COLLABORATIVE QUALITATIVE ANALYSIS AND INTERPRETATION

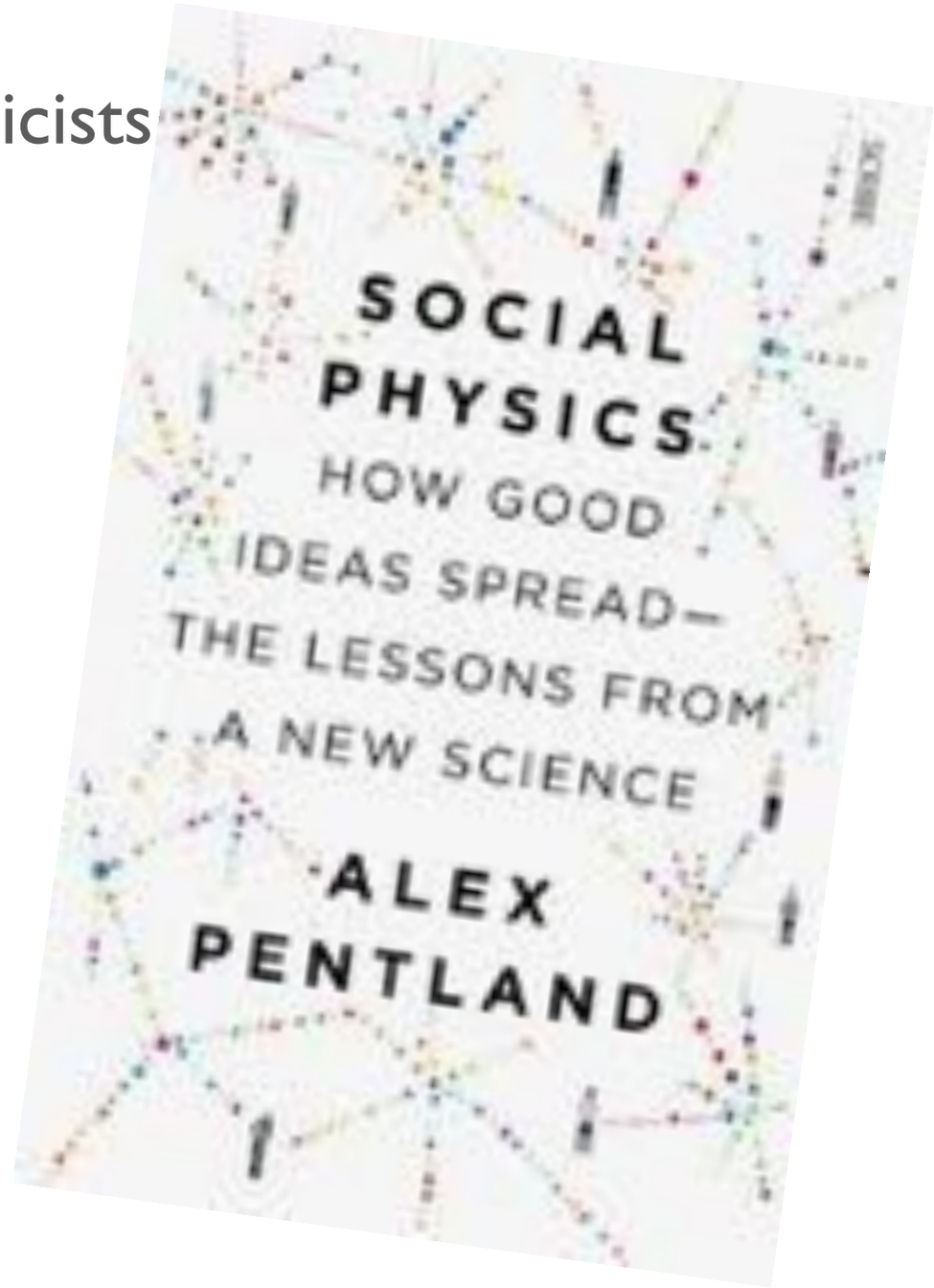
Gerben Moerman

COLLABORATIVE QUALITATIVE ANALYSIS AND INTERPRETATION

- Why collaborate in analysis?
- Answer 1: **Think with bigger data**
  - Theory driven researcher led analysis
    - PhD-thesis
- Answer 2: **Think with bigger questions**
  - Collaborative ethnographic work
    - ~~Sarphati~~
    - Co-create
- Answer 3: **Think with bigger crowds**
  - Collaborative interpretation
    - Panel

