Introduction

1- Whole-system healing integrates spirit, mind, family, culture, and earth.
2- Addiction is a whole-system disorder.
3- Whole-system disorders require the strengthening of feedback systems for recovery.
4- Feedback is misunderstood and overlooked.
5- Neurofeedback is a logically and demonstrably effective extension of SUD therapy stimulating all feedback mechanisms: subconscious, conscious, sensory and interpersonal

Feedback Loops

Their control requires increased awareness, focus, flexibility and sensitivity.
Outer processes involve the larger environment
    Compare Doctor, to Analyst, to Shaman (Fig. I)
Inner processes link systems within the mind
    Compare Mechanical, Memory, Reflection, Refinement (Fig. II)
Simple Feedback: linear, automatic, regular (allopoietic)
    Normative: the medical model, the research model
    Tones the organism but does not change it.
        Smart car
        Automatic Pilot
Complex Feedback: crisis, growth, change (autopoietic)
    Modification throughout the system. The entire system is subject to change
    Revelatory and transcendent, not easily controlled or predicted.
    Aided by secure boundaries and context.
        Dream work
        Healing ceremony
        Ritual trance
        Hypnotic induction
    Whole-system feedback requires therapist's participation: recognize your role in the client's problem, and the client's role in your life.

Habit, Addiction, Abuse

The habit spectrum ranges from flexible and considerate flexibility, to rigid and unaware compulsion.
    Preference ← Habit ← Loss of Control → Addiction → Abuse
    The compulsion extreme lacks feedback;
     Restoration of feedback restores sensitivity, flexibility, and control.
Addictive behavior combines a voluntary and an involuntary cycle.
    The voluntary cycle supports reasoned interaction with the world.

The involuntary cycle replaces feedback with illusion and dissociation. (Fig. III)

Neurofeedback

We are composed of many mental processes:

Conscious: verbal reasoning that is aware and controlled.

Dialog, discussion, and reflection.

Subconscious: reflexes and aptitudes that are aware but uncontrolled.

Balance, Sequence, Boundaries, Attention, Recall, Prosody.

Unconscious: needs and memories that are unaware and uncontrolled.

The "data" of who we are.

All of our processes require feedback, and feedback improves our response. (Fig. IV)

Poor balance, control, clarity, self-expression, social integration leads to need for external support (SUD as self-medication).

- Lack of feedback.

→ Lack of sense of place and self.

→ Preoccupation and impaired thinking.

EEG Biofeedback trains the subconscious, and facilitates events in the unconscious.

- Feedback training,

→ Flexible reorientation.

→ Sensitivity to and appreciation of alternatives.

→ Improved thinking and management skills.

The EEG signal, the spectrum, and the 10-20 system. (Fig. V)

Operant conditioning.

Facilitated readjustment.

Neurofeedback in Addiction Therapy

Higher cognitive function, deeper emotional adjustment.

Aptitude training to remediate deficits and improve function that support thinking.

Alpha/Theta to resolve trauma and unconscious issues.

"new experience of self-control in a situation where the client had previously felt helpless."
— Matthew Kelley

"has all the benefits of hypnosis… with the added feature (that) it clears out traumatic experiences."
— Daniel Staso

