Interaction Design, Society and the Public Sector
Design Thinking: *Being a Designer*

Jon Kolko

Being a Designer

[4A] Nigel Cross

"When designers are asked to discuss their abilities and to explain how they work, a few common themes emerge. One theme is the importance of creativity and intuition...

Another theme that emerges from designers' own comments is based on the recognition that problems and solutions in design are closely interwoven – that 'the solution" is not always a straightforward answer to 'the problem'...

A third common theme is the need to use sketches, drawings, and models of all kinds as a way of exploring problem and solution together."

What is the role of intuition in your work?

Why isn't the solution a straightforward answer to the problem?

What role does sketching play in your work?

[4A] Nigel Cross

"Some of the relevant information [in a design problem] can be found only by generating and testing solutions; some information, or 'missing ingredient', has to be provided by the designers himself...

this extra ingredient is often an 'ordering principle'...
[Designers'] ordering principles or primary generators can, of course, be found to be inappropriate, but they often try to hang on to them because of their difficulties of going back and starting afresh."

In your research work, are you hanging on to something because of the difficulty of going back and starting afresh?

[4A] Nigel Cross

"Design ability therefore relies fundamentally on nonverbal media of thought and communication. This deep-seated aspect of design ability perhaps accounts for designers' traditional reluctance, or inability, to verbalize their skill... 'the way designers work may be inexplicable... these processes lie outside the bounds of verbal discourse: they are literally indescribable in linguistic terms.'"

What do you think of that?

Nigel Cross

"What I have attempted to show is that design ability is a multi-faceted cognitive skill, possessed in some degree by everyone… my broader aim, to which I hope this paper will contribute, is the establishment and development of a view of design as a discipline in its own right… For many people, design is and should remain an interdisciplinary field of studies. But that would mean that we design scholars would forever be dependent on other disciplines as our paradigms and sources."

Is design its own discipline?

Can it be both disciplinary and interdisciplinary at once?

[4A] Edward De Bono

"Self-organizing systems set up patterns – Such patterns are usually asymmetric. This means that we normally go along the main track without even noticing the side track. But if – somehow – we get across to the side track then, in hindsight, the route becomes obvious. This is the basis of both humor and creativity."

What does this mean?

Edward De Bono

"The problem is this: every valuable, creative idea will always be logical in hindsight. If an idea were not logical in hindsight, then we would never be able to appreciate the value of the idea... if an idea is logical in hindsight, then better logic should have found it in the first place. So we try to teach more logic instead of taking creativity seriously."

How can a creative idea be logical in hindsight?
Give an example.

ac4d

[4A] Edward De Bono

"That is why an understanding of the basic behavior of patterning systems is necessary to understand serious creativity. Cutting across patterns is what I have called lateral thinking... But cutting across patterns is not natural behavior for the brain. The purpose of the brain is to establish and use routing patterns. That is why creativity is not a natural process in the brain – in fact it goes against the natural process of following patterns."

Do you agree – is "cutting across patterns" normal behavior for the brain?

Why or why not?

[4A] Edward De Bono

"In humor, the storyteller suddenly places us on the side track and immediately we can see our way back to the starting point. The punch line serves as the bridge between the main track and the side track. With lateral thinking, however, there is no storyteller to make the jump for us. So we have to devise a practical means for cutting across the tracks. We can do this by using a combination of provocation and movement."

Describe the relationship between humor and creativity.

[4A] Edward De Bono

"The random word is the simples of all creative techniques."

Why might this work?

[4A] Chris Pacione

"Fibonacci's genius lies in his ability to teach and explain this new system in a way that professional and scientific men of his day could understand and apply to their daily lives… there is little doubt that this systematic commitment to math literacy helped bring about The Information Age…"

Is it appropriate to link the teaching of mathematics to the Information Age?

Is it appropriate to commend not the inventor, but the disseminator, as in the case of Fibonacci?

Why?

[4A] Chris Pacione

"As we come to the end of the first decade of the 21st century and what many consider the end of The Information Age, a recent flurry of books, articles, and initiatives seem to indicate that a new, pervasive mind shift is afoot. It's called design, and like arithmetic, which was once a peripheral human aptitude until the industrial age forced it to be important for everyone, recent global changes and the heralding of a new age are positioning design as the next human literacy...."

