



**Can Cultural Diversity be  
a Driver of Creativity?**  
Spontaneity, the Somatic Arts,  
and Improvisation

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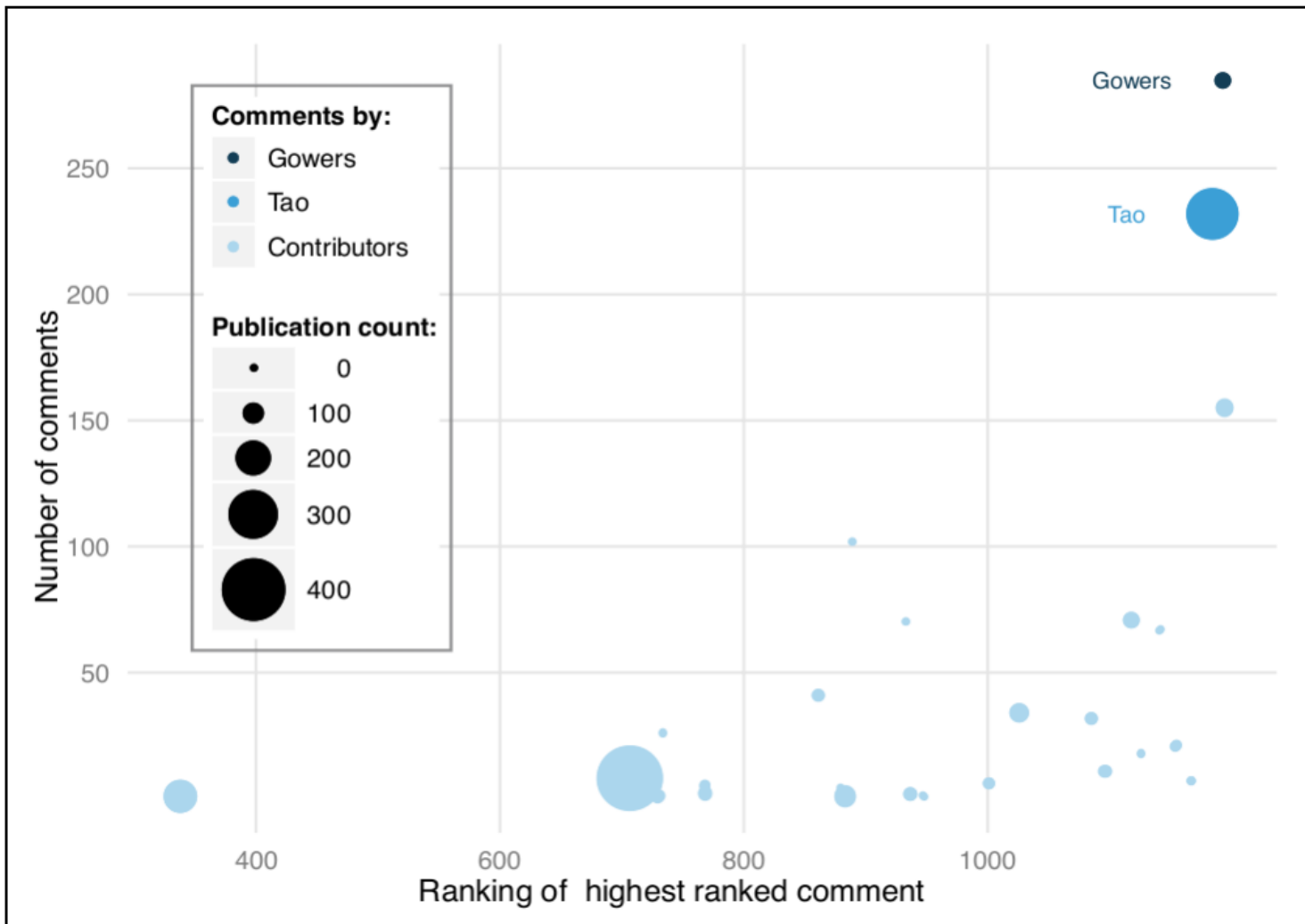
June 12, 2020

