

COMPLEXITY & DEVELOPMENT 2.0:
FROM AGREEING WE SHOULD ADAPT TO CREATING THE
CONDITIONS THAT ENABLE ADAPTATION

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Development Seminar Series

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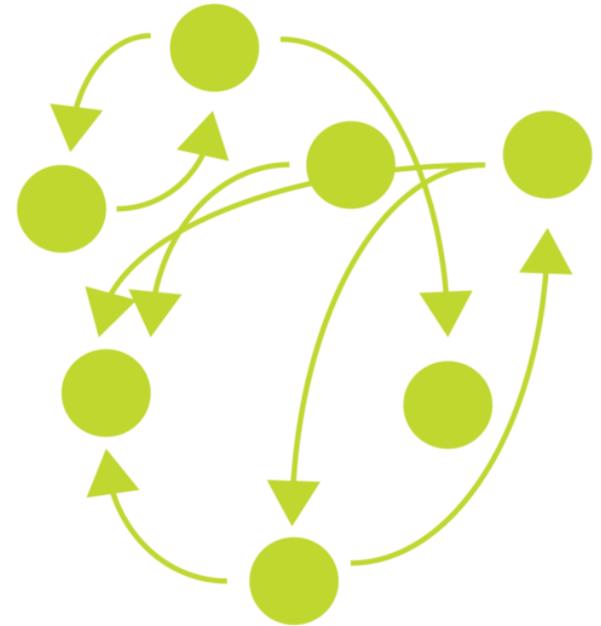


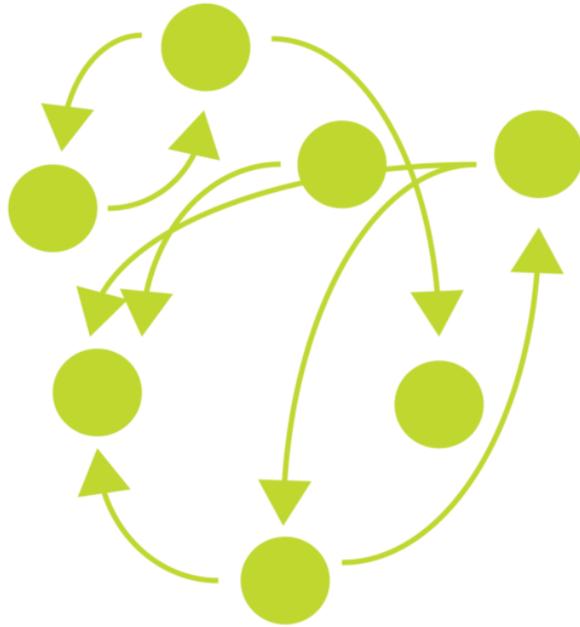
framework

The Logframe matrix

Project Description	Indicators	Means of Verification	Assumptions
Goal			
Purpose			
Objectives			
Outputs			
Activities			

9





But how?

Frequently recommended actions in #complexity

1. Avoid mimicry
2. Resist fatalism
3. Promote innovation
4. Embrace creative destruction
5. Shape development
6. Embrace experimentation
7. Act global



1

EXISTING APPROACH

Complexity & Development 1.0

- Points out development problems are complex, with no cookie-cutter solutions
- Prescribes adaptation (innovate, experiment, feedbacks, etc.) as **solution** to problems

