

Next-generation interactive search

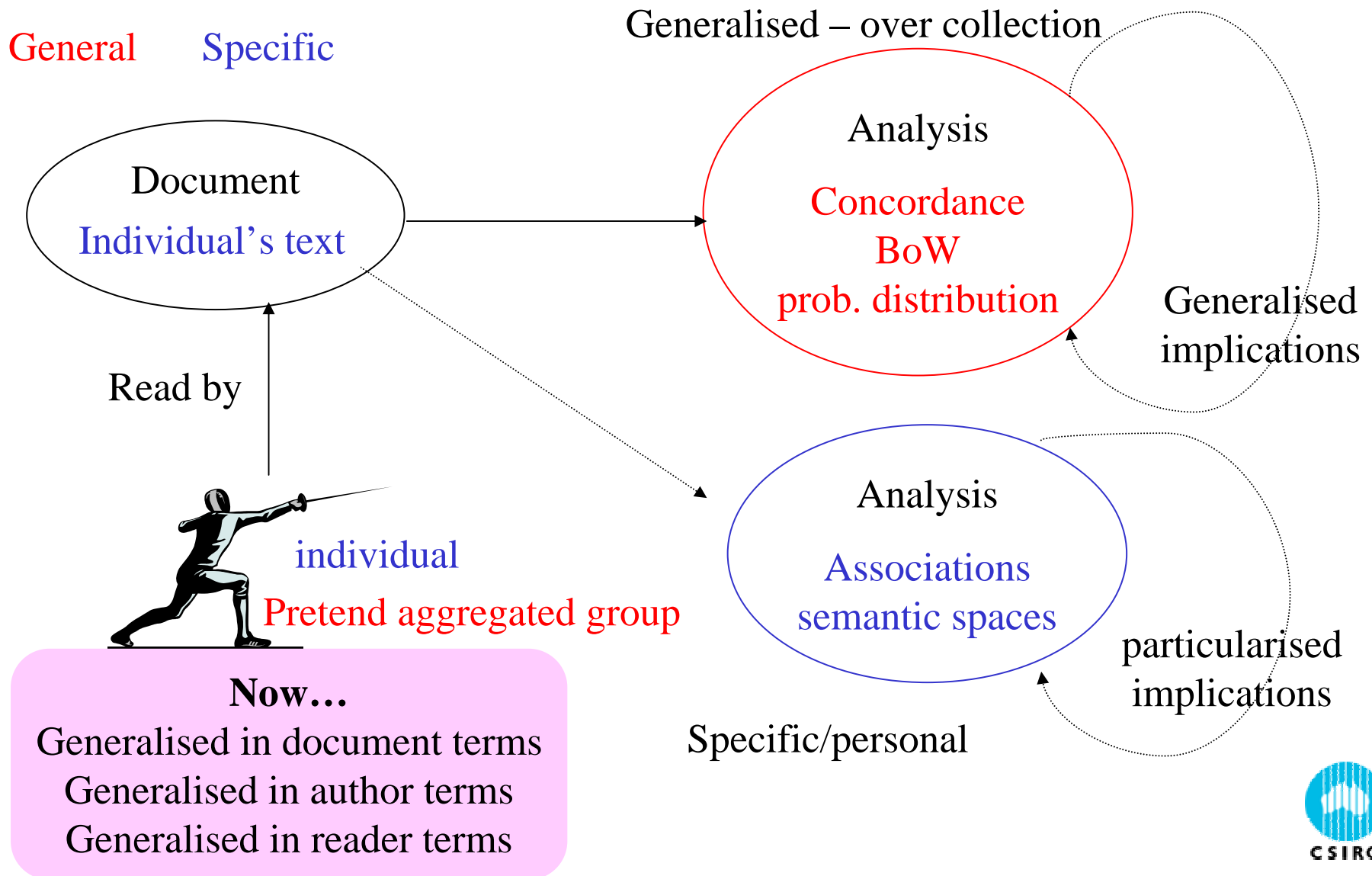
NGIS

**Trying to do amazing
analysis with nothing (BoW)**

