Creativity Across the Disciplines

People, Processes, Products

- Multiple manifestations of creativity
  - Who we are
  - What we do
  - How we live
  - How we work
  - What we produce
- Definition of “creativity”
  - Abstracted from specific manifestations
  - Includes all possible manifestations

Creative People, Products and Processes

- Usually recognize creativity
- Agreement across individuals
- Equally creative but for different reasons
Components: Novelty

- New idea, process, product...
- Unique or unusual
- Context for judging novelty
  - “Novel compared to what?”

Psychological Novelty

- Novel with respect to the individual generating the idea
  - “P creative,” “mundane/ordinary creativity,” “little-c creativity”

Historical Novelty

- Novel with respect to all human history
  - “H creative,” “great creativity,” “Big-C creativity”
Components: Novelty + ???

• Novel and **Intentional** (Weisberg)
  – No “creative accidents”
    • Unless elaboration occurs

Components: Novelty + ???

• Novel and **Appropriate/Useful**
  – Solves the problem being addressed
  – Category member
    • Familiar enough to be categorized
    • Different enough to be unique

Components: Novelty + ???

• Novel and **Valuable**
  – Valuable = useful
  – Valuable to individual
    • Judged by self
  – Valued by society
    • Judged by others
  – Positively valued by field (Csikszentmihalyi)
    • Judged by experts
## Approaches to the Study of Creativity

<table>
<thead>
<tr>
<th>Approaches</th>
<th>Experimental/Non-experimental</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mystical Approach</td>
<td>Non-experimental</td>
</tr>
<tr>
<td>Psychodynamic Approach</td>
<td></td>
</tr>
<tr>
<td>Pragmatic Approach</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Social Personality Approach</td>
<td></td>
</tr>
<tr>
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<td></td>
</tr>
<tr>
<td>Confluence Approach</td>
<td></td>
</tr>
</tbody>
</table>

## Non-experimental Approaches

- **Mystical (ancient)**
  - Creativity as a “gift” bestowed by divine intervention
  - Common perspective of visual/performing arts & some humanities
- **Psychodynamic (old)**
  - Creativity arising from tension between conscious reality and unconscious drives
  - Common perspective of humanities
- **Pragmatic (recent)**
  - Focus on application, not research

## Applied Fields: Pragmatic Approach to Creativity

- **Very concerned**
  - With **developing** creativity
- **Less concerned**
  - With **understanding** creativity
- **Not at all concerned**
  - With **testing validity** of ideas about creativity
Social Sciences: “Theoretical” Approach to Creativity

- Very concerned
  - With understanding creativity
- Less concerned
  - With testing validity of ideas about creativity
- Rarely concerned
  - With generalizability or application

Experimental Approaches

- Psychometric Approach
- Social Personality Approach
- Cognitive Approach
- Confluence Approach

Psychometric Approach

- Intelligence testing approach to creativity
  - All people are creative
    - Creative to different degrees
  - “Creativity” composed of various abilities
    - Develop tests to measure these abilities
- Focus on historical (Big-C) creativity
Social-Personality Approach

- Creativity determined by
  - Socio-cultural environment
  - Personality and motivational variables
- Creative individuals are different from normal individuals
- Focus on both historical (Big-C) and psychological (little-c) creativity

Cognitive Approach

- Everybody has the ability to be creative
- Normal cognitive processes
- Normal knowledge structures
- Focus on psychological (little-c) creativity

Confluence Approach

- Creativity occurs at the convergence of multiple variables
  - Environmental
  - Social
  - Personality
  - Cognitive/Biological
- Confluence theories differ in presumed critical variables
Investment Theory (Sternberg)

• “Buy Low and Sell High in the world of ideas”
• Buying low
  – Pursue unknown or out of favor ideas with growth potential
• Fight against public resistance to idea
• Sell high
  – Move on to new idea

Investment Theory: Resources

• Resources function interactively
  – Intelligence
  – Knowledge
  – Styles of thinking
  – Personality
  – Motivation
  – Environment

Componential Model (Amabile)
Importance of Motivation

- Motivation needed for engaging in creative process
  - Depends on social-environmental variables
  - Intrinsic motivation
    - Increases likelihood of engaging in creative processes
  - Extrinsic
    - Decreases likelihood of engaging in creative processes

Amabile’s Componential Model

Stage 1: Problem/Task Identification
- External Source
- Internal Source

Stage 2: Preparation
- Retrieve information and resources

Stage 3: Response Generation
- Produce one or more ideas or products

Stage 4: Response Validation
- Check ideas against criteria for the task

Stage 5: Outcome Assessment
- Success
- Failure
- Progress

Back to 1,2,3

Creativity Relevant Processes

- Cognitive style
- Heuristics
- Work Style

Domain Relevant Skills

- Technical skills
- Talent
- Domain knowledge

Task Motivation

Perception of Motivation

Success and Failure

Progress

Back to 1,2,3

Role of Motivation

Creativity

- Task Attitude
- Perception of Motivation

Stage 1

Stage 2

Stage 3

Stage 4

Stage 5

Back to 1,2,3

Success

Failure

Progress

Back to 1,2,3

End

End

End
History of Creativity

Why Study History?

