Explanatory Models for Near-Death Experiences

Bruce Greyson, M.D.
Emily Williams Kelly, Ph.D.
Edward F. Kelly, Ph.D.

Division of Perceptual Studies
University of Virginia

Psychological Models

- Expectation
- Depersonalization
- Birth models
- Personality factors
  - Dissociation
  - Absorption
  - Fantasy-proneness

Expectation

- Pro:
  influence of beliefs on NDE reports
  cross-cultural differences
- Con:
  NDEs that contradict beliefs
  no effect of prior knowledge of NDEs
  similar NDEs pre- and post-Moody (1975)
  similar NDEs in children and adults

Depersonalization

- Pro:
  feelings of detachment from body
  feelings of “strangeness”
- Con:
  sense of reality decreased or lost
  predominantly unpleasant affect
  detached but not “out of body”

Birth Memory

- Pro:
  - bright light and end of dark tunnel
  - emergence into new world
- Con:
  - newborns cannot register memories
  - does not account for other NDE features
  - NDEs as common after C-section births

Personality Factors

- no effect of age, gender, race, religion, religiosity, IQ, neuroticism, extroversion, anxiety, Rorschach measures
- equivocal correlation with dissociation, absorption, fantasy-proneness
- ambiguous relevance: fantasy or ability to enter altered state of consciousness?

Physiological Models

- Altered blood gases (O_2, CO_2)
- Neurochemical models
  - Endogenous opioids
  - Endogenous ketamine analogs
- Neuroanatomic models (limbic system)
  - Temporal lobe epilepsy
  - Temporal lobe stimulation
- REM intrusion

Altered Blood Gases

- Pro:
  - some features of hypoxia (low O_2)
  - some features of hypercarbia (high CO_2)
- Con:
  - NDEs occur with normal blood gases
  - NDE-like features rare and isolated
  - NDEs lack most common features of hypoxia and hypercarbia
  - lack of NDEs in hypoxia and hypercarbia

Neurochemical Models

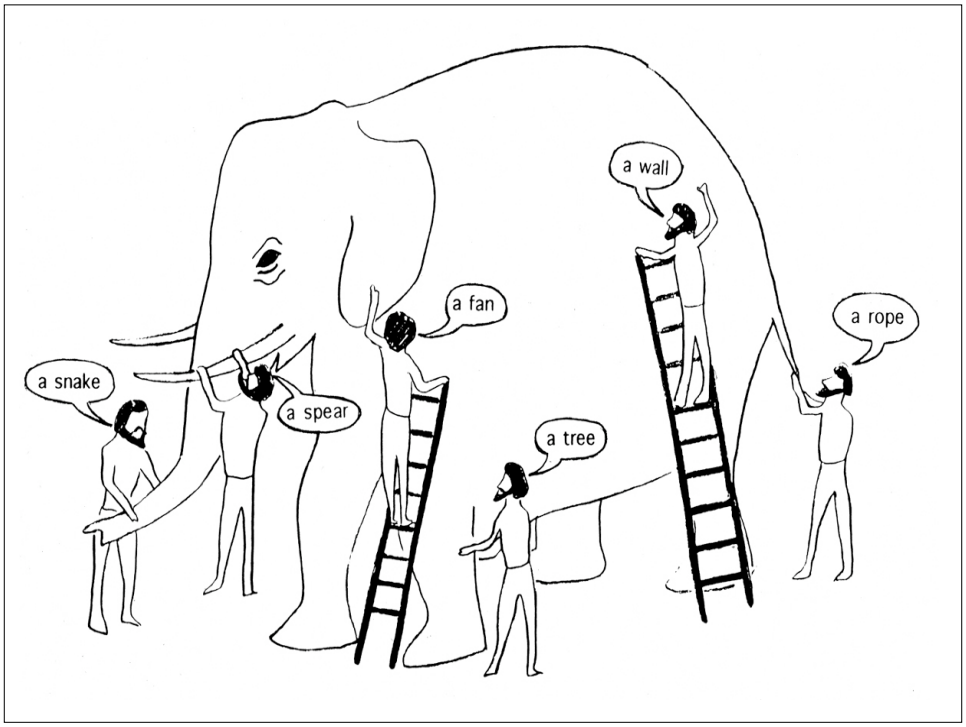
- Pro:
  - similar effects of opioids
  - similar effects of NMDA receptor agents
- Con:
  - NDEs too short for chemical effect
  - no chemical models for some features
  - most chemical effects frightening, bizarre
  - chemical effects recognized as unreal
  - chemical effects imply functional brain

