Tools and Trustworthiness: A Historical Perspective

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How I got into this

- Research interest: Intersection of person and computer
  - How people use computers for high-end intellectual and creative activities
- QDA software provided one example
  - Dissertation study – 1999
    - *Reflections of qualitative researchers on the use of qualitative data analysis software: An activity theory perspective*
- Latest and greatest….. N4 !

Overview

- What I learned then
- What I've observed since
  - (With data from literature)
- Thinking about software tools
- Changes to this specific tool over time
- User transitions
- Considerations for trustworthiness

The transition story...

- “Using a computer was awkward at first.”
- “I just couldn’t do some things on the computer…”
- “Gradually, I learned.”
- “I developed some strategies that helped me make the transition.”
- “Now, I can’t imagine working without it.”
- Writing analogy

The trustworthiness story….

- “I trust my own work much more…”
- “…but I don’t trust anyone else just because they use a program..”
- “… and you shouldn’t, either. Especially you reviewers.”
- “The software is not a method.”
- “It’s just a tool.”
- Tool metaphor

The tool metaphor

- Novices: Software as A tool
- Experienced: Software as a SET of tools

- “Just” a tool: Think again!
  - Novice: Doesn’t affect work
  - Experienced: CAN affect work, but researcher should control
  - Theory base: Tools genuinely matter

Impact of tools

- Tools extend and qualitatively change human capabilities
- “Hand tools” vs. “power tools”
  - “Scale” of cognitive tools
- Tools as “crystallized experience”

Exploring the tool metaphor

- Goals of user
- Resource recognition
- Skill of user

Expertise

(Gilbert, 2002)