• Provide context
• Understanding of creativity constantly changes
  – Shaped by our concept of self
  – Shaped by our concept of society
• Many conceptualizations of creativity
  – Simultaneous

Historical “Landmarks” of Creativity

• Influenced discipline-specific perspectives
  – Assumptions about the nature of creativity
  – Methods for understanding/enhancing creativity
• Landmarks
  – Biblical
  – Ancient Greek
  – Renaissance
  – Enlightenment
  – Romanticism
  – Psychodynamic View
Biblical Conceptualization

- Divine instruction necessary for human creativity
  - Noah’s ark
  - Ark of the Covenant
- Creativity only valued when used to serve God

Biblical prohibitions

- Human creativity should be limited
- Moral prohibitions
  - Second commandment
- Bible argues against curiosity
  - Humans should believe and obey

Biblical Conceptualization

- Affects current acceptance of creativity
  - Acceptable domains
  - Unacceptable domains
Ancient Greek Conceptualization of Creativity

- Classical//Mystical" View of Creativity
  - Creativity enabled by the Gods
  - Muses are creative
    - Inspire all artists

Greek Valuation of Creativity

- Most important activities not considered "creative"
  - Philosophy, politics, military prowess…
- "Creative" activities (poetry, painting, sculpture, drama) viewed as skills
  - No social status
  - Valued
    - Through writing
    - Annual celebrations and competitions
    - Describing as divine
      - Inventors of arts or founders of cities

Greek Conceptualization

- Affects understanding of creativity in humanities
  - Poetry, visual and performing arts
- Affects approach to enhancing creativity
  - Skill-based training
Renaissance

• Noticeable advances in all human endeavors
  – 1500 seen as turning point in Western History
• “Tipping point” of creativity
  – Seen as something to strive for
  – Creators respected
• Arts and innovation supported

Renaissance

• Conscious effort to return to Classical models
• Recognition of past – Appreciation of new
• No distinction between divine and human doing

Renaissance: Technological Creativity

• Innovative individuals recognized and rewarded
• First formal patent law created
Split between Art and Technology/Craft

• Prior to Renaissance
  – Art, technology and craft grouped together
• During Renaissance
  – Art seen as separate from technology and craft
    • Painting, sculpture, poetry
  – Reflects greater value given to “artistic” creations over crafts

Renaissance: “Creative Genius”

• Artistic creativity analogous to divine creativity
• Artists see “essences” not visible to others
  – Belief in “creative genius”
    • Creative individual different from normal individual
    • Driven by “intense and terrible passion”

Renaissance: “Creative Genius”

• “Creative genius” includes scientists and inventors
• Impacted conceptualization of creativity
  – Creativity concerned with discovery rather than imitation
• Assumption underlying Psychology’s Psychometric Approach to studying creativity
Age of Enlightenment (1700 – 1800)

- Valued
  - The strange
  - The novel
  - The innovator and his/her innovations
- Believed
  - Human reason and action can transform the world
  - Understand the universe
  - Direct their own destiny

Age of Enlightenment

- Directing energy and effort
  - Political systems
  - Discovering natural laws
- Creators and discoverers honored
- Standard for patents established in 1710

Age of Enlightenment

- Discovery, art, science
  - Considered to be creative endeavors
- Creation is methodical, purposeful, logical
  - Inspiration important for generating idea
  - Structured process important for bringing idea to fruition
Backlash to Enlightenment
The Romantic View of Creativity

- Enlightenment approach
  - Characterizes modern view of creativity in natural science, (some) social science and economics
- Romantic view
  - Characterizes modern view of creativity in the arts (some) social sciences, humanities
  - Sources
    - French revolution, industrialization, mechanization

Romantic View of Creativity
(1800-1840)

- Poetic and artistic creation
  - Outpouring of emotional energy
  - Inspiration found in nature
- Identifying with nature = strong emotions = great art
  - "Creative Genius"
  - Beyond conscious control of creator
  - Goal is creative expression

Two Strands of Creative Genius

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<th>Enlightenment View</th>
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<td>Creative individuals different from others</td>
<td>Creativity is methodical, persistent search for &quot;truth&quot;</td>
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<tr>
<td>Focus on inspiration, imagination, self expression</td>
<td>Focus on ingenuity, invention, problem solving</td>
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Psychodynamic View (1850-1950)

- Ego transforms threatening id impulses
  - Creativity is a defense mechanism
  - Origin in unconscious
  - Symbolic satisfaction of sexual and destructive impulses
- Creativity is rooted in pathology
  - Characterized by greater reliance on primary processes

Primary and Secondary Process Thinking

- Processes differ in content and form
- Secondary process thinking
  - “Ordinary” everyday thinking
    - Second to develop
  - Abstract, logical, reality-oriented
- Primary Process thinking
  - More basic form of thinking
  - Primitive, irrational, need-based thinking
    - Driven by id impulses

Primary Process Thinking

- Serves as basis for our fantasy life
  - Includes dreams, fevered states, daydreams
- Also arises from stress or great emotional arousal
- Differs from Secondary process thinking in content and form
  - Content: libidinal or aggressive material
  - Form: deviates from logical thinking or involves deviant language
Primary Process Thinking

- Differs in creativity enhancing ways
  - Uses nonverbal imagery
    - Freedom from previously established associations
    - Loose, flexible
  - Uses special mechanisms
    - Verbal puns
    - Optical puns

Psychodynamic Conceptualization

- Affects modes of creativity in the arts
  - Surrealism
- Influences approaches to analyzing creative works in humanities
- Influences social science research
  - Unconscious processes
    - Biological and psychological