Demonstration of Alpha/Theta

Enhancement of traditional approach

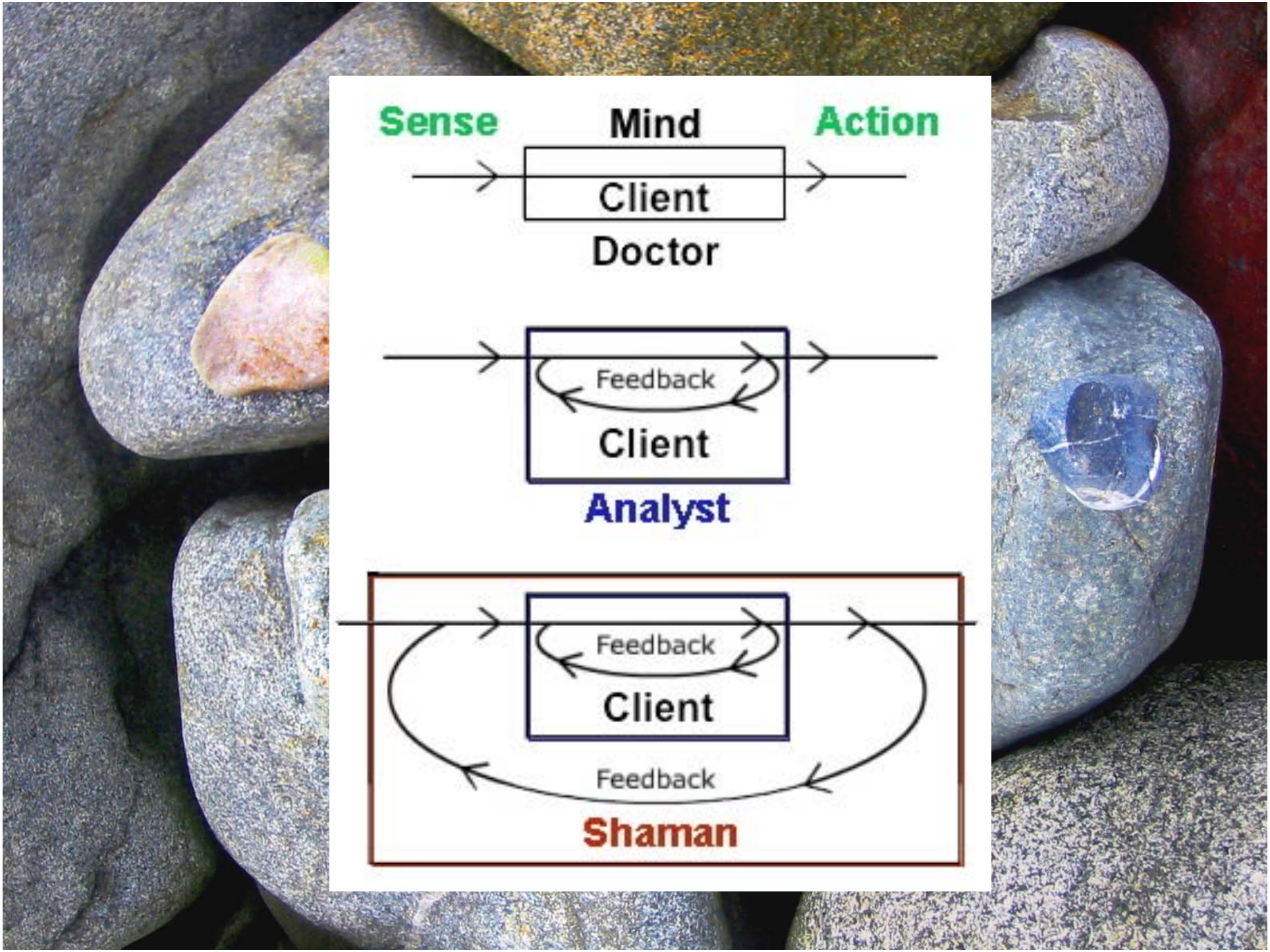
Individual therapy, spiritual support, group counseling.