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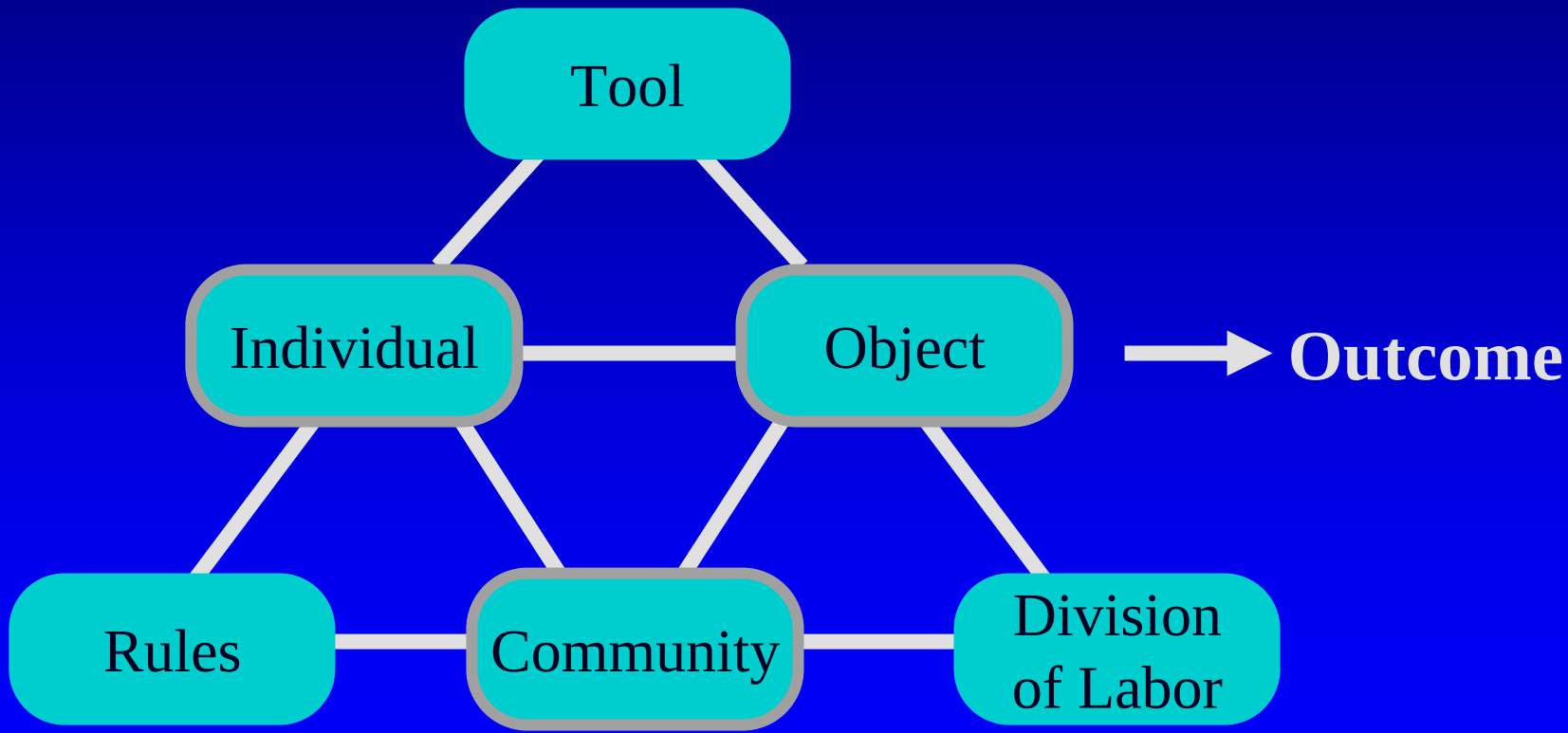
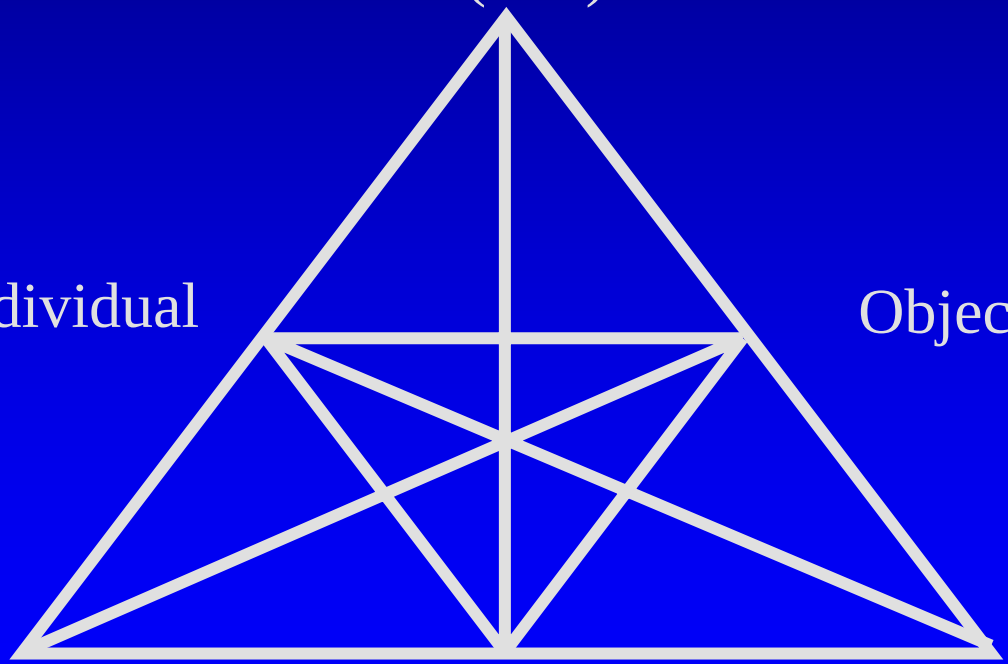
An Activity System

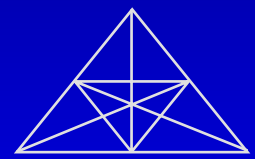


Activity System over time

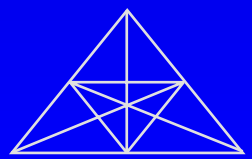
Mediating artifact
(tool)