ANSWER 1:
TO **THINK** WITH BIGGER DATA

- Strong increase of "sociological papers" in Science
- Computer scientists, data scientists & physicists have jumped on board
  - Fresh ideas, new algorithms and mathematics
- Long time a lack of discussion by social scientists
  - Lack of theory
  - Lack of solid interpretation
- New sociologists,
  New digital humanities people.



BIG **TEXTUAL** DATA

- Actually, classic quantitative content analysis
  - but using automation
    - Word lists, lexicon
    - Semantic analysis
    - Machine learning
    - Probability scoring of phrases
    - Topic modelling
    - Natural Language Processing
- Classical problems of validity and meaning
  - Reliable, but often not so valid

SO, WHAT DO WE NEED?

- We need meaning & theory:

In the algorithms: Text analysis versus content analysis

- Bauer, Martin W., Bicquelet, Aude, and Suerdem, Ahmet K., (eds.) (2014). Textual Analysis. SAGE Benchmarks in Social Research Methods, 1. SAGE

In the analysts: Analytical Imagination

- James, A., (2013) Seeking the analytic imagination: reflections on the process of interpreting qualitative data. *Qualitative Research*, 13(5), pp.562–577.

Between the analysts: Perspectivism

- Cornish, F., Gillespie, A., & Zittoun, T. (2014). Collaborative Analysis of Qualitative Data. In U. Flick, *The SAGE Handbook of Qualitative Data Analysis* (pp. 79–93). SAGE

Theory

Collaboration

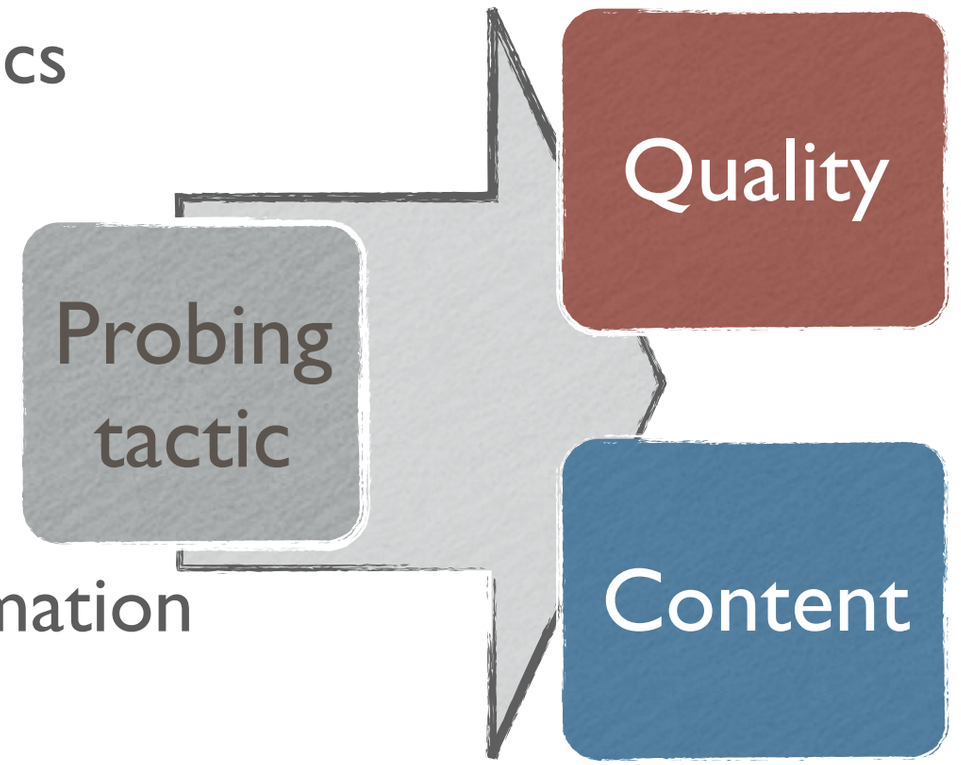
EXAMPLE 1: RESEARCHER /THEORY LED COLLABORATION - PHD RESEARCH (2010)

