BEFORE THE CONSEQUENCES OF USE BECOMES TOO DAMAGING.

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**EARLY SUB-OPTIMAL REGULATORY ENVIRONMENTS: A  
BRAIN AT RISK FOR ADDICTION**

- 1. SUBSTANCE USE INITIALLY SERVES A COMPENSATORY FUNCTION, PROVIDING TEMPORARY RELIEF BY HELPING LUBRICATE AN OTHERWISE CUMBERSOME INADEQUACY IN MANAGING THE DIFFICULTIES GENERATED BY INTERPERSONAL RELATIONSHIPS.
- 2. PROLONGED USE GRADUALLY IMPAIRS AN ALREADY FRAGILE CAPACITY FOR ATTACHMENT.
- 3. BECAUSE OF THE TOXICITY OF CHEMICAL USE, ANY INTERPERSONAL SKILLS THE PERSON POSSESSED EARLY IN HIS OR HER SUBSTANCE-ABUSING CAREER DEPRECIATES EVEN FURTHER.
- 4. MANAGING RELATIONSHIPS BECOME INCREASINGLY DIFFICULT, LEADING TO A HEIGHTENED RELIANCE ON SUBSTANCES, WHICH ACCELERATES DETERIORATION AND ADDICTIVE RESPONSE PATTERNS.

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**ADDICTION CAN BE EITHER  
A CAUSE OR A  
CONSEQUENCE OF THE  
IMPAIRED ABILITY TO  
ESTABLISH & MAINTAIN  
HEALTHY ATTACHMENT  
RELATIONSHIPS**

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**“WE DON’T HAVE  
RELATIONSHIPS, WE  
TAKE HOSTAGES”**

ALCOHOLICS ANONYMOUS

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**“ALCOHOLISM IS A DISEASE  
OF ISOLATION”** (J. ROTH, MD)

- NOT EVERYONE WITH INADEQUATE OR INSECURE ATTACHMENT EXPERIENCES WILL BECOME ADDICTED,
- BUT EVERYONE WITH AN ADDICTION SUFFERS WITH ATTACHMENT DIFFICULTIES.

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**INSECURE ATTACHMENT, AFFECT  
REGULATION & ADDICTION**

- ADDICTION, WHETHER THE CAUSE OR CONSEQUENCE OF RELATIONAL DIFFICULTIES, IS BEST TREATED BY HELPING THE SUBSTANCE ABUSER DEVELOP THE CAPACITY FOR HEALTHY INTERPERSONAL RELATIONSHIPS.

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# INTERPERSONAL NEUROBIOLOGY

- **ATTACHMENT IS NOT JUST A ABSTRACT CONCEPT – IT IS A NEUROPHYSIOLOGICAL PROCESS.**
- **“ATTACHMENT IS NOT JUST A GOOD IDEA, IT’S THE LAW.”** LEWIS, AMINI, & LANNON (2000)

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## THE LIMBIC SYSTEM = THE SOCIAL BRAIN “THE SYSTEMS THAT PROCESS SOCIAL INFORMATION & REGULATE STRESS ARE THE SAME”. (A. SCHORE)

### FRONTAL LOBE

- **ATTENTION & INTENTION (CONSCIOUS)** Location of Major Limbic System Structures
  - ATTENTION (DISORDER OF AWARENESS)
  - INTENTION (MOTIVATION SYSTEMS ARE HIJACKED)

### HIPPOCAMPUS

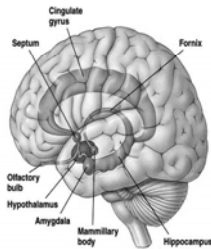
- EXPLICIT MEMORY
  - NEW LEARNING (NEUROGENESIS)

### AMYGDALA

- EMOTION (NON-CONSCIOUS ATTENTION)
  - FEAR/ANXIETY
  - IMPLICIT PROCESSES

### HYPOTHALAMUS

- HORMONES
  - CORTISOL (DEPRESSION & ATROPHY)
  - OXYTOCIN (ATTACHMENT)