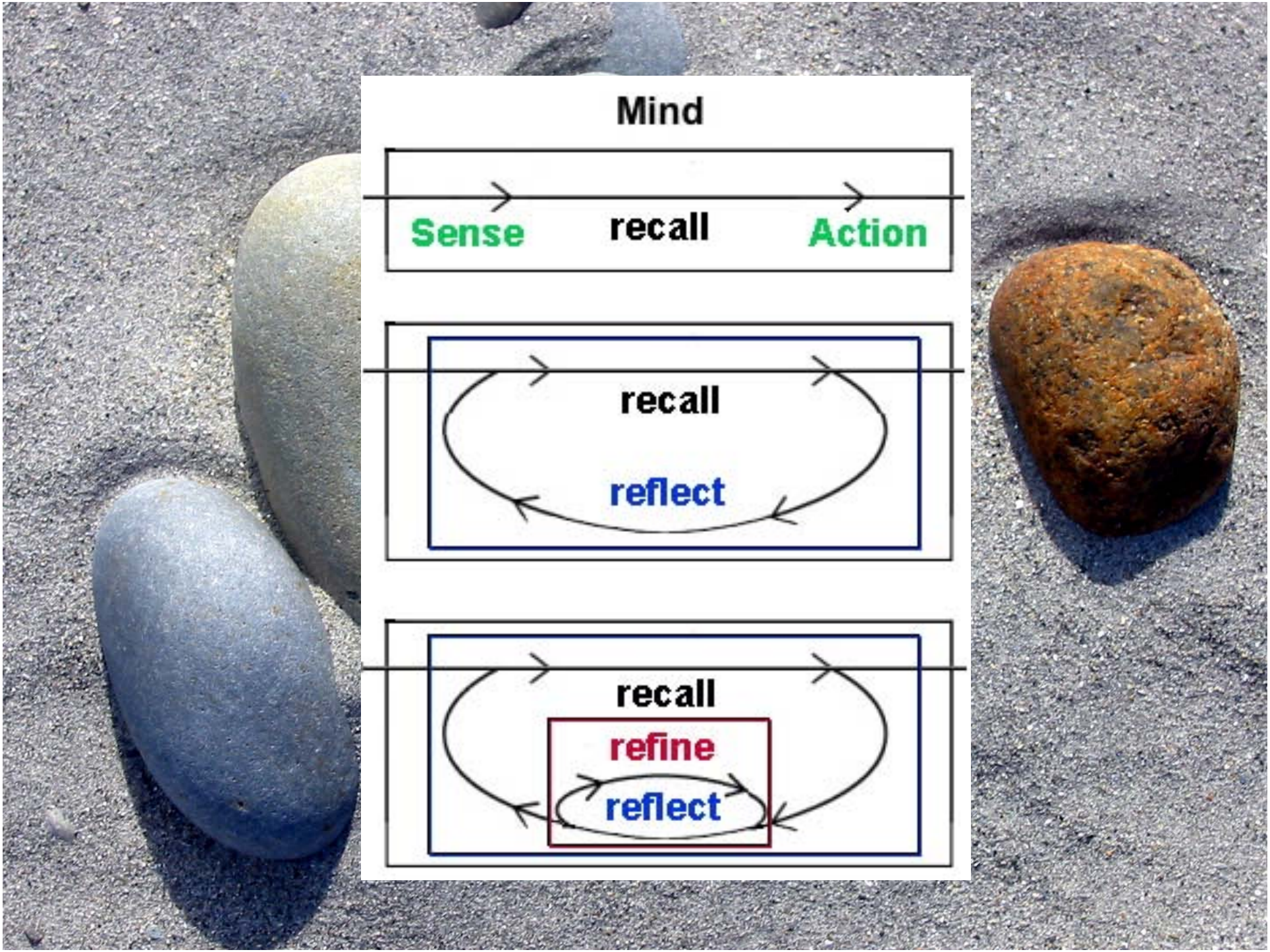
Provide EEG biofeedback training of client's internal state.