- Topic: Social categorisation of
  - Amsterdammers
  - Friends
  - 'Allochtonen'
- In total 214 interviews
- Average of ±39 minutes, total of ±138 hours
- Detailed transcription
  - More than 50 000 Interviewer turns
  - More than 50 000 Respondent turns
- 9 coders

Theory

PROBING TACTICS IN OPEN INTERVIEWS

- Effects of three different probing tactics
  - Accommodating
  - Encouraging
  - Challenging
- On **Quality** and **Content** of information



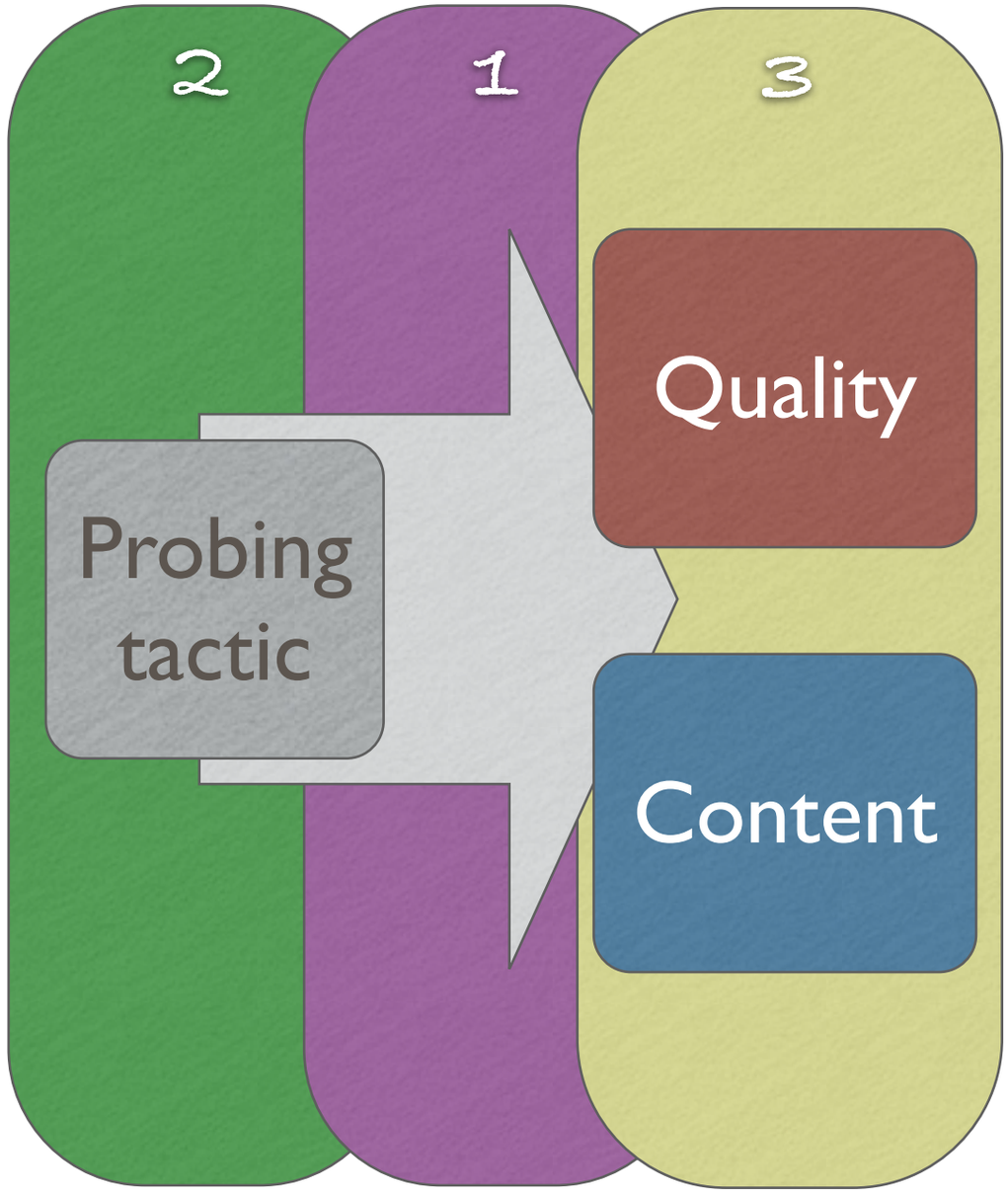
Experimental design		
Accommodating	Encouraging	Challenging
12 interviewers	12 interviewers	12 interviewers
72 interviews	71 interviews	71 interviews