# Monkey Virus Protein: Foldit Puzzle

The screenshot displays the Foldit game interface for the puzzle '360: Unsolved monkey virus protein'. The main 3D view shows a complex protein structure with a long tail-like extension. The interface includes several panels and toolbars:

- Top Panel:** Rank: -, Score: 01-2186-390, 360: Unsolved monkey virus protein, Expires: 12/31/1998 16:33 PST, No bonuses or conditions.
- Alignment Window:** Shows a sequence alignment between a model and a template. The sequence is: TAGXPSLTLVDDKMPDGLINQADVTILKLDVPPHWRITDITNRCSIGSSRPKQSSX.
- Toolbars:** Includes tools for Shake Sidechain, Rotate Sidechain, Wiggle At, Wiggle Backbone, Wiggle Sidechain, Help, Glossary, Trace Protein, Remove Bands, Disable Bands, Reset Structures, Reset Puzzle, Show Alignment, Undo, Move, Behavior, View, and Menu.
- Chat Panel:** Located in the bottom right corner, showing chat options for Puzzle, Global, and Notifications.

# Polymath



(Cranshaw & Kittur 2011)

# Scott Page and Lu Hong

- Identity diversity – Gender, race, ethnicity...
- **Cognitive diversity**
  - **Perspectives:** Internal representations of problems
  - **Heuristics:** Algorithms used to locate solutions

(Hong and Page 2004, p. 16385).



# How to Solve Really Hard Problems

The Mind-Body Problem

The Trolley Problem

What is Beauty?

The Hard Problem of Consciousness

The Good Life

What is Justice?

What is Truth?

How to create a harmonious society?

# Ziran:

## *How to Do Philosophy in Chinese*

1. On the Lack of a Concept of *Ziran* in Western Philosophy
2. Using Chinese Philosophy and Cognitive Science to Solve Two Paradoxes of Western Philosophy
3. Effortless Attention: A Missing Concept in Contemporary Cognitive Science
4. **Spontaneity, the Somatic Arts, and Improvisation**

# Two Problems

1. What is the distinguishing mark, if any, of artistry?
2. What is improvisation?

The answer to both involves *aesthetic spontaneity*.

# Distinguishing Mark?

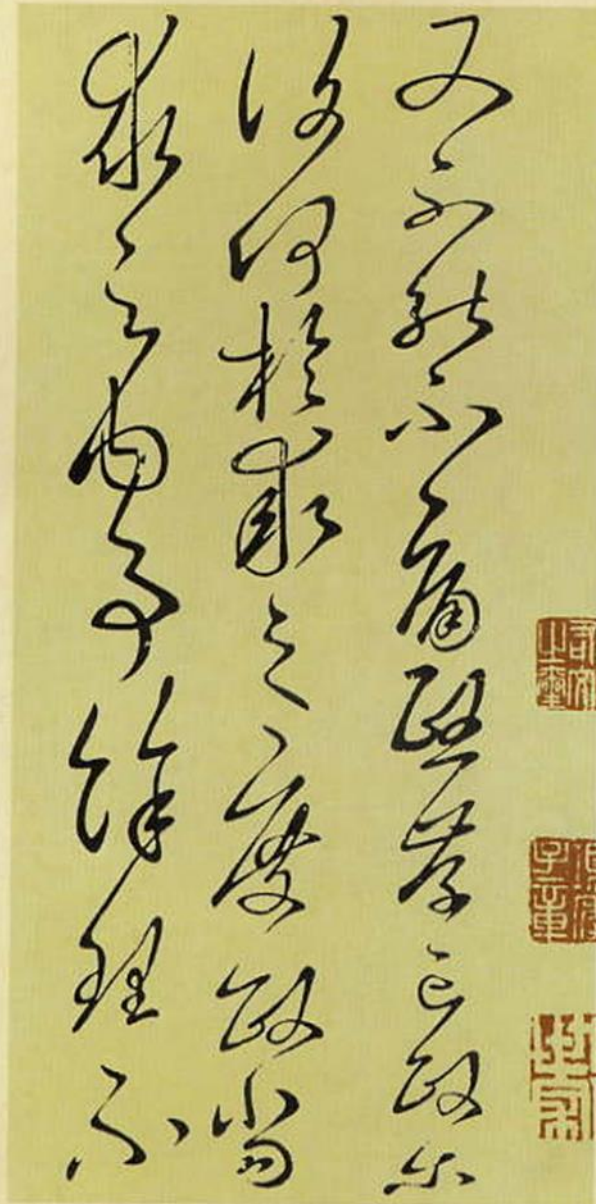
An identical series of characters can be written by two hands, and though the lines described are precisely the same, with no difference at all between the curves and the structures, the work of the one hand will be an object of joyful contemplation while the work of the other appears so common that the untutored onlooker feels he could do as well himself!