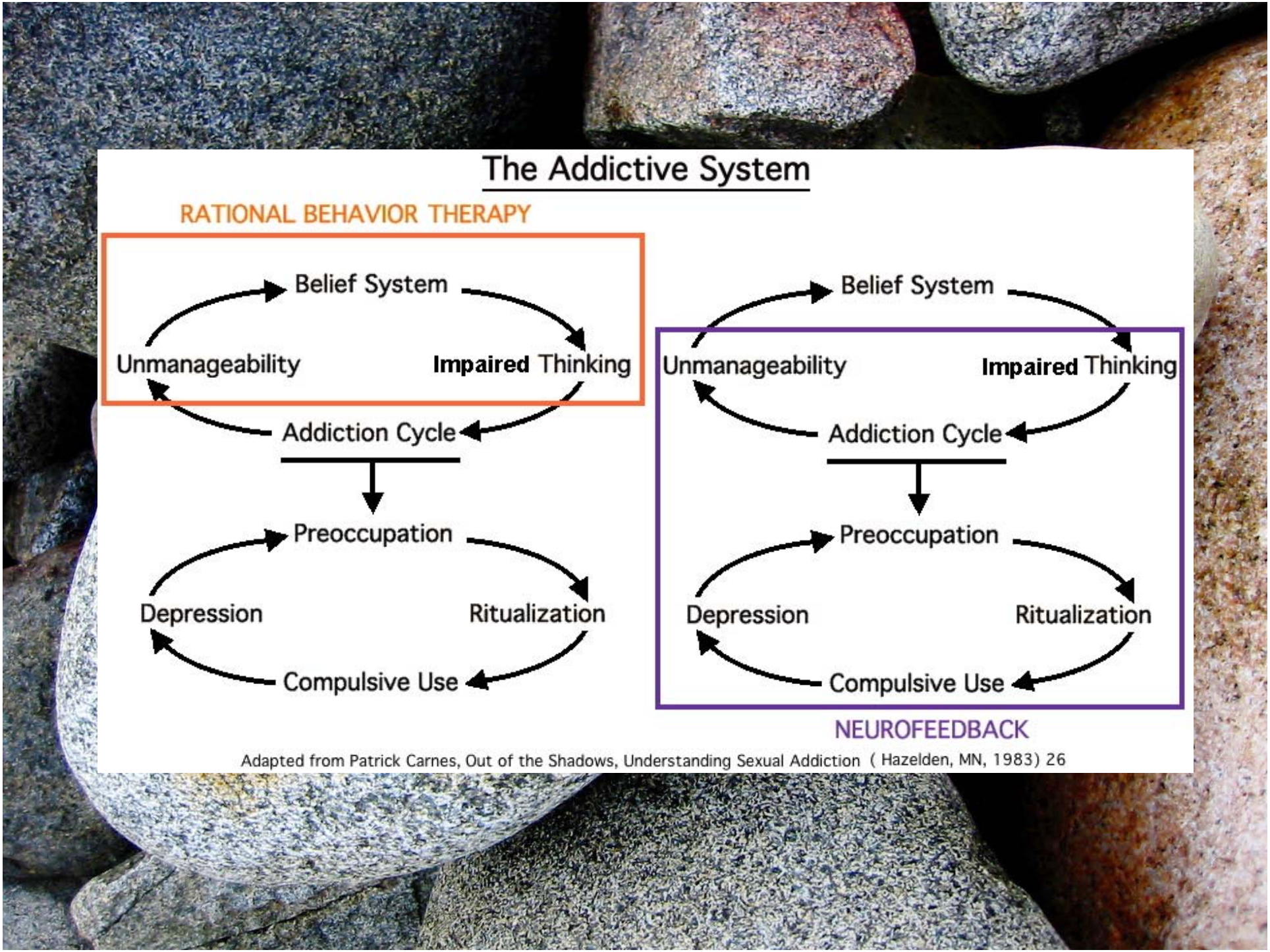
Provide external feedback through empathy, role modeling, guidance, strength and inspiration.