CODING PROCES

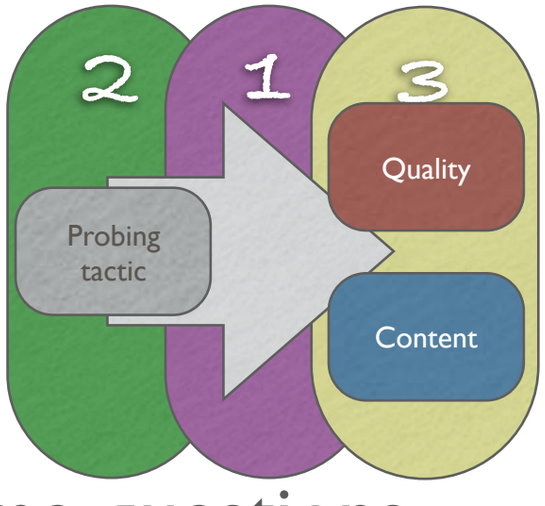
1. Administrative coding: ‘Theming the data’
2. Training in:
    1. Research goals
    2. Theory
    3. Coding in ATLAS.ti
3. Test interview
4. Coders received part of main project (each coder own project)
    1. Hourly export & backup A_001
    2. Regular checks: reliability & validity
5. Merging of projects

THREE SETS OF CODES

1. Simple 'Administrative Codes'
2. Interviewer Behaviour Codes
3. Respondent Answer Codes
   - ➤ Quality
   - ➤ Content



SET 3
RESPONDENT ANSWER CODES



Quality

- **Relevancy** of information
- **Amount** of information
- **Specificity** of information
- **Elaborateness** of information
- **Amount of Personal** information

Content

- Answers to some questions
- **Social categorisation** of
  - Amsterdammer
  - Friend
  - Allochthon

THE THEORY: MEMBERSHIP CATEGORISATION ANALYSIS

Theory

- Ethnomethodological Theory of Harvey Sacks
- Central concept: Membership Categorisation Devices

Any collection of membership categories, containing at least a category, which may be applied to some population, containing at least a member, so as to provide, by the use of some rules of application, for the pairing of at least a population member and a categorization device member. A device is then a collection plus rules of application. (LC1: 246).