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## PRE-FRONTAL CORTEX IS PART OF THE LIMBIC SYSTEM

- **CONFIRMS WHY THOUGHTS CAN EFFECT FEELINGS** (CBT THERAPY, INTERPRETATION @ PSYCHODYNAMIC).
- **HOWEVER, EVIDENCE INDICATES THAT EMOTIONS HAVE A GREATER EFFECT ON STIMULATING OR TRIGGERING THOUGHTS.**
- **THE BEST WAYS TO INFLUENCE FEELINGS IS WITH STRONGER, MORE POWERFUL EMOTIONS.**
  - **IMPLICIT vs EXPLICIT DOMAINS OF INTERVENTION (MEMORY, AWARENESS, AFFECT REGULATION)**

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**WHEN EMOTION & REASON COLLIDE,  
EMOTION INVARIABLY WINS,**

**“PASSION ALWAYS WINS OVER REASON. UNLESS WE USE PASSION TO HELP STEER OUR PASSIONS TO LESS DESTRUCTIVE ACTION.”** — SPINOZA (1630)

**UNLESS RECOVERY IS MORE REWARDING THAN USING, AN ADDICT WILL NEVER STAY SOBER & CLEAN.**

**•“AN EMOTION CAN ONLY BE MEDIATED BY ANOTHER CONTRARY OR STRONGER EMOTION.”**

- **SERENITY & NATURAL REWARDS**

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**PAUL MACLEAN:** (NEUROSCIENTIST OF TRIUNE BRAIN FAME),  
**WAS THE FIRST TO RECOGNIZE THE CONNECTION  
BETWEEN ADDICTION & ATTACHMENT**

- **IN 1990 HE SPECULATED THAT SUBSTANCE ABUSE & DRUG ADDICTION REPRESENT EFFORTS TO REPLACE ENDOGENOUS OPIATES & OTHER NEUROPEPTIDE FACTORS** (i.e. DOPAMINE & OXYTOCIN) **THAT ARE NORMALLY PROVIDED BY ATTACHMENT RELATIONSHIPS & BONDING.**

- **HE WONDERED IF ATTACHMENT & ADDICTION MIGHT SHARE A COMMON NEUROBIOLOGY & NEUROPATHWAYS.**

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**ATTACHMENT AS AN ADDICTIVE  
DISORDER???**

- **THERE IS CONSIDERABLE EVIDENCE THAT THE NEURAL CIRCUITS THAT MEDIATE THE REWARD & PLEASURE CENTERS OF THE BRAIN EVOLVED AS THEY DID TO ENSURE THAT THE SPECIES WOULD BE DRIVEN & COMPELLED TO PURSUE & MAINTAIN ATTACHMENT.**
- **EVIDENCE FROM THE NEUROSCIENCES ARE SUGGESTING THAT DOPAMINE & OXYTOCIN ASSOCIATED WITH THIS PATHWAY MEDIATES THE PLEASURABLE PROPERTIES OF BONDING, LOVE & ATTACHMENT AS WELL AS ADDICTION TO SUBSTANCES.**
- **IF PROXIMITY & SAFETY ARE PROVIDED, IT IS NEARLY IMPOSSIBLE TO PREVENT OURSELVES FROM BECOMING ATTACHED TO SOMEONE.**

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**LOVE OR ADDICTION?**

- **THE NEUROBIOLOGY OF ATTACHMENT AND LOVE IS ONE OF OUR MOST COMPLEX & POWERFUL EMOTIONS.**
- **LOVE, PARTNER BONDING, PARENT-CHILD BONDING, OBJECT LOSS: BOOKS, MOVIES, POETRY, MUSIC.**
- **SIMILAR PROCESS: EUPHORIA, PLEASURE, AFFECT DYSREGULATION, NARROWING FOCUS TOWARDS SEEKING OUT THE PERSON OR THE DRUG, CRAVING, LOSS OF CONTROL, WITHDRAWAL SYNDROME, ETC.**
- **OBSESSION, PREOCCUPATION, POWERFUL VISCERAL RESPONSES. (0:00 –0: 23)**