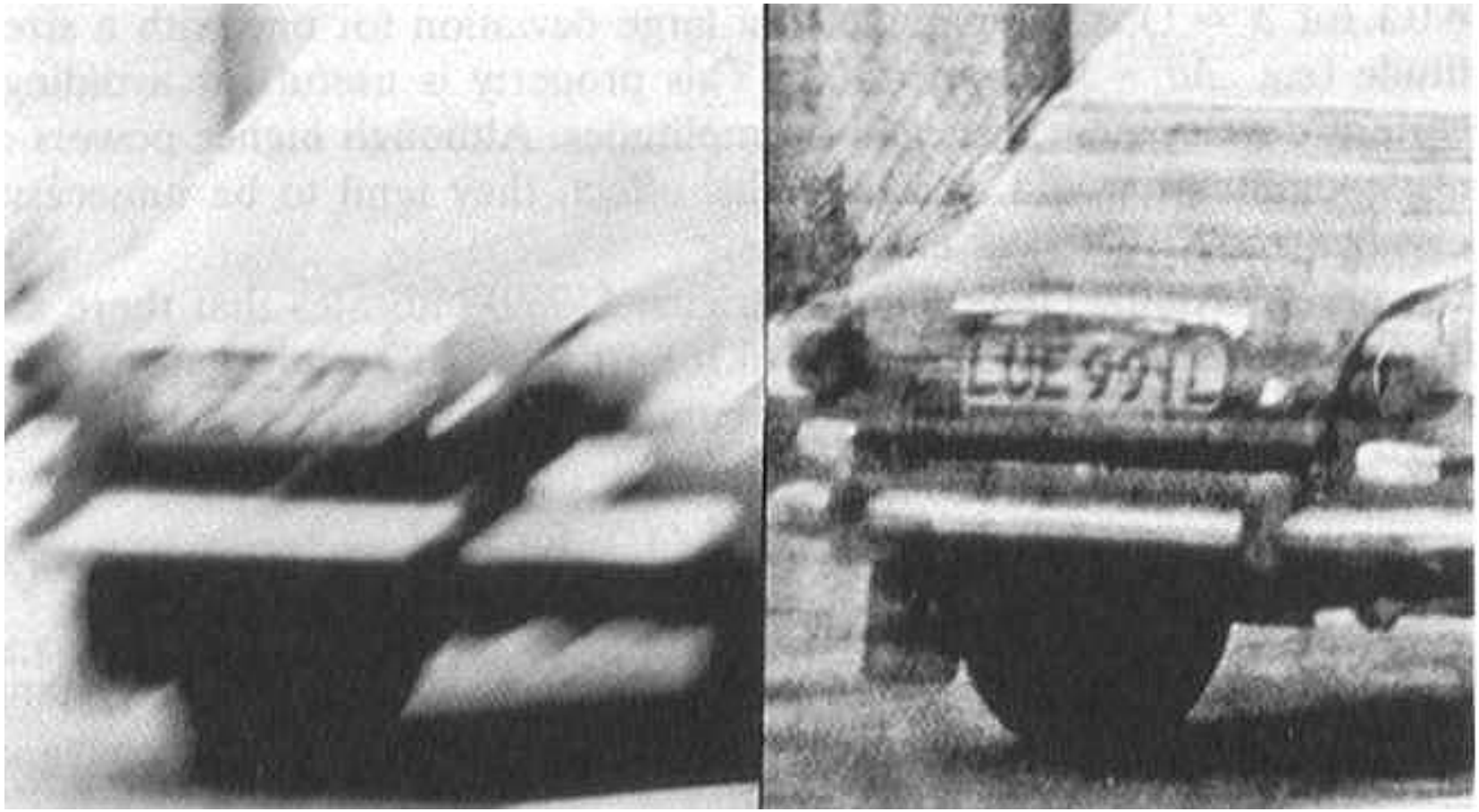
Find and heal your own addictions. Speak from experience.