- Chiang Yee 蔣彝, *Chinese Calligraphy*



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Wu Xin Tie

Wang Xizhi

# Contrasting Improvisations

- "In improvisational performance, **the creative process is the product**" (R. Kieth Sawyer)
- "An improvised performance is one in which the **structural** [vs. expressive] **properties of a performance** are not completely determined by decisions made prior to the time of performance" (James O. Young and Carl Matheson)
- "[Musical improvisation is] real-time musical **decision making** ... while engaged in a performance" (Richard Cochrane)
- "The **realization of all aspects of a composition not precisely indicated by the musical score** are improvised." (Carol S. Gould & Kenneth Keaton)
- "Musical improvisation is the **spontaneous creation** of a musical work as it is being performed" (Philip Alperson)

# *Ziran* 自然 (Spontaneity)

- Wholeness
  - Collection
  - Letting go
- Fluency
  - Responsiveness
  - Ease (from wholeness)

# Daoism vs. Aristotle I

<b>Daoist Natural Action as Ideal Action</b>	<b>Aristotle's Rational Deliberation + Habit as Ideal Action</b>
Concentration (focus on domain)	Rational deliberation (abstraction)
Letting go (toward vagueness)	Combating (toward clarity)
Responsiveness (drawn into force of circumstances)	Escape from force of circumstances
Ease – inner calm	Inner struggle

# Daoism vs. Aristotle 2

Daoist Spontaneity	Aristotle's Action
Nature as the ideal model of action	Nature represents unrestrained action
Deliberation is debilitating	Deliberation leads to the good
Action conceived as achieving optimal results	Action conceived as achieving the ethical good
Spontaneity is the highest form of action	Spontaneity is a lower form of action

# Confucian Six Arts 六藝

- Ritual *li* 禮
- Music *yue* 樂
- Archery *she* 射
- Charioteering *yu* 御/馭
- Writing *shu* 書
- Calculation *shu* 數 calendrical, military, and prognostic calculations, as well as farming, engineering, and commerce measurements