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**YOU CAN EITHER BE ATTACHED TO PEOPLE OR ATTACHED TO DRUGS – BUT IT IS DIFFICULT TO BE ATTACHED TO BOTH AT THE SAME TIME.**

- **T. INSEL HAS GATHERED EVIDENCE THAT NEUROPATHWAYS & NEUROBIOLOGY UTILIZED BY SUBSTANCE ABUSE ARE THE SAME ONES UTILIZED BY ATTACHMENT.**
- **“IT IS HIGHLY UNLIKELY THAT THIS NEURAL PATHWAY EVOLVED FOR DRUG ABUSE, SO ONE MIGHT HYPOTHEZIZE THAT COCAINE OR HEROIN *HJACKS* A NEURAL SYSTEM THAT WAS NATURALLY SELECTED FOR BEHAVIORS ASSOCIATED WITH REPRODUCTION, CHILD REARING, ATTACHMENT & LOVE.” (2003, P. 352)**

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**IF THE ATTACHMENT AS AN ADDICTION HYPOTHESIS IS CORRECT**

- **YOU WOULD EXPECT THAT MOTIVATIONAL STATES SUCH AS MATERNAL CARE & PAIR BONDING WOULD ACTIVATE THE SAME PATHWAYS AS DRUGS OF ABUSE...**
- **AND THAT DRUGS LIKE COCAINE & OPIATES MIGHT REDUCE THESE MOTIVATIONAL BEHAVIORS.**
  - **1. EITHER COCAINE OR A NONSPECIFIC AGONIST DECREASES PUP RETRIEVAL IN MOTHER RATS.**
  - **2. AFTER EIGHT DAYS OF EXPOSURE TO COCAINE, MOTHER RATS BEGAN TO PREFER COCAINE TO THEIR PUPS.**
  - **3. COCAINE OR AN AGONIST REDUCES PAIR BONDING IN PRAIRIE VOLES.**

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**WHAT IS STRONGER THAN THE BOND  
BETWEEN A MOTHER & HER CHILD?**

- **MOTHERS ADDICTED TO HEROIN** (MAYES, 1995)
- **BY ONE YEAR OF AGE, NEARLY 50% OF CHILDREN ARE LIVING AWAY FROM BIOLOGICAL MOTHERS.**
- **BY SCHOOL AGE, ONLY 12 % REMAIN WITH BIOLOGICAL MOTHERS.**
- **THESE INFANTS HAVE TYPICALLY BEEN ABANDONED OR ARE TAKEN INTO THE CARE OF GRAND PARENTS & OTHER FEMALE KIN.**
- **A STUDY OF 57 METHADONE-MAINTAINED MOTHERS: ARE FAR LESS LIKELY TO REMAIN THE CHILD'S PRIMARY PARENT & CHILDREN WERE MORE LIKELY TO HAVE BEEN REFERRED TO CHILD PROTECTION CARE FOR NEGLECT, ABANDONMENT, OR ABUSE** (KEVERAN, 2003)

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**ADDICTION INTERS WITH  
ATTACHMENT**

- **SEPARATE A MOTHER RAT FROM HER BABY & SHE WILL GNAW THROUGH A WIRE CAGE TO GET TO HER BABY.**
- **INJECT THAT SAME MOTHER WITH A DOSE OF OPIATES AND SHE WILL STARE INDIFFERENTLY AT HER SCREAMING BABY IN THE OTHER CAGE.**

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**ADDICTION OCCURS WHEN THE  
ATTACHMENT TO SUBSTANCES  
BECOMES STRONGER THEN THE  
ATTACHMENT TO PEOPLE**

- **BECAUSE OF THE POWERFUL REINFORCING & AFFECT REGULATING PROPERTIES OF SUBSTANCES, THEY EASILY DOMINATE THE MORE SUBTLE PERSUASIONS OF ATTACHMENT BONDS.**