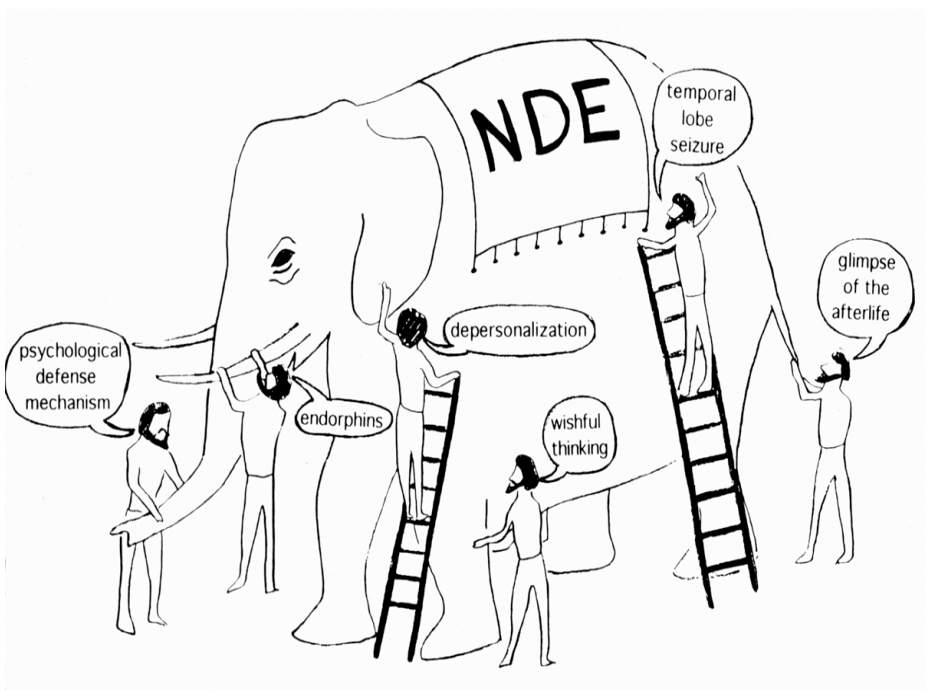
Neuroanatomical Models

- Pro:
  - "similarity" to temporal lobe epilepsy, stimulation
- Con:
  - "similarity" *not* documented in literature
  - NDE-like effects are fragmentary and isolated
  - epilepsy and stimulation disrupt rather than activate local brain function
  - seizures disrupt memory, produce amnesia
  - stimulation frightening, bizarre, and dream-like

REM Intrusion

- Pro:
  - autoscopy, light, alertness while immobile
  - NDErs report REM intrusion symptoms
- Con:
  - biased samples of NDErs and controls
  - different survey methodologies
  - REM intrusion usually frightening
  - NDEs occur with REM *inhibition*
  - ambiguous direction of causal relationship





Problematic NDE Features

- Enhanced mentation
- Veridical out-of-body perceptions
- Visions of deceased acquaintances

University of Virginia
Division of Perceptual Studies

Mail: P.O. Box 800152
Charlottesville, VA 22908-0152

E-mail: cbg4d@virginia.edu

Website: www.healthsystem.virginia.edu/dops