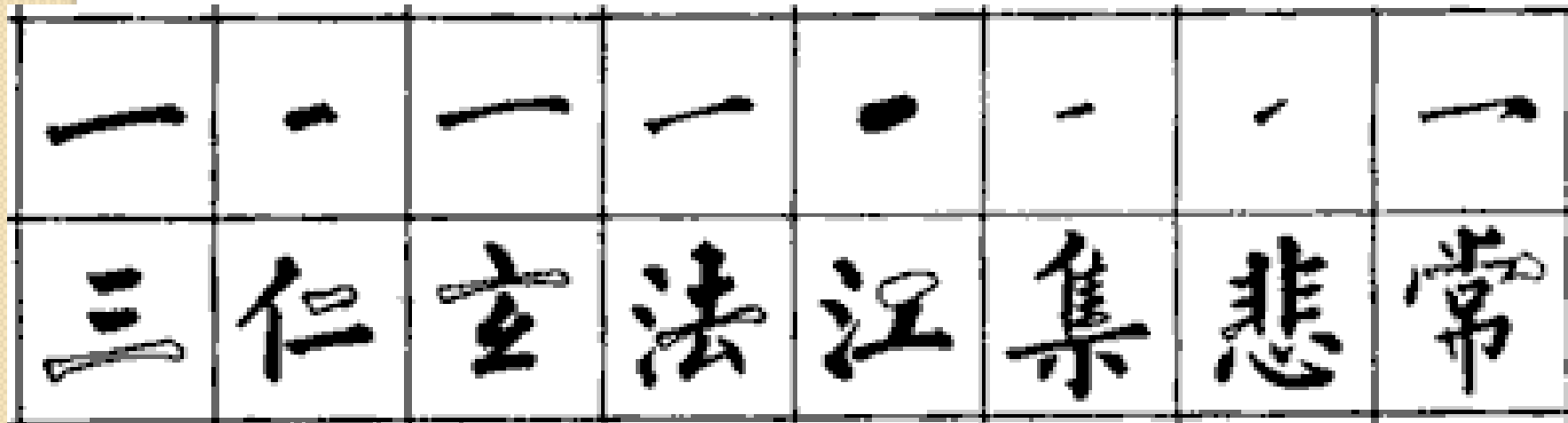
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# Art as Nature (Chiang Yee)

“The fundamental inspiration of calligraphy, as of all the arts in China, is nature.”

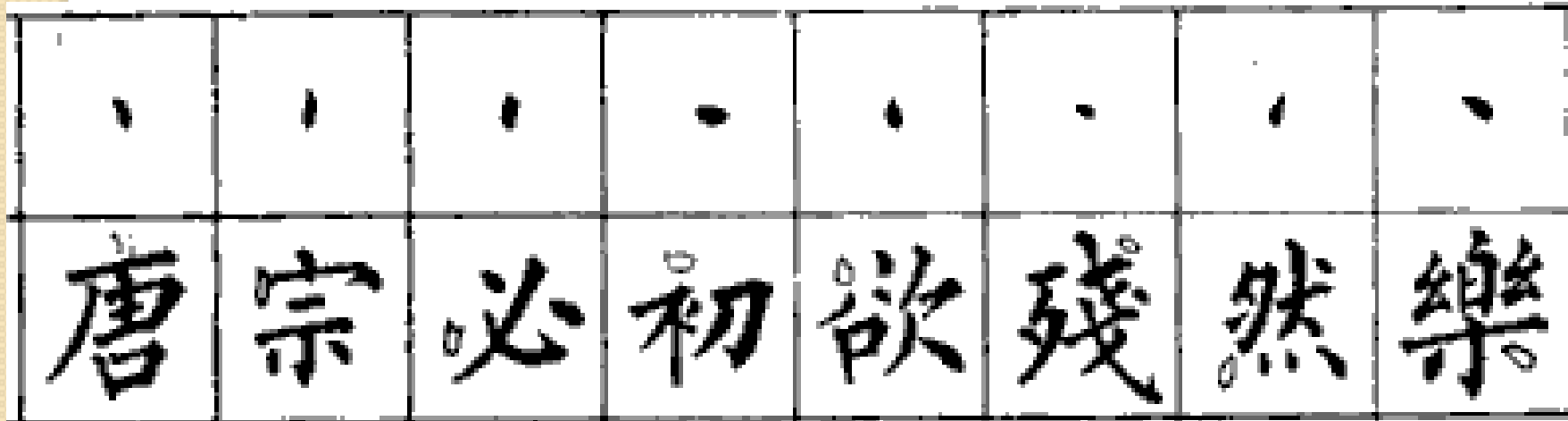
# Art as Nature

- Horizontal line *heng* 橫: “so written as to seem like a formation of cloud stretching from a thousand miles away and abruptly terminating”