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**ADDICTION INTERFERES WITH  
THE SEPARATION CRY**

- DRUGS LIKE HEROIN, COCAINE, & ALCOHOL DO THEIR DAMAGE BECAUSE THEY TAP DIRECTLY INTO THE BRAIN CHEMISTRY THAT REGULATES THE BONDS OF LOVE & ATTACHMENT.
- WHEN PEOPLE BECOME ADDICTED TO DRUGS, ONE OF THE MOST COMMON REACTIONS EXPRESSED BY FRIENDS & LOVED ONES IS A SENSE OF BEWILDERMENT AT THE ADDICT'S ABILITY TO TURN HIS/HER BACK ON FAMILY & FRIENDSHIP.

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**ANIMAL STUDIES:  
NEONATES ISOLATED SOON AFTER  
BIRTH DEMONSTRATE INCREASED  
RISK FOR ADDICTION** K. BRADLEY, MD

- TROOP OF LAB RATS: ISOLATE ½ OF NEONATES AFTER BIRTH.
- IN ADULTHOOD, PLACE EACH GROUP IN SITUATIONS THAT ALLOWS FOR SELF-ADMINISTRATION OF COCAINE.
- THE ½ ISOLATED AFTER BIRTH DEMONSTRATE INCREASED DRUG USE WITHOUT TRAINING.
- WHEN PLACED UNDER STRESS THE ½ ISOLATED AFTER BIRTH INCREASED THEIR DRUG USE MORE THAN CONTROLS.

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**“AN ALCOHOLIC ALONE  
IS IN BAD COMPANY”**

ALCOHOLICS ANONYMOUS

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**ISOLATION SYNDROME** KRAIMER (1992)

- MONKEYS RAISED IN ISOLATION HAVE DIFFICULTY ADJUSTING & SURVIVING IN SOCIETY.
- 1. LONERS.
- 2. FIGHT & ARE MORE AGGRESSIVE
- 3. CANNOT READ OR EXPRESS APPROPRIATE EMOTIONS & SIGNALS.
- 4. SELF-INJURIOUS & SELF DEFEATING.
- 5. POOR SEXUAL BEHAVIOR.
- 6. DIFFICULTY UNLEARNING PATTERNS OF BEHAVIOR.
- 7. FOOD & WATER BINGES.
- 8. PREFER ALCOHOL OVER WATER.
- 9. UNSTABLE AGGRESSIVE RELATIONSHIPS.

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**IF ISOLATED MONKEYS ARE PLACED WITH PEERS (THERAPIST MONKEYS?)**

- 1. START TO LOOK & ACT NORMAL
- A. BUT THEY OFTEN DON'T HOLD UP WHEN SEPARATED.
- B. NEED TO STAY ATTACHED TO A REGULATING TROOP (GROUP ?).
- C. PEER ATTACHMENT CAN OFFSET SOME OF THE ISOLATION SYNDROME.

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**IF THE THERAPIST OR NORMAL MONKEYS SPEND TOO MUCH TIME WITH THE SICK MONKEYS, THEY GET ANXIOUS & DEPRESSED**

- THERAPIST BURNOUT?
- AFFECT REGULATION IS A TWO WAY STREET.

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**ENVIRONMENT, GENES, IMPULSE CONTROL & ALCOHOL CONSUMPTION**

STEVE SUNOMI NIMH (2007)

- I. IN RHEBUS MONKEYS, A GENE VARIATION PREDISPOSES THEM TOWARDS POOR IMPULSE CONTROL.
- II. THESE IMPULSIVE MONKEYS ALSO DRINK A LOT OF ALCOHOL AT MONKEY "HAPPY HOUR", AND THEY ARE MORE LIKELY THAN OTHER MONKEYS TO ENGAGE IN "BINGE DRINKING".
- III. TYPICALLY, THESE IMPULSIVE MONKEYS ARE NOT WELL-LIKED OR ACCEPTED BY THE OTHER MONKEYS. BUT WHEN THESE GENETICALLY "AT RISK" MONKEYS ARE INTRODUCED TO SUPPORTIVE ENVIRONMENTS (AA?), THE HARMFULLY IMPULSIVE BEHAVIOR DISAPPEARS, AS DOES THE BINGE DRINKING.
- IV. THESE "AT RISK" MONKEYS NOT ONLY SURVIVE. THEY FLOURISH & BECOME SUCCESSFUL IN MAKING THEIR WAY TO THE TOP OF THE MONKEY SOCIAL HIERARCHY. (AA GURUS?).
- V. WHAT HAS HAPPENED?
- VI. AN IMPROVED SOCIAL ENVIRONMENT HAS CHANGED AN INHERITED VULNERABILITY INTO A POSITIVE BEHAVIORAL ASSET.