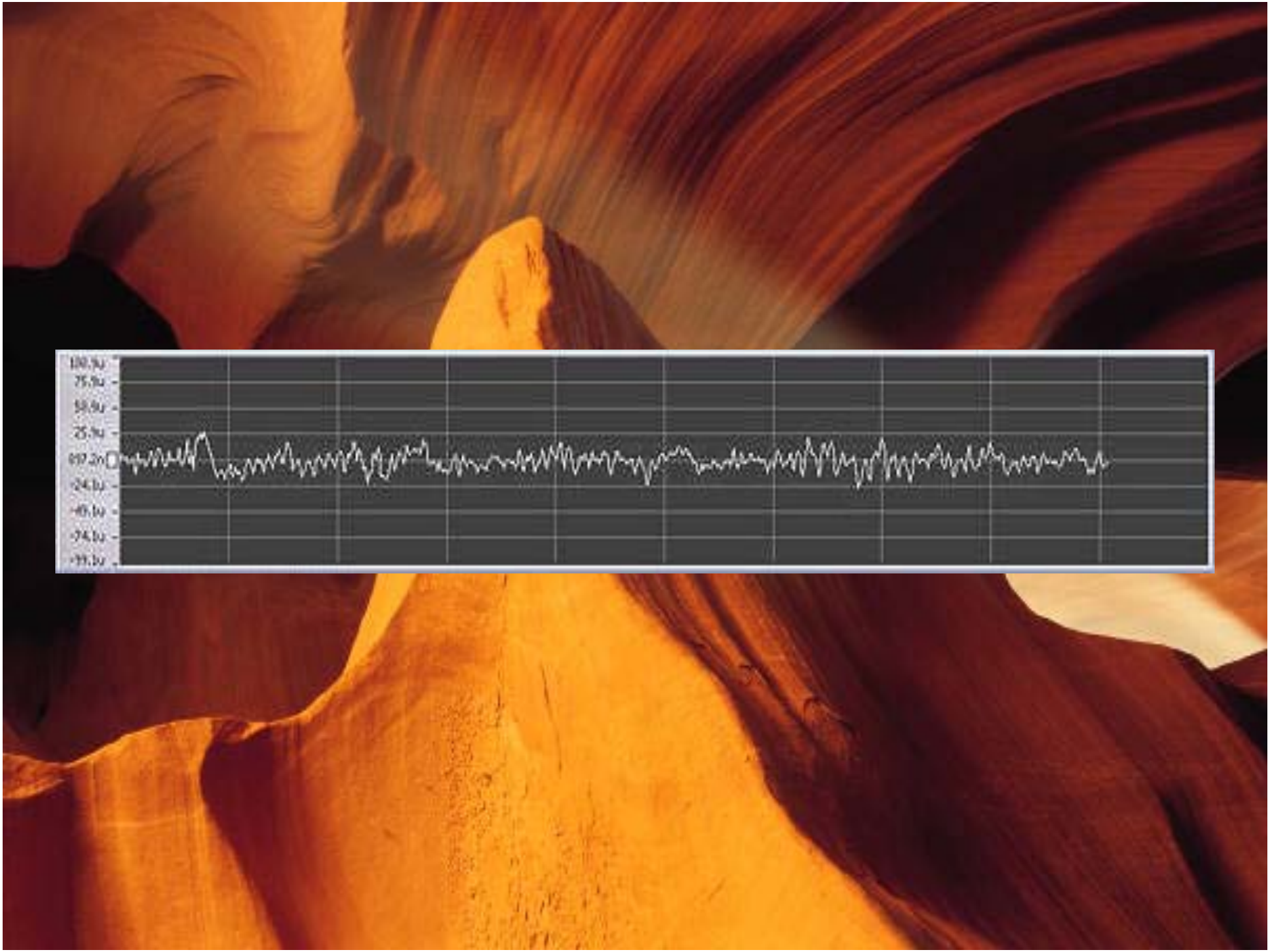
Success rate: Traditional 40% vs. w/ Neurofeedback 80%. (Fig. VI)