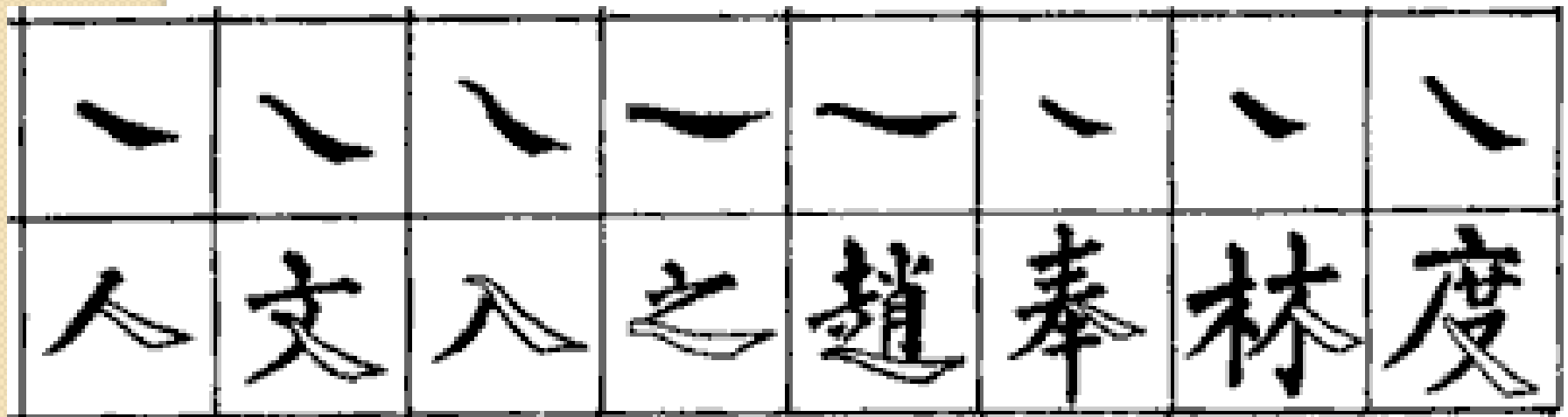


- Dot *dian* 點: “giving the impression of a rock falling with all its force from a high cliff”



# Art as Nature

- Downward stroke *na* 捺: “made from left to right ... like a wave suddenly rolling up or a flying cloud emitting growls of thunder!”



# Summary of Chiang's Insights

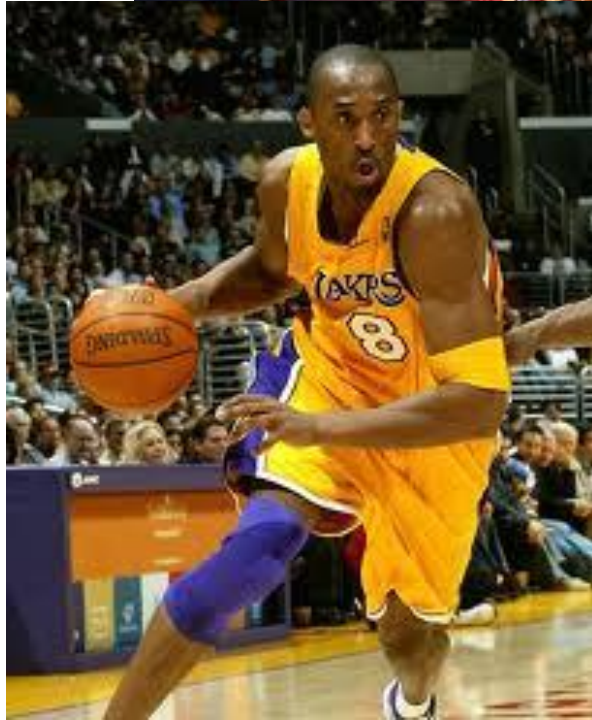
- Art as nature
- Art as movement
  
- Art = Nature = Movement

# Flow (Csikzentimihalyi)

## Autotelic experience

- Altered sense of time
- High level of concentration
- Confidence and comfort in meeting each new high challenge
- Absence of felt effort
- Absence of self-consciousness