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**"GENES DON'T CAUSE ADDICTION"**

SCHUCKIT, 2007

- **POLYGENETIC INFLUENCES CAN EITHER BE A RISK FACTOR OR A PROTECTIVE FACTOR.**
  - 1500 ADDICTION RELATED GENES WERE IDENTIFIED BY THE HUMAN GENOME PROJECT (KARG, 2011)
- **RISK FACTORS: IMPULSIVITY, HIGH STRESS RESPONDER, HIGH TOLERANCE, ETC.**
- **PROTECTIVE FACTORS: FLUSHING RESPONSE, LOW TOLERANCE, NAUSEA, ETC.**
- **EPIGENETIC: "NEITHER GENES NOR ENVIRONMENT DOMINATES DEVELOPMENT. PHENOTYPES EMERGES AS A FUNCTION OF THIS CONSTANT DIALOGUE, AND ANY EFFORT TO ASCRIBE PERCENTAGE VALUES TO ISOLATED VARIABLES IS LIKELY TO BE BIOLOGICALLY MEANINGLESS. (NATIONAL RESEARCH COUNCIL, 2001, pp 63-64).**

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**INITIAL CHANGES IN THE BRAIN ARE JUST TEMPORARY: THE REQUIREMENT FOR LONG TERM THERAPY**

- **WALLACE'S PARADOX**
- **WHAT THE ALCOHOLIC NEEDS IN EARLY STAGE TREATMENT IS FAR DIFFERENT THAN WHAT THE ALCOHOLIC WILL NEED IN LATER STAGE RECOVERY.**
- **NOT ONLY WILL UNALTERED EARLY STAGE TREATMENT STRATEGIES FAIL TO BE AS HELPFUL IN LATER STAGE RECOVERY, THESE STRATEGIES CAN ACTUALLY INCREASE RELAPSE, RATHER THAN PREVENT IT.**

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**DEFINITION OF  
NEUROPLASTICITY**

**• EXPERIENCE CHANGES**

**THE**

**• STRUCTURE & BIOLOGY**

- (SYNAPTIC STRENGTH, NEURONAL PATHWAYS, BRAIN MASS, ETC.)
- (NEUROTRANSMITTERS, DOPAMINE, CORTISOL, OXYTOCIN, ETC.)

**- OF THE BRAIN**

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**NEUROSCIENCES ARE TEACHING US THAT THE  
THINGS REQUIRED FOR IDEAL BRAIN  
DEVELOPMENT ARE THE VERY SAME THINGS  
REQUIRED FOR EFFECTIVE THERAPY**

- THE ESSENTIAL TASK OF THE FIRST FEW YEARS OF HUMAN LIFE IS THE CREATION OF A SECURE ATTACHMENT BOND BETWEEN INFANT & THE PRIMARY CAREGIVER.
  - ESTABLISH AN ALLIANCE
- EMOTION IS INITIALLY REGULATED BY OTHERS, BUT OVER THE COURSE OF INFANCY IT BECOMES INCREASINGLY SELF-REGULATED AS A RESULT OF NEUROPHYSIOLOGICAL DEVELOPMENT.
  - EMOTIONAL ATTUNEMENT & AFFECT REGULATION: FEELING UNDERSTOOD BY SOMEONE AS AN ADULT HAS THE SAME EFFECT AS BEING HELD AS A BABY.
- THE REGULATORY FUNCTION OF THE MOTHER-INFANT INTERACTION PROMOTES THE DEVELOPMENT & MAINTENANCE OF SYNAPTIC CONNECTIONS & FUNCTIONAL CIRCUITRY OF THE BRAIN.
  - PROVIDE A CORRECTIVE NEUROBIOLOGICAL EXPERIENCE.