Is it appropriate to equate design, now, to mathematics, in the 1200s?

Why?

[4A] Chris Pacione

"Design is too important to be left to designers" [9]... What Brown means is that design will have its greatest impact when it is no longer perceived to be in the hands of people who are professional designers (e.g., industrial, graphic, interface, fashion) and it is put back into the hands of everyone.

Harold Nelson and Erik Stolterman, authors of The Design Way, echo this sentiment: "The process of design is not just for designers, but for anyone whose business it is to create or lead something... anyone whose job it is to imagine something that does not yet exist and then plot the path from imagination to existence."

Do you agree? Is Design too important to be left to designers?

Chris Pacione
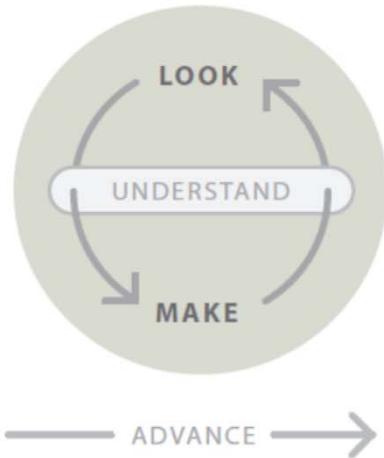
LOOK

Inquiry and evaluation
methods that promote
the insight and empathy
necessary to uncover
unmet needs.

for example

Interviewing
Contextual Inquiries
Alternative World Immersions
Listening Labs
Questionnaires
Task Analysis
Heuristic Evaluations
Usability Testing
Competitive Analysis

MAKE

Concepting and forming
methods that promote
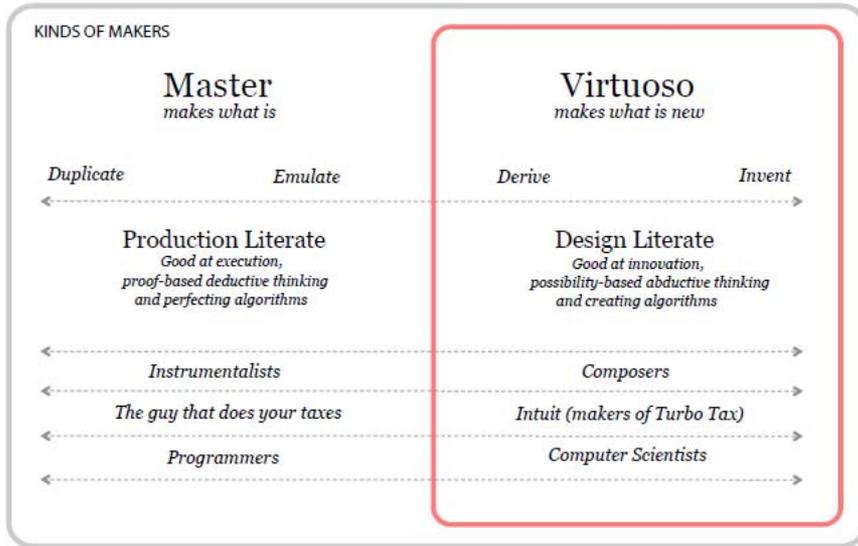the creativity and synthesis
necessary to satisfy
unmet needs.

for example

Affinity Diagramming
Concept Mapping
Stakeholder Mapping
Storyboarding
Ideation
Persona Development
Sketching
Prototyping
Wire-framing

▶ Figure 1. The Praxis of Design Thinking.

What's unique about this model? Why?

Chris Pacione

KINDS OF MAKERS

Master	Virtuoso
makes what is	*makes what is new*
Duplicate Emulate	Derive Invent
Production Literate *Good at execution, proof-based deductive thinking and perfecting algorithms*	**Design Literate** *Good at innovation, possibility-based abductive thinking and creating algorithms*
Instrumentalists	Composers
The guy that does your taxes	Intuit (makers of Turbo Tax)
Programmers	Computer Scientists

If we've moved to the era of the Virtuoso, what implications does that have on:

- Education
- Laws
- Politics
- Your life

?