# Autotelicity



# Rock Climbing Autotelicity

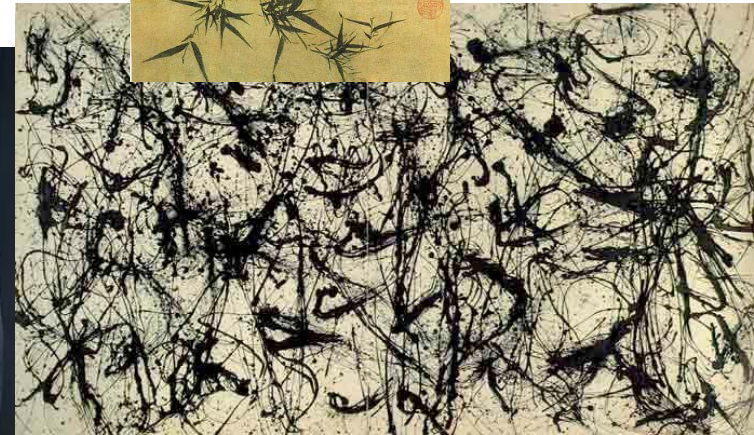
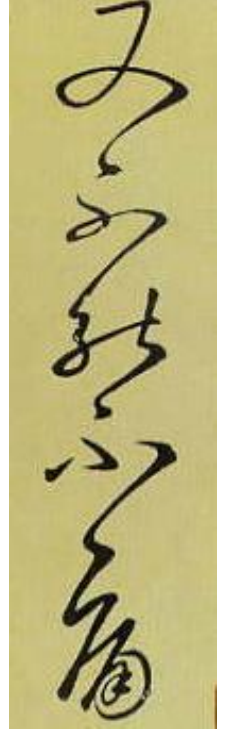
- “You don't feel like you're doing something as a conscious being; you're adapting to the rock and becoming part of it.
- “You're so involved in what you're doing [that] you aren't thinking about yourself as separate from the immediate activity.”
- “Somehow the right thing is done without you ever thinking about it or doing anything at all.... It just happens. And yet you're more concentrated.”
- “The right decisions are made, but not rationally. Your mind is shut down and your body just goes.”

# Flow & *Ziran*

Art = Nature = Movement

Marked by loss of self-consciousness

# The Somatic Arts: Process Apparent in the Piece





# Somatic Arts

The art of calligraphy is unique among the arts of the world in that the **process of creation in all its consecutive phases is visible in the object**. A proper viewer follows with his eyes the brush movements through each of the characters and the sequence of the lines. He thus re-creates for himself the moments of the actual creation.

- Lothar Ledderose, *Mi Fu and the Classical Tradition of Chinese Calligraphy*, p. 29

# Distinguishing Mark of Artistry?

An identical series of characters can be written by two hands, and though the lines described are precisely the same, with no difference at all between the curves and the structures, the work of the one hand will be an object of joyful contemplation while the work of the other appears so common that the untutored onlooker feels he could do as well himself!

- Chiang Yee 蔣彝, *Chinese Calligraphy*

# Distinguishing Mark of Artistry in the Somatic Arts?

- Chiang Yee's answer: “vitalized by emotional energy”
- 神、氣、韻
- 氣 – Inner rhythm (內在的節奏)
  
- Daoist spontaneity (collection, letting go, responsiveness, ease)
- Autotelicity (esp. unselfconsciousness)



# Distinguishing Mark of Artistry in the Somatic Arts?

Aesthetic spontaneity

# Distinguishing Mark of Artistry in the Somatic Arts?

The influential modern painting instructor Hans Hofman once stopped by to visit Jackson Pollock and view his work. Hofman said, "You are very talented; you should join my class. But you do not work from nature. This is no good. You will repeat yourself. You work by heart, not from nature."