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**FUNDAMENTAL TASK OF  
TREATMENT**

- HOW TO WORK WITH WHAT IS BEING COMMUNICATED BUT NOT SYMBOLIZED WITH WORDS.
- HOW DO WE RECOGNIZE MOMENTS OF BOTH SUBTLE & HEIGHTENED EMOTIONAL, BODILY BASED, IMPLICIT COMMUNICATION?
- REGULATION THEORY DESCRIBES HOW IMPLICIT SYSTEMS OF THE THERAPIST INTERACT WITH IMPLICIT SYSTEMS OF THE PATIENT.
- PSYCHOTHERAPY IS NOT THE "TALKING" CURE, BUT THE "COMMUNICATING" CURE.

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## **IMPLICIT PROCESSES**

- **IMPLICIT NOT JUST MEMORY**
- **IMPLICIT KNOWLEDGE**
- **IMPLICIT COMMUNICATION**
- **IMPLICIT RECEPTION & PROCESSING OF INFORMATION.**
- **IMPLICIT AFFECT REGULATION**
- **SCHORE'S CRITIQUE OF TOO MUCH EMPHASIS ON EXPLICIT IN THERAPY**
  - **EMOTIONAL, BODILY BASED PROCESSES**

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## **MOMENTS OF MEETING**

- **JUST AS INTERPRETATION IS THE THERAPEUTIC EVENT THAT REARRANGES THE PATIENT'S CONSCIOUS DECLARATIVE KNOWLEDGE, THE "MOMENT OF MEETING" (THE REAL RELATIONSHIP, AUTHENTICITY) IS THE EVENT THAT REARRANGES IMPLICIT RELATIONAL KNOWING FOR BOTH THE PATIENT & THERAPIST. (D. STERN)**

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## **WORKING IN THE IMPLICIT DOMAIN**

- **THE PROCESS OF CHANGE STUDY GROUP (STERN) IS EXPLORING THE "SOMETHING MORE" OTHER THAN INTERPRETATION THAT IS REQUIRED FOR SUCCESSFUL TREATMENT.**
- **THE RELATIONAL PROCEDURAL DOMAIN IS DISTINCT FROM THE SYMBOLIC DOMAIN.**
- **CHANGE OCCURS THROUGH THE RELATIONSHIP & INTERSUBJECTIVE MOMENTS (MOMENTS OF MEETING) BETWEEN THE INTERACTANTS THAT CREATE NEW ORGANIZATIONS AND ALTERS PROCEDURAL KNOWLEDGE—THE PATIENT'S WAY OF BEING WITH OTHERS.**
  - **BUBER EX:**

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**THERAPIST AS AN INTERACTIVE  
REGULATOR OF THE PATIENT'S  
PSYCHOBIOLOGICAL STATES**

- AN UNDERSTANDING OF THE BRAIN MECHANISMS THAT UNDERLIE BODILY BASED NON-VERBAL COMMUNICATION IS ESSENTIAL IN THIS APPROACH
- A KEEN APPRECIATION OF ONE'S OWN SOMATIC, INTROCEPTIVE BODILY CUES IS A KEY ELEMENT IN THE INTERSUBJECTIVITY BETWEEN THE THERAPIST & THE PATIENT.
- EMOTIONAL ATTUNEMENT, RECOGNITION & AFFECT TOLERANCE.

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**AFFECT RECOGNITION & EMOTIONAL  
COMMUNICATION**

- PAUL EKMAN & FACIAL EXPRESSIONS
- NATURAL SELECTION FAVOR EMOTIONALITY BECAUSE IT ENHANCED SURVIVAL.
- EMOTIONS ARE INSTINCTUAL, NOT LEARNED (i.e. BLIND BABIES)
- FACIAL EXPRESSIONS ARE IDENTICAL ALL OVER THE GLOBE IN EVERY CULTURE.