MEMBERSHIP CATEGORISATION CODES ON **QUALITY**

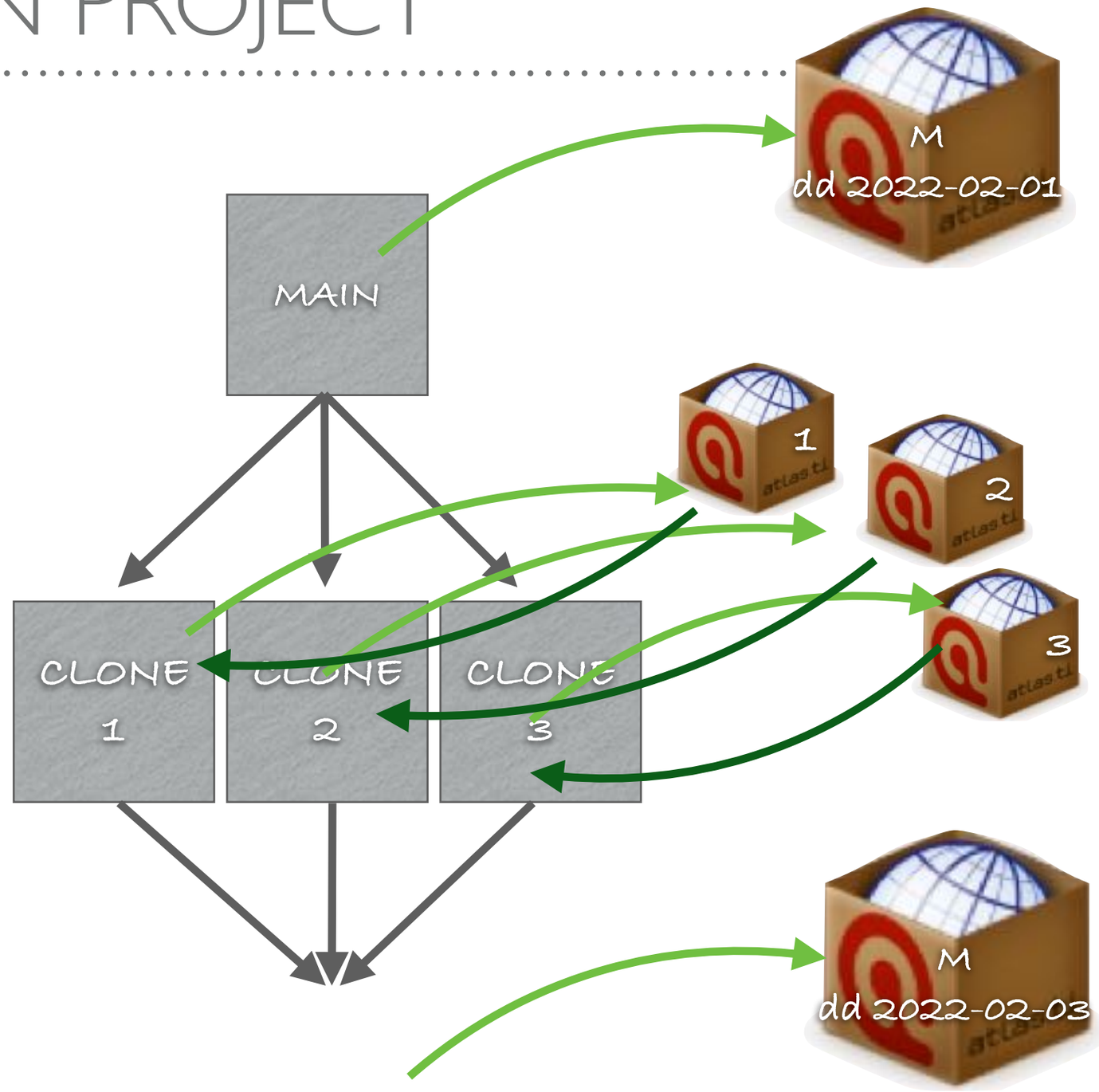
Membership Categories & Predicates	Quality indicators
Total Number of Categories & Predicates	Amount of information
Number of Categories & Predicates of single type	Specificity of the information
Number of different Categories & Predicates	Elaborateness of the information

INTER CODER RELIABILITY

- 9 coders & 1 researcher
- **Reliability**
  - Krippendorff's α
    - On practice interviews
    - After training
    - Half way
    - At the end of the coding

THE *CLASSIC* WAY
CLONING THE MAIN PROJECT

- Appoint a data manager
- Use one Main project
- Export the project
- Clone it for different coders
  - When offering different clones: export the clones
- Send them to the coders
- On receiving back import
- Merge
- Export and Backup



INTER CODER RELIABILITY

- 9 coders & 1 researcher
- **Reliability**
  - Krippendorff's α
    - On practice interviews
    - After training
  - Half way
  - At the end of the coding
- **Validity**
  - Training in theory
  - Jurisprudence during coding
    - Informal meetings
    - Formal meetings
  - Mutual checks and **supervision**

Collaboration

WHY COLLABORATION?