Individual





Object → Outcome

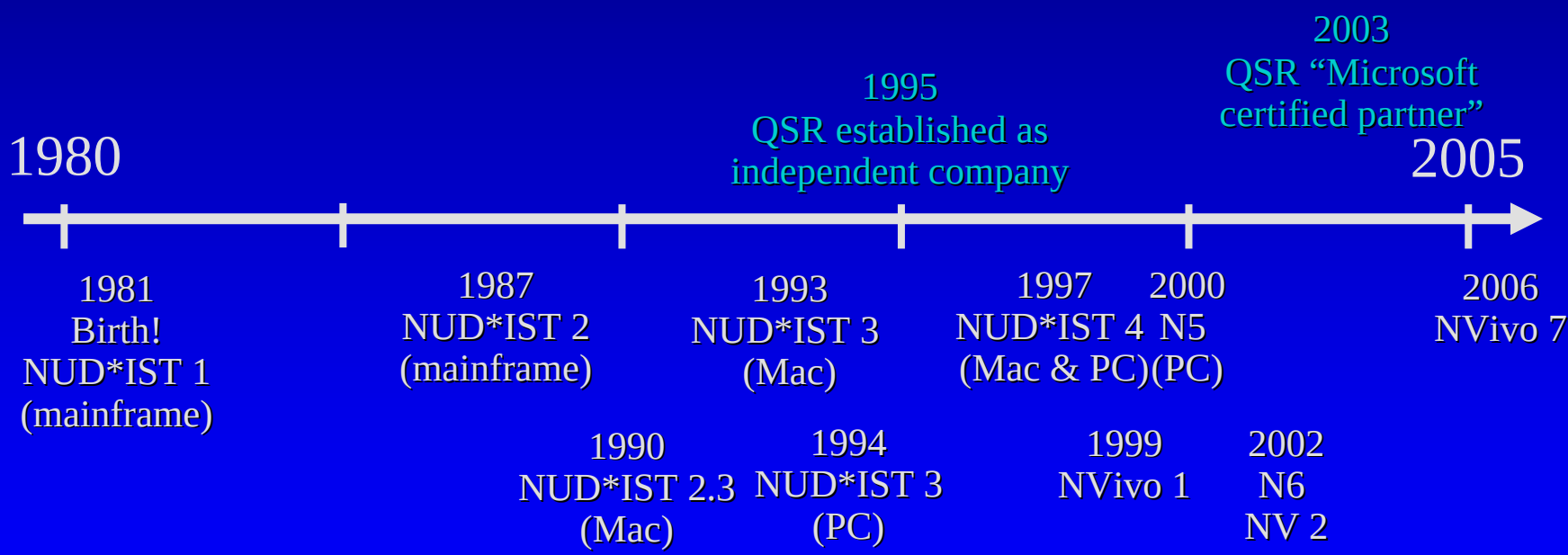


Rules

Community

Division of labor
(roles)

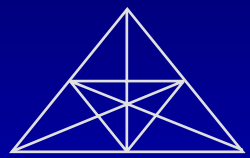
The development of “the tool”