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**ADDICTION & AFFECT  
REGULATION**

- SOURCES OF AFFECT REGULATION
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- 1.) DRUGS/ALCOHOL
- 2.) SEX
- 3.) FOOD
- 4.) GAMBLING (MONEY)
- 5.) EXERCISE
- 6.) PEOPLE

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**“I’M LOOKING FOR A  
LOVER THAT WON’T  
DRIVE ME CRAZY.”**

**JOHN COUGAR MELLENCAMP**

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**KHANTZIAN’S SELF-  
MEDICATION HYPOTHESIS**

- **IT ISN’T PLEASURE THAT ADDICTS ARE SEEKING, RATHER THEY ARE ATTEMPTING TO REGULATE THEIR EMOTIONAL STATES & ESCAPE, EVEN MOMENTARILY, FROM THE CONSTANT FEELINGS OF DEPRIVATION, SHAME, & INADEQUACY THAT DOMINATES THEIR EMOTIONAL LIVES.**

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**SHAME: WE’RE ONLY  
AS SICK AS OUR  
SECRETS**

- **THE PRIMARY AFFECT THAT ADDICTS & ALCOHOLICS ARE TRYING TO REGULATE IS SHAME.**

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**THE DIFFERENCE BETWEEN SHAME & GUILT**

	<b>GUILT</b>	<b>SHAME</b>
Results from:	a violation, a transgression, a fault of <i>doing</i> the exercise of power, of control	a failure, a falling short, a fault of <i>being</i> the lack of power, of control
Results in:	feeling of wrongdoing, sense of wickedness: "not good"	feeling of inadequacy, sense of worthlessness: "no good"

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**DRUG OF CHOICE & VULNERABILITY OF THE SELF**

- **ALL SUBSTANCE ABUSERS ARE PREDISPOSED TO ABUSE & BECOME DEPENDENT ON A PARTICULAR DRUG BECAUSE THEIR 'DRUG OF CHOICE' MATCHES A PARTICULAR IMPAIRMENT OR DEFICIT IN AFFECT REGULATION THAT THEY SUFFER.**
- **OPIATES**
- **COCAINE**
- **BENZODIAZEPINES**
- **ALCOHOL**

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## Songs

- I am a Rock. Simon & Garfunkel. The Best of Simon & Garfunkel
- I Want to Know What Love Is. Foreigner: Complete Greatest Hits
- Mother. Plastic Ono Band. John Lennon
- Perfect. Jagged Little Edge. Alanis Morissette.
- Because of You. Breakaway. Kelly Clarkson.
- My Immortal. Fallen. Evanescence.
- Keep Talking, Pink Floyd. Pulse
- I Hope You Dance. Lee Ann Womack
- Lean on Me. Bill Withers. The Best of Bill Withers.
- Guilty. Bonnie Riatt. Bonnie Riatt's Greatest Hits.
- Lua, Bright Eyes, I'm Wide Awake.
- The Story, Brandi Carlile. The Story

Being a Brain-Wise Therapist: A Practical Guide to Interpersonal Neurobiology. Bonnie Badenoch (2008) New York: Norton

The Neuroscience of Human Relationships: Attachment and the Developing Brain. Louis Cozolino (2006) New York: Norton

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Waking the Tiger: Healing Trauma. Peter Levine (1997) Berkeley,CA: North Atlantic Books.

Psychotherapeutic Interventions for Emotion Regulation. John Omaha (2004) New York: Norton.

*Biology and Human Behavior: The Neurological Origins of Individuality, 2nd Ed.*

Lectures on DVD by Professor Robert Sapolsky of Stanford University

(The Great Courses, Course # 1597, 2005, The Teaching Company.)

This is an introductory course on how our brains regulate our thoughts, emotions, and feelings; how our brains make us the individuals we are; and how our brains are regulated.