Collaboration

THE TANGLED HISTORY OF MRNA VACCINES

Hundreds of scientists had worked on mRNA vaccines for decades before the coronavirus pandemic brought a breakthrough. **By Elie Dolgin**

318 | Nature | Vol 597 | 16 September 2021

In late 1987, Robert Malone performed a landmark experiment. He mixed strands of messenger RNA with droplets of fat, to create a kind of molecular stew. Human cells bathed in this genetic gumbo absorbed the mRNA, and began producing proteins from it[1].

Realizing that this discovery might in Tucson, who made his own contribution in the mid-1980s, "and you never know what's going to be useful".

The beginnings of mRNA

Malone's experiments didn't come out of the blue. As far back as 1978, scientists had used fatty membrane structures called liposomes biologists Tom Maniatis and Michael Green at Harvard University in Cambridge, Massachusetts, used an RNA-synthesis enzyme (taken from a virus) and other tools to produce biologically active mRNA in the lab[2] – a method that, at its core, remains in use today. Krieg then injected the lab-made mRNA into frog eggs, and showed that it worked just like the

ANSWER 2:
TO THINK WITH BIGGER **QUESTIONS**

The Increasing Dominance of Teams in Production of Knowledge

STEFAN WUCHTY, BENJAMIN F. JONES, AND BRIAN UZZI Authors Info & Affiliations

SCIENCE • 18 May 2007 • Vol 316, Issue 5827 • pp. 1036-1039 • DOI: 10.1126/science.1136099

Abstract

We have used 19.9 million papers over 5 decades and 2.1 million patents to demonstrate that teams increasingly dominate solo authors in the production of knowledge. Research is increasingly done in teams across nearly all fields. Teams typically produce more frequently cited research than individuals do, and this advantage has been increasing over time. Teams now also produce the exceptionally high-impact research, even where that distinction was once the domain of solo authors. These results are detailed for sciences and engineering, social sciences, arts and humanities, and patents, suggesting that the process of knowledge creation has fundamentally changed.

EXAMPLE 2: RESEARCHERS COLLABORATION IN CO-CREATE

Confronting Obesity: Co-creating policy with youth (CO-CREATE) is a large project which uses youth engagement as a key element of addressing childhood obesity in Europe

5 countries

14 leading research and advocacy organizations

This project received funding from the European Union's Horizon 2020 research and innovation program under grant agreement No 774210

YOUTH ALLIANCES (GUIDED BY (CO-)FACILITATORS)

Graphic: Sherria Ayuandini

EXAMPLE: HEALTHY FOOD IN SCHOOL

- Fastfood in school canteen & singular type of food
- **Discussing**, **buying food**, **cooking**, **interviewing** (canteen teachers, manager from the Netherlands Nutrition Centre's Healthy School Canteen programme and a policy officer from the City of Amsterdam), **suggesting policy**.

Graphic: Sherria Ayuandini

Photo: Gerlieke Veltkamp

ANALYTICAL PROCESS

1. Protocols for documentation
2. Fieldwork training (observation, field note writing & analysis)
3. Reviews of documentation
4. Data management
5. Focus group coding & auto coding
6. Code retrieval
7. In country descriptions (member checks)
8. Code retrieval
9. Between country descriptions (team writing)