2

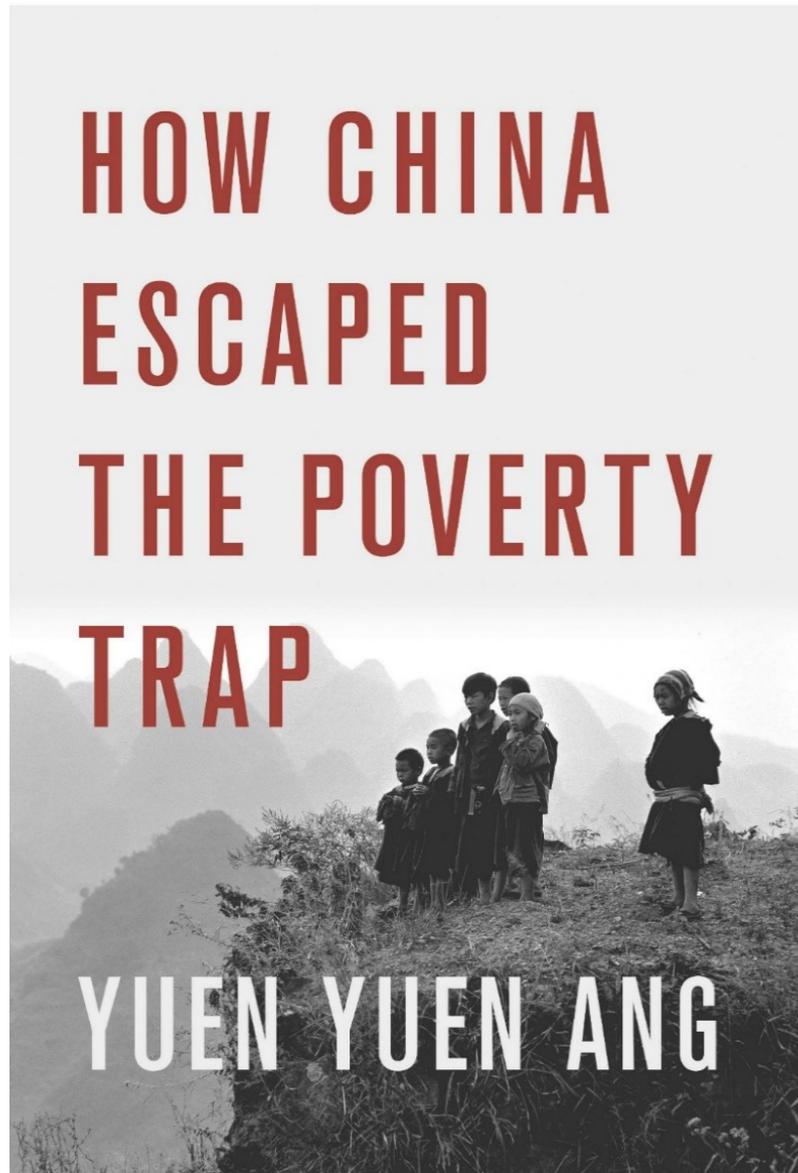
MY APPROACH

Complexity & Development 2.0

- Points out in the first place, enabling adaptation *is* the **problem**
- Explains sources of adaptive capacity: Why are some orgs more adaptable than others? What conditions & designs promote effective adaptation?



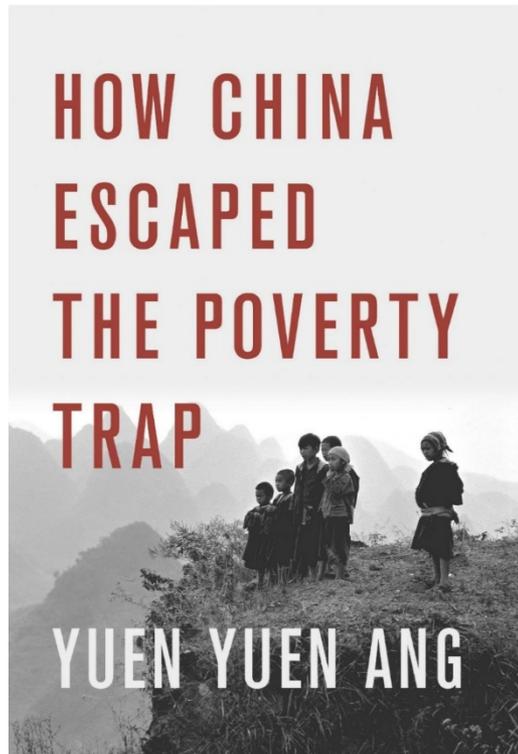
**HOW CHINA
ESCAPED
THE POVERTY
TRAP**



YUEN YUEN ANG

Cornell University Press, Series in Political Economy, 2016





Reform-era China as
best illustration of
#adaptdev &
#complexity
principles, long
before these became
buzzwords in
#globaldev



SYSTEM OF DIRECTED IMPROVISATION

Top-down direction
[Principal: central leadership]



Bottom-up improvisation using existing resources
[Agents: local governments]



Diverse solutions tailored to local conditions & stages
of development



因地制宜

According to | place | tailor | good fit



**What is
complexity?**

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graph TD; A[What is complexity?] --> B[Enabling adaptation as series of design problems]; B --> C[Application: Conditions for adaptation within China's bureaucracy];
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**Enabling adaptation
as series of design
problems**

**Application: Conditions
for adaptation within
China's bureaucracy**

OUTLINE



🏠 | ABOUT US

ABOUT US

What is Complex Systems?