Changes to the tool

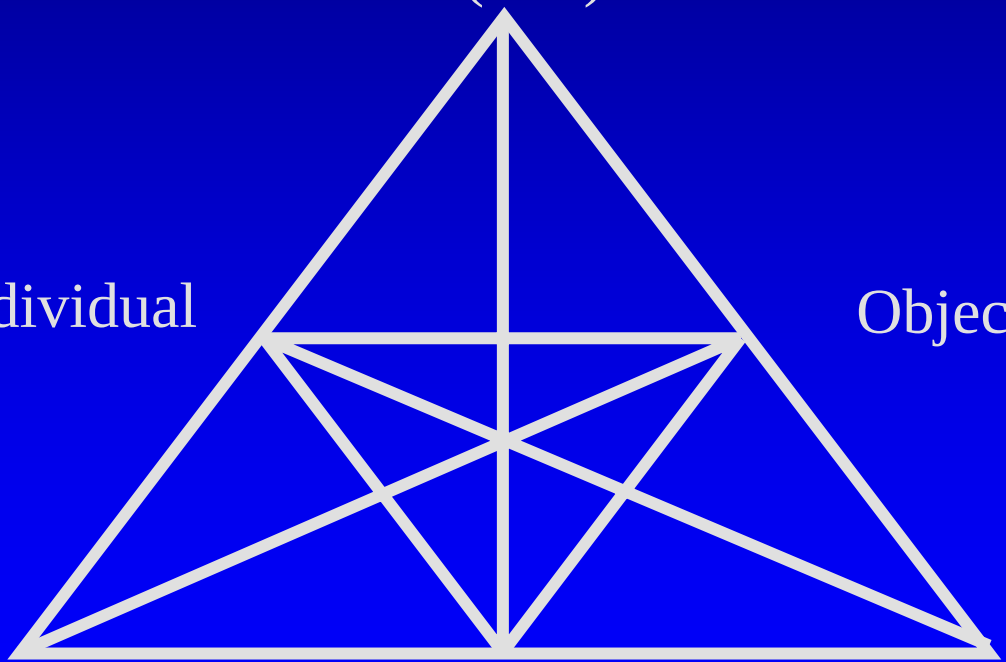
- Encapsulating experienced users' strategies
  - Example 1: Addition of Free Nodes area (N3→ N4)
  - Example 2: Creation of Case Nodes and Attributes (N4/5/6 → NVivo 1)
- Addressing critiques
  - "Too hierarchical" critique (tree)
- Preventing user error/irritation
  - One-file backup
- Incorporating technological advances
  - Too many to mention!

Other changes?



Mediating artifact
(tool)

Individual



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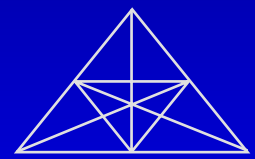

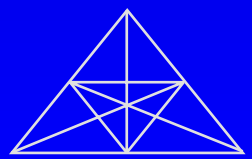

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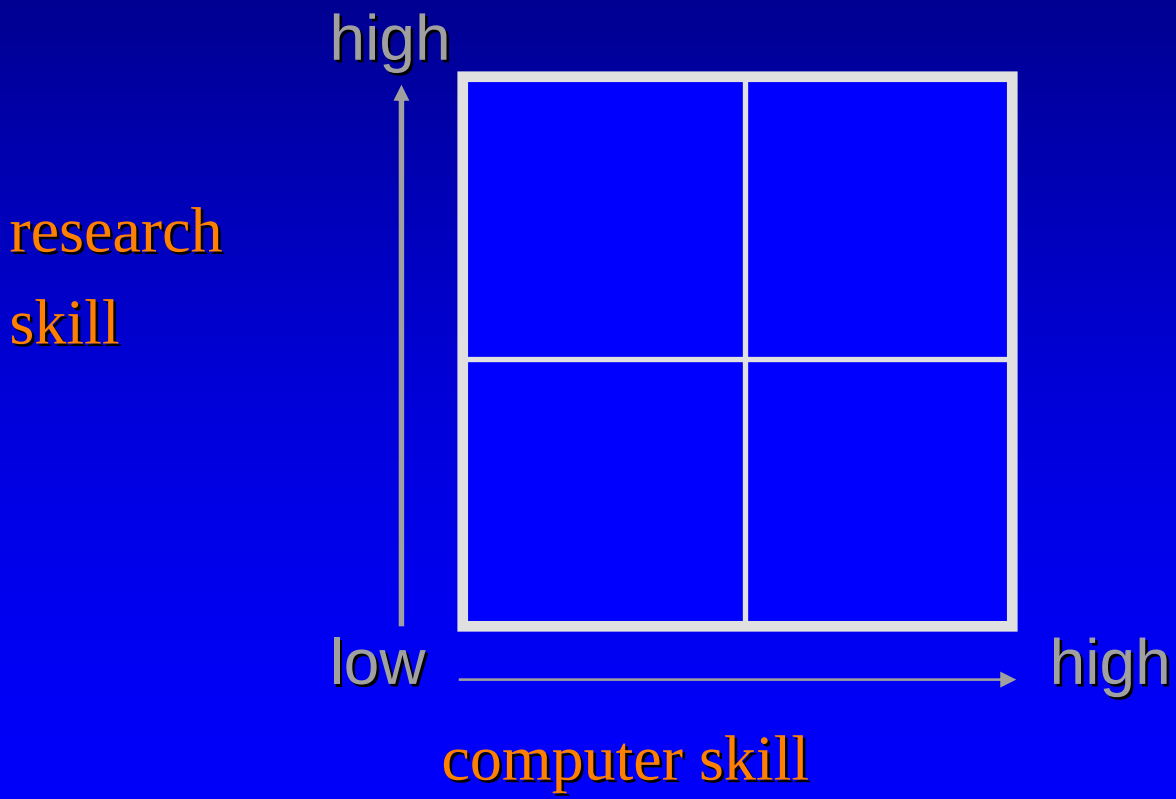