**Some elements of truth
amongst the lies**

Robert McArthur

General (Sir) isations

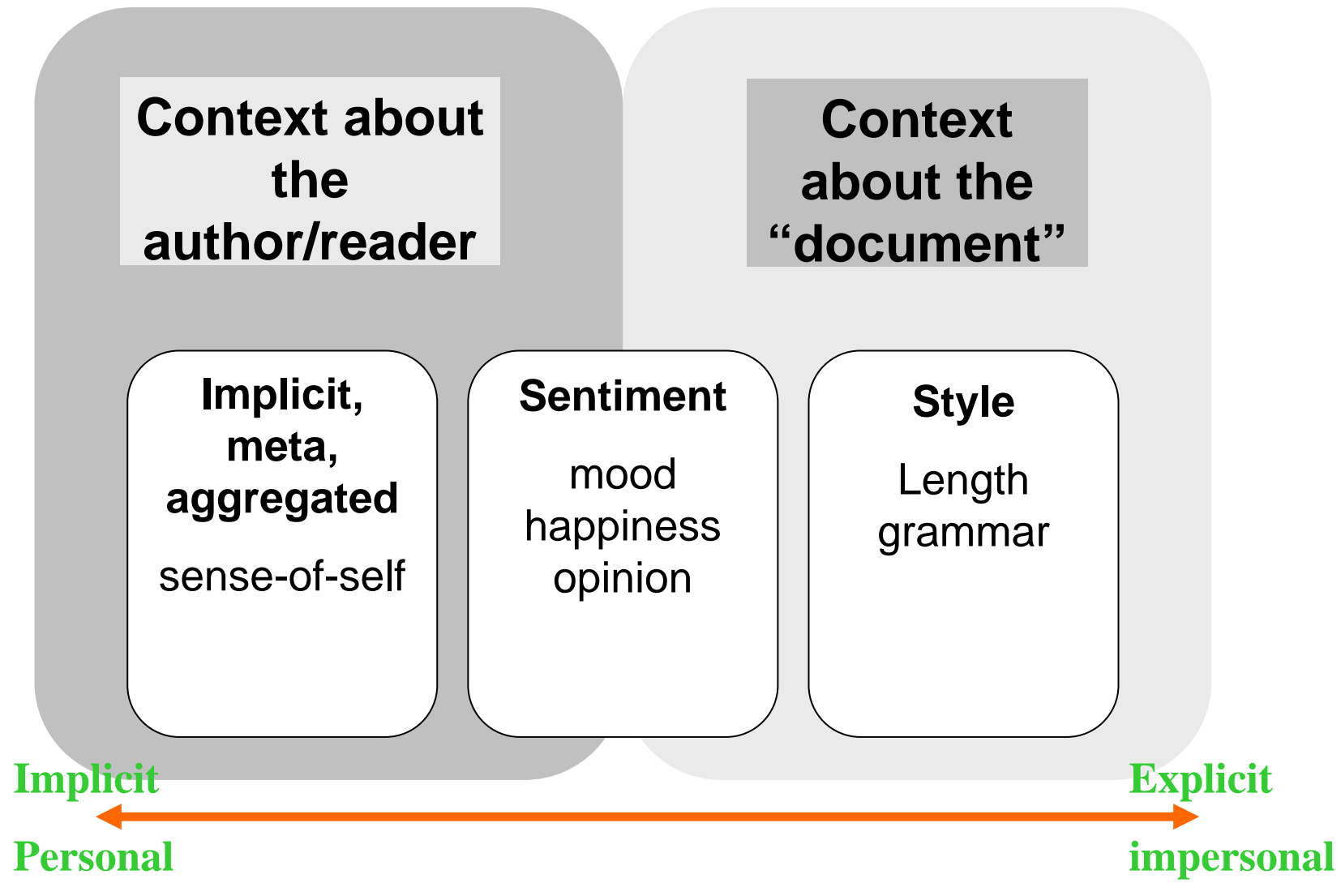


Key problems (the crime)