History

Mission

Activities

About Us

The Center for the Study of Complex Systems (CSCS) is a multi- and interdisciplinary program at the University of Michigan designed to encourage and facilitate **research** and education in the general area of nonlinear, dynamical and adaptive systems.

Its more than 50 participating **faculty** represent nearly every college of the University. Researchers at the Center recognize that many difference types of systems that include self regulation, feedback or adaptation in their dynamics possess similar underlying structure despite their apparent differences. Their goal is to exploit these deep structural similarities to transfer methods of analysis and understanding from one field to another.

Complex systems
Complex adaptive systems
Complexity

“nonlinear, dynamic, adaptive systems”



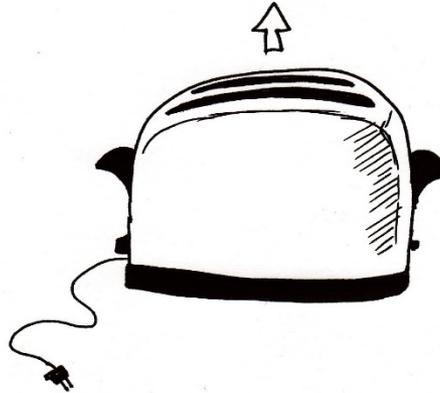
DEFINITION OF COMPLEX SYSTEMS

- “Complex systems comprise many moving parts that interact with one another and change together, triggering outcomes that cannot be precisely controlled or predicted.”

~ *How China Escaped the Poverty Trap*, pp. 10 ~



COMPLICATED



PROPERTIES

- Many separate parts that do not adapt to one another or environment

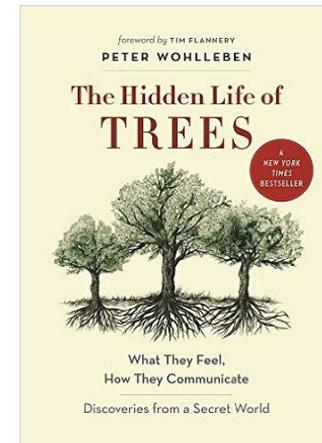
INDETERMINANCY

- Risk (probability)

PUBLIC POLICY

- Plan and control

COMPLEX



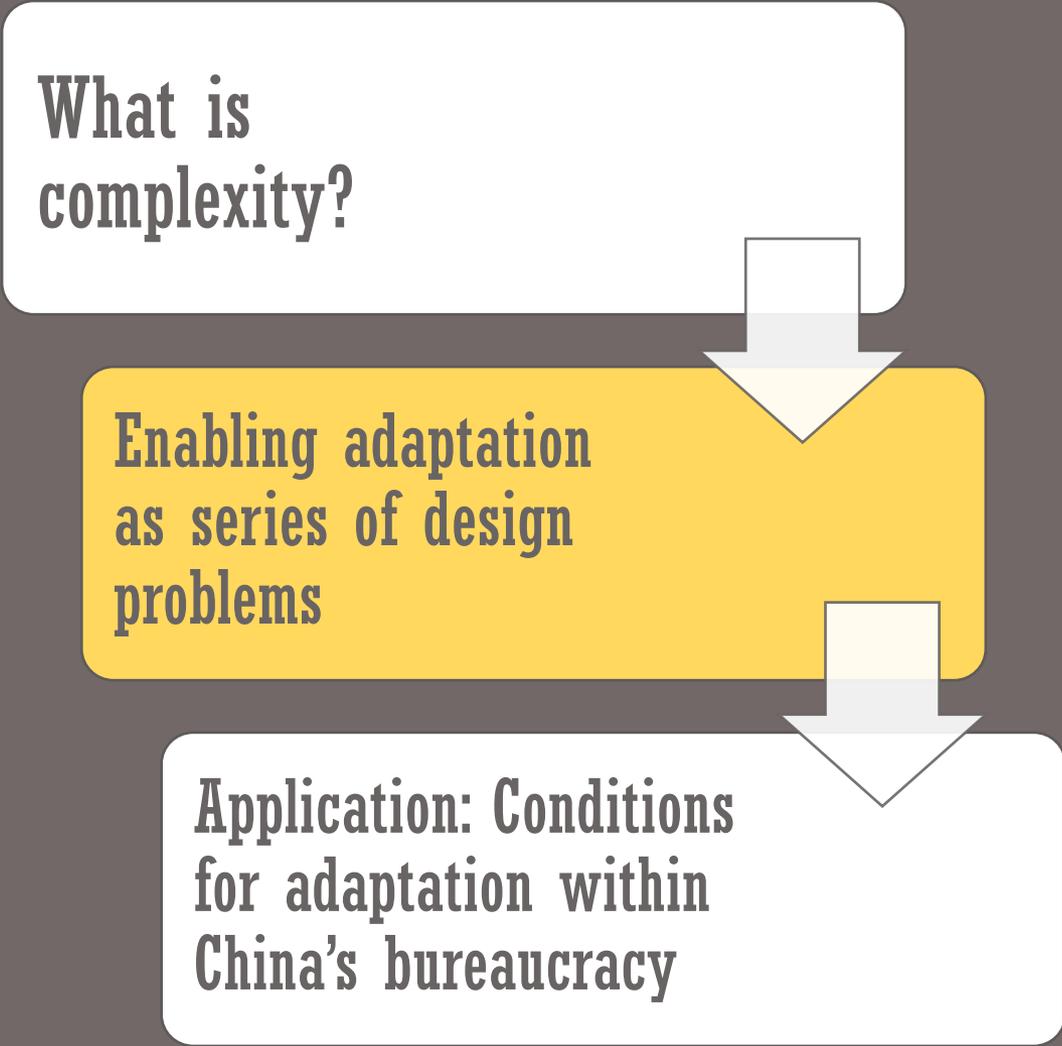
- Many moving parts that adapt to one another and environment