MOUNTAINS OF 'SECONDARY' DATA

- 750.000 words
- Mostly written by Facilitators and Co-Facilitators
- All in English
  - The Log (facilitator)
  - Field Notes (observations and process data)
    - PAR-minutes (co-facilitator)
    - Observations (facilitator)
  - Alliance Proposals (co-created)
  - Evaluation (Feedback by youth)
- All reviewed by the Amsterdam team of trained ethnographers

FOCUS GROUP CODING FIELD NOTES

- FN01: Pseudonym of alliance
- FN02: Number of meeting
- FN03: Date of meeting
- FN04: Time of meeting
- FN05: Name of facilitators
- FN06: Name of co-facilitators
- FN07: Other people present
- FN08: Authors of this field note
- FN09: Content of meeting
- FN10: Place of the meeting
- FN11: Duration of the meeting
- FN12: Number attending
- FN13: Number attending first time
- FN14: Number NOT attending
- FN15: Recruitment efforts
- FN16: DEMOGRAPHICS AND DIVERSITY
- FN17: ACTIVITIES
- FN18: RESEARCH DATA
- FN19: DECISION MAKING
- FN20: POLICY AND POLITICS
- FN21: READINESS FOR ACTION
- FN22: GROUP DYNAMICS
- FN23: GROUP DYNAMICS: Your own impression
- FN24: GROUP DYNAMICS: Felt trusted
- FN25: CHALLENGES
- FN26: CHALLENGES: other
- FN27: CHALLENGES: role (Co-)Facilitator
- FN28: TALKS ABOUT OBESITY
- FN29: TALKS ABOUT OBESITY: systemic
- FN30: TALKS ABOUT OBESITY: shifts between individual to systemic
- FN31: TALKS ABOUT OBESITY: inequality
- FN32: TALKS ABOUT OBESITY: stigmatisation
- FN33: TALKS ABOUT OBESITY: reference to knowledge
- FN34: OTHER RELEVANT QUOTES
- FN35: OWN REFLECTION
- FN36: OWN REFLECTION: Learned
- FN37: ETHICAL QUESTIONS
- FN38: ETHICAL QUESTIONS: observed breaches
- FN39: ETHICAL QUESTIONS: refusing participation
- FN40: ETHICAL QUESTIONS: negative impact of participating
- FN41: ETHICAL QUESTIONS: criticism
- FN42: ETHICAL QUESTIONS: other challenges related to participation
- FN43: ETHICAL QUESTIONS: issues regarding health and safety