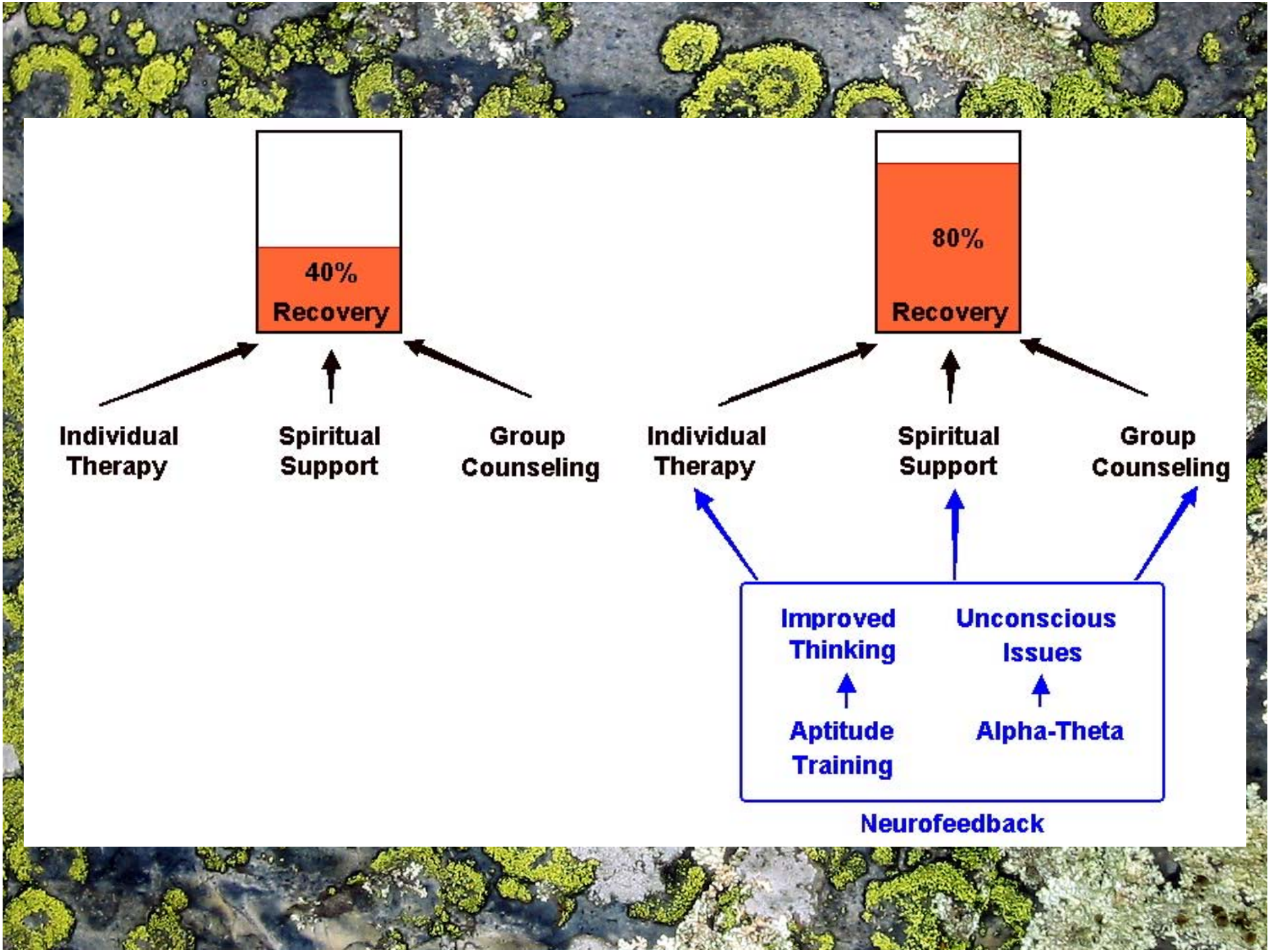

Sense
Mind
Action
Client
Doctor
Feedback
Client
Analyst
Feedback
Client
Feedback
Shaman


Mind
Sense
recall
Action
recall
reflect
recall
refine
reflect


The Addictive System
RATIONAL BEHAVIOR THERAPY
Belief System
Unmanageability
Impaired Thinking
Addiction Cycle
Preoccupation
Depression
Ritualization
Compulsive Use
Belief System
Unmanageability
Impaired Thinking
Addiction Cycle
Preoccupation
Depression
Ritualization
Compulsive Use
NEUROFEEDBACK
Adapted from Patrick Carnes, Out of the Shadows, Understanding Sexual Addiction (Hazelden, MN, 1983) 26






40%
Recovery
Individual Therapy
Spiritual Support
Group Counseling
80%
Recovery
Individual Therapy
Spiritual Support
Group Counseling
Improved Thinking
Aptitude Training
Unconscious Issues
Alpha-Theta
Neurofeedback