- Uncertainty (possibility)

- Influence



**What is
complexity?**



**Enabling adaptation
as series of design
problems**

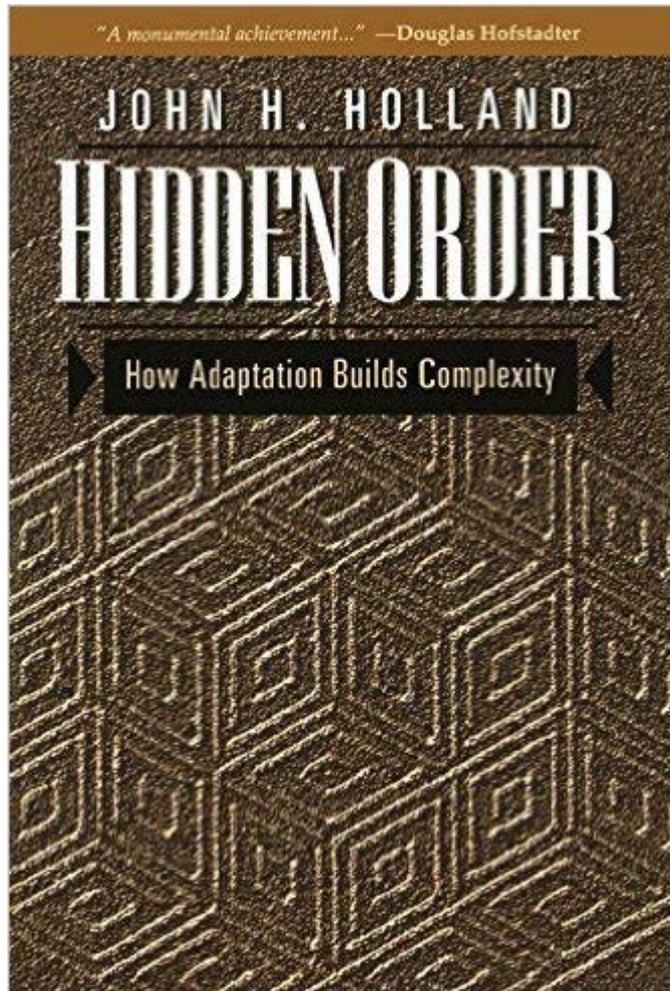
**Application: Conditions
for adaptation within
China's bureaucracy**