@FN CODES

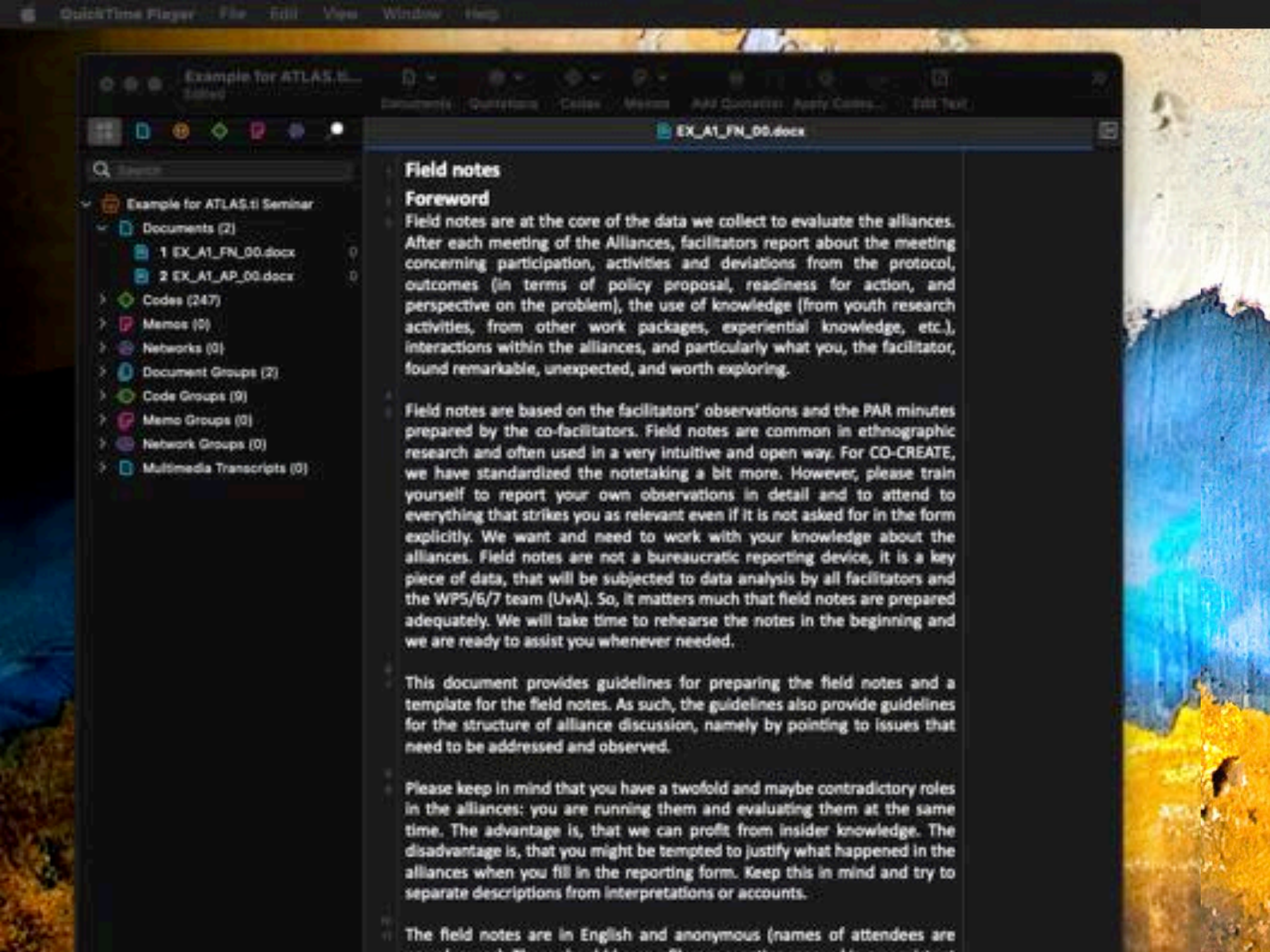
- Focus group coding
- Automated administrative coding

@FN01: Pseudonym of alliance:
@FN02: Number of meeting:
@FN03: Date of meeting:
@FN04: Time of meeting:
@FN05: Name of facilitators:
@FN06: Name of co-facilitators:
@FN07: Other people who are present during the meeting and their roles:
@FN08: Authors of this field note:
@FN09: Content of meeting (e.g.: photovoice training):
@FN10: Place of the meeting and describe the room and setup a bit:
@FN11: Duration of the meeting:
@FN12: Number of young people attending the meeting:
@FN13: Number of young people who attended for the first time, the person's pseudonym, and reasons for attending for the first time (provide as much detail as possible):
@FN14: Number of young people NOT attending, the person's pseudonym, and reasons for not attending (provide as much detail as possible):
@FN15: Describe what kind of effort did you or young people make to recruit new members?

Attendees. Please use a pseudonym and put gender into brackets.	
1.	11.
2.	12.
3.	13.
4.	14.
5.	15.
6.	16.
7.	17.
8.	18.
9.	19.
10.	20.

@FN16: DEMOGRAPHICS AND DIVERSITY
Describe the demographics of the young people attending the meeting. Include all aspects you managed to observe (e.g. gender, and all relevant indicators of reduced participation in your country/city: for example, school track, ethnicity, SES, etc.). Write up the basis of your observation as much as you can (e.g. 5 out of 15 are from low SES based on informal conversations I had with them, 3 considered themselves overweight based on what they shared with the group, gender balance achieved or not, etc.) Please mention any relevant self-identifiers voiced by attendants (e.g. Marlon regards himself as fat).

@FN17: ACTIVITIES
Describe the activities that young people did during this particular meeting: Even if the