Pollock responded: "I am nature."

-K. Evans, *Jackson Pollock: Portrait of an artist*

# Distinguishing Mark of Artistry in the Somatic Arts?

## Aesthetic spontaneity

- Art = nature = movement
- Collection
- Letting go (e.g., self-consciousness)
- Responsiveness
- Ease

# Contrasting Improvisations

- "In improvisational performance, **the creative process is the product**" (R. Kieth Sawyer)
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# Ambiguity in Improvisation

- In ten articles, there are no fewer than seven distinct understandings of "improvisation."
- The term most often associated with "improvisation" is "creativity," followed by "spontaneity," "interpretation," "fluency," "extemporaneous," deliberate," "convention," "performance," and "composition."
- Other common terms: impromptu, authenticity, individuality



# Views of Improvisation

Sawyer	public, ephemeral, collective performance; Picasso as improviser-- <b>compositional</b>
Young & Matheson	indeterminacy of structural properties-- <b>substitutive, elaborative, complete</b>
Cochrane	any variation in a musical performance-- <b>derivative</b>
Gould & Keaton	any variation in a musical performance; conceptually independent of impromptu performance; all musical performance requires improvisation-- <b>derivative</b>
Day	ordinary, unrehearsed activity-- <b>impromptu</b>
Brown	carved out as it is being played; situation, forced, no script-- <b>impromptu</b>
Gilmour	improvisation in painting-- <b>inventive</b>
Carter	produces new paradigms--as <b>inventive</b>
Sterritt	<b>authenticity, spontaneity, individuality</b>

# Defining Terms

- Spontaneous
  1. ~~Impromptu~~
  2. ~~Unscripted~~
  3. (Aesthetic Spontaneity)

# Defining Terms

- Spontaneous – (aesthetic spontaneity)
- Impromptu – unrehearsed, unscheduled
- Unscripted
- Invent – novelty, straying from convention
- Interpret – execute outside of instructions
- Complete – fill gaps
- Elaborate – adding riffs and solos
- Substitute – replacing parts

# Taxonomy of Improvisation

## Six Kinds of improvisation

### Classes of Improvisation

A.  
Wholesale  
Composition

B.  
Derivative  
Improvisation

### Necessary Improvisational Constraints

*(Improvvisatore)*

Domain  
conventions

Expressive  
properties of  
piece

Structural  
properties of  
piece

1. Compositional  
improvisation

X  
(Picasso  
painting)

2. Inventive  
improvisation

2. Inventive  
improvisation

X  
(Cezanne  
painting or a  
contemporary  
adaptation of  
Shakespeare)

3. Interpretative  
improvisation

X  
(classical  
piano  
performance)

4. Completive  
improvisation

X  
(cadenza)

5. Elaborative  
improvisation

X  
(jazz)

6. Substitutive  
improvisation

X  
(jazz)

*No kind of improvisation is necessarily situated and all require at least some element to be unscripted. Blank boxes indicate that the constraint is not necessary to the definition of the kind of improvisation, not that it is not possible.*

# Spontaneity & Improvisation

- Spontaneity as unselfconsciousness
- Unselfconsciousness as authenticity
- Aesthetic spontaneity reveals the true self
  - 氣質

# Two Problems

1. What is the distinguishing mark of artistry, *in the somatic arts*?
  - Aesthetic spontaneity
    - Art = nature = movement
    - Collection
    - Letting go
    - Responsiveness
    - Ease
2. What is improvisation?
  - 2 Classes, 6 Kinds
  - Aesthetic spontaneity reveals the true self

# How to Do Philosophy in Chinese

- How to convert ideas from one culture to another
- Analogy of currency exchange
- Diverse cultures = richness of resources

**END**