OUTLINE



Adaptation



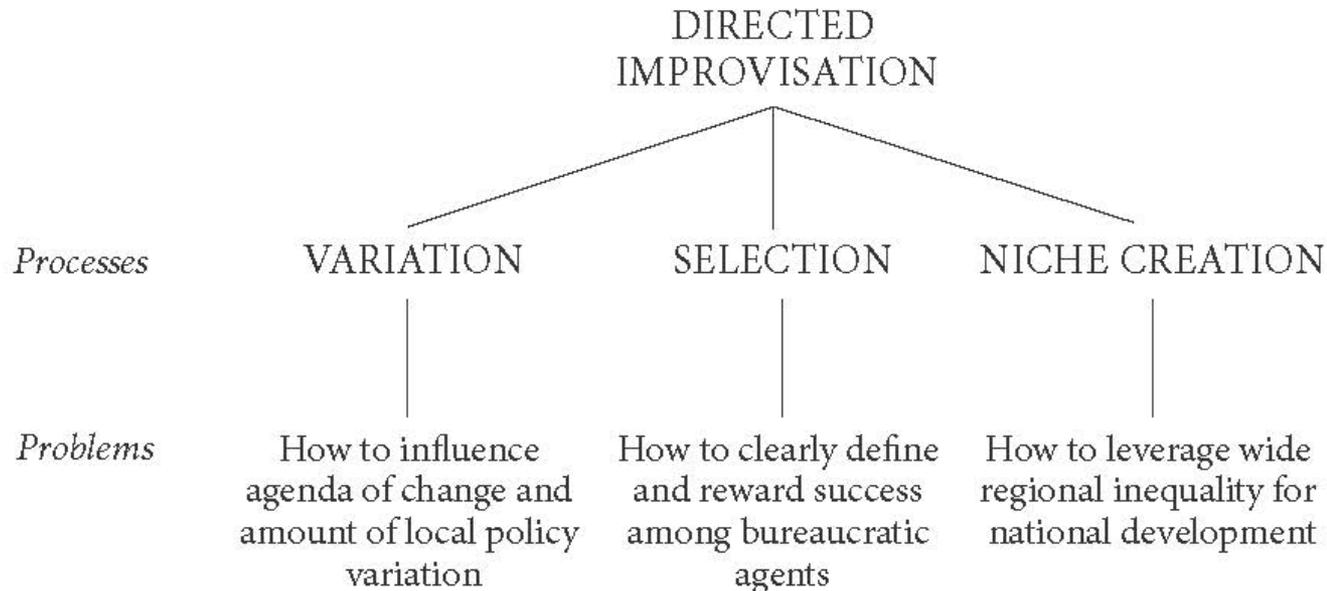


Holland defines adaptation as

“the process where an organism fits itself to the environment”

Mechanisms: variation, selection, niche creation (retention, interaction)