Critical skills: Then and now

- Research skills
  - Be familiar with qualitative research
  - Have clear research goals
  - Reflectivity!!
- Computer skills
  - Navigate directories
  - Understand file formats
  - Problem solving mentality.

- Research skills
  - Manage qualitative research processes
  - Maintain goal orientation
  - Reflectivity!!
- Computer skills
  - Navigate directories
  - Understand file formats
  - Manage multiple windows
  - Navigate contextual menus
  - Problem solving mentality.

Transition points: Then and now

- Tactile-digital divide
  - Missing paper, confused by tools
- The coding trap
  - Managing closeness and distance
- Monitoring “power tools”
  - Checking that it did what you meant.
- Continuous learning (individual learning)
- User skill divide / usability issues
- Managing ARRAY of tools, what to access (and where)
- Consciously managing research processes
- Monitoring “power tools” for self AND others
- Continuous learning (collaborative)

Community issues

- Layers of community….
  - QDA users
  - Qualitative researchers in general
  - Academic/professional discipline
- Trustworthiness
  - What is it? Who says?

Trustworthiness: The subtext

- “Using a computer program is not reason enough to assume that work is trustworthy….”
- “…but a lot of people still make that mistake.”
- “You need to look for research goals, appropriate methods, clear links between data and conclusions, things like that.”
- Software can support those things…”
- … but it doesn’t guarantee them.”

- “A lot of people think that it does.”

Trustworthiness (user perspective)

- Genuine trustworthiness
  - Expertise in tool-user combination supporting research goals
- Appearance of trustworthiness
  - Social status without work-related substance
- Mixed reactions to status
  - “There are people who think that just because I use a computer, my work is suddenly respectable…”

Trustworthiness (larger context)

- "Scientifically-based research"
- Accountability movement

- Reactions from qualitative community
  - Resistance
  - Rapprochement (co-option?)
  - Re-examination

Possible intersections??

- Rejection
  - “Tool of the oppressors”
- Rapprochement/Co-option
  - Danger of appearance of trustworthiness…
  - Possible mandates of use (like ESRC)
- Re-examination
  - Openness to possibilities and methodological advances

Trustworthiness: Then and Now

- Making links between goals and tool use
- Monitoring “power tools”
- Representing tool and work accurately (or not)

- Articulating research goals, research methods, and tool use clearly (transparency)
- Monitoring “power tools”
- Demanding similar standards from other users
- Deciding how to enter the larger conversation on trustworthiness

Recommendations and opinions

- Avoid using context as just a marketing/diffusion opportunity
  - Mandates can be double-edged
  - Misrepresentation will “taint” the tool in the current environment
- Strive to enter the general conversation on trustworthiness (Write!!!)
- Make explicit links between standards of trustworthiness and actual practice (Write!!!)
- Consider tools needed in software (reporting)

References

- Gilbert, L. (2002). Going the distance: “Closeness” in qualitative data analysis software. *Special Issue of The International Journal of Social Research Methodology*, 5(3), 215-228.