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- Detect and use information about
 - The author
 - The reader } A human (urgh!)
 - Short term (Geo-loc,job), med-term (job,senseofself), perm (sex)
- Approach 1: assume you have any information you want, see what difference any of it could make
 - Seems sensible; is careful approach, but
 - don't know what's possible *a priori*
 - tendency to use simplest information
 - interesting interactions likely (e.g. temporal) and likely to be missed
- Approach 2: there is no approach 2

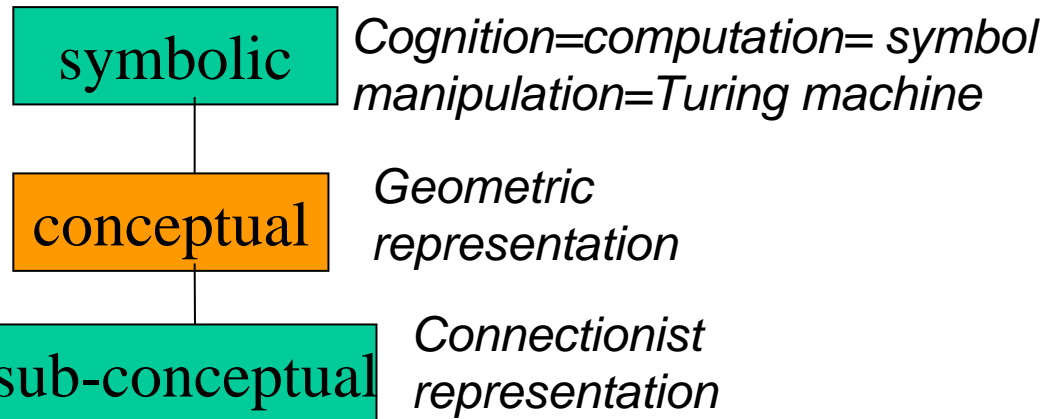
4D Schematic of the major players



Research area (the place)

- Information about a person – explicit & implicit
- Either way, need to store, model & infer in a human-like manner

- Socio-cognitive approach
- Semantic spaces
 - Representation?



- Sociology
- Cognitive science
- Linguistics
- Information science
- Mathematics

Social computing
Science of identity

Approach (DNA and photographic analysis)

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Pre-compute

- Get implicit information from communication artefacts
 - Email, blog, documents, speech (to text), (video?)
- Get it in a way compatible with human-like means
 - Pragmatic socio-cognitive approach, associational
- Store it in a way to infer with human-like approaches
 - Semantic spaces
- Infer explicit and implicit knowledge
- Use the knowledge for “better” exploratory and non-exploratory search

Key search problem to make next episode

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- Why? What to offer as potential spinoff for a SRI?
- Hard exploratory search
 - To a computer
 - What health benefits are there? What can I claim? Is private better than public for me?
 - Who knows about X? (expertise management)
 - To a human
 - “Does anyone know a way to ...”
- implicit search – you don’t even know you’re searching
 - “I feel I’ll have to give up my car racing” “Why?” ...
 - You’re informed about the (relevant) background of people at the forthcoming meeting without asking
 - You’re told that the person you’re meeting at a corporate drinks event is also interested in 14th century Hispanic architecture (serendipity)



Why is it hard? Why is it “research”?

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- If “every sperm is sacred” (every situation is unique)
 - How to evaluate?
 - Is it possible/sensible to aggregate or generalise?
- Evaluation
 - Socio-cog approach matches with qualitative (both human-like/involvement)
- Funnnnelback is so good, perception is that (trad.) search is “done”
- Next **generation** search
- Aim high - Why should 10-30 people in Australia aim for this? (vs IBM,MS,HP,Google,Yahoo!,Amazon...)