ENABLING ADAPTATION AS SERIES OF DESIGN PROBLEMS



Source: *How China Escaped the Poverty Trap*, pp. 67

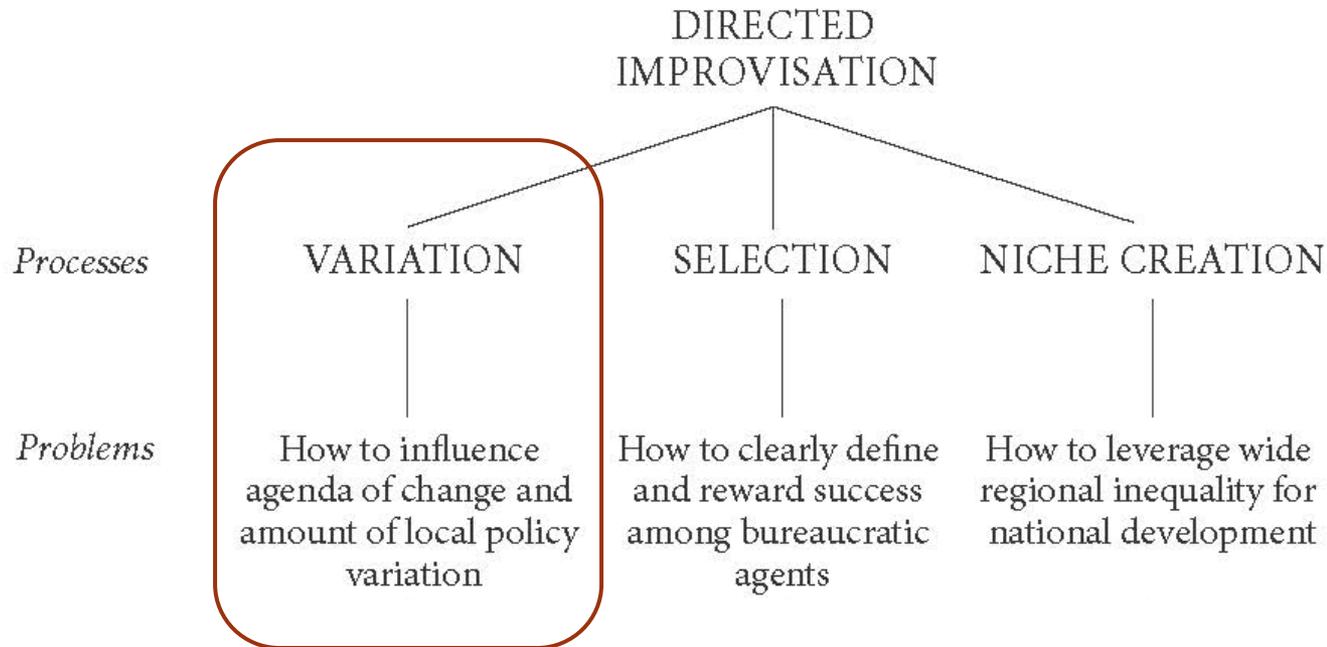




“Embracing
complexity” does
NOT mean
more autonomy,
more freedom,
more experiments
under all conditions



COMPLEXITY 2.0 = DESIGNING STRATEGIES TO TACKLE THESE “HOW” PROBLEMS



Source: *How China Escaped the Poverty Trap*, pp. 67



**What is
complexity?**

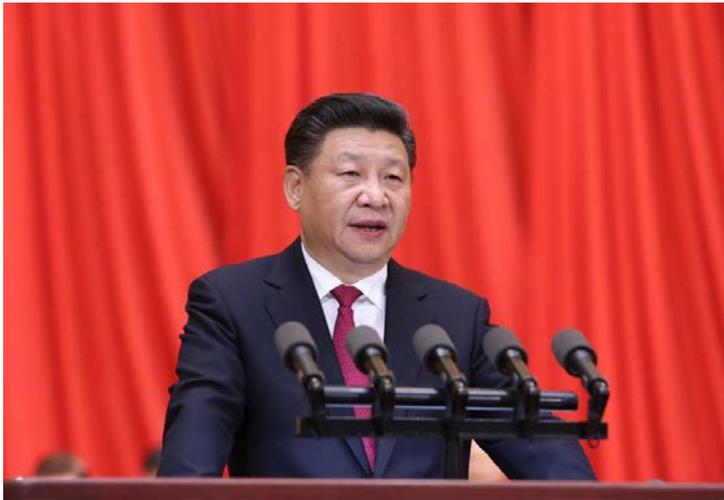
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**Enabling adaptation
as series of design
problems**

**Application: Conditions
for adaptation within
China's bureaucracy**

OUTLINE





“National policies emphasize broad principles rather than specific instructions.”



“These slogans direct the flow of policy implementation at all levels”

(Rawski & Brandt, China's Great Economic Transformation)



**Are political commands in China always
broad and vague?**

In fact, they are not.



THREE VARIETIES OF COMMANDS



Example:
Land quotas

Clearly forbids
a particular
action



Guidelines on
commune &
brigade
enterprises
(1979)

Deliberately
unclear, permits
bounded
experimentation



Guidelines on
rural work
(1984)

Clearly
sanctions a
particular
action



OUTLINE

**What is
complexity?**

**Enabling adaptation as
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CONCLUSIONS



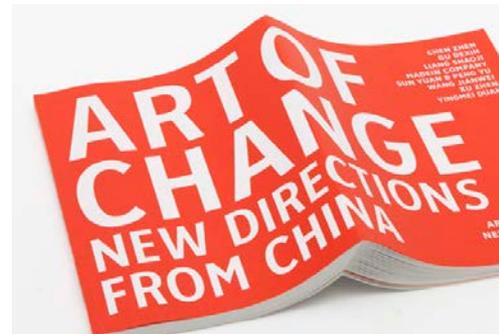
CONCLUSIONS: COMPLEXITY 2.0

- Universally agreed that we should adapt. But time to take conversation, research & policy actions to next level: **how to create conditions that enable adaptation?**
- Embracing complexity doesn't mean less rules & more freedom. Instead, it requires strategies that tackle specific design problems: variation, selection, niche creation.
- On variation, how to place boundaries on experimentation, how to influence amount of discretion and variation on the ground



CONCLUSIONS: CHINA AS TEXTBOOK CASE

- Reform-era China as best illustration of #adaptdev & #complexity principles, long before these became buzzwords in #globaldev
- Achieved dramatic, often unexpected transformations NOT through central planning & command, but through “directed improvisation.”
- Directed improvisation must be maintained; doesn’t last without understanding, commitment & effort



Thank You!

**Welcome your questions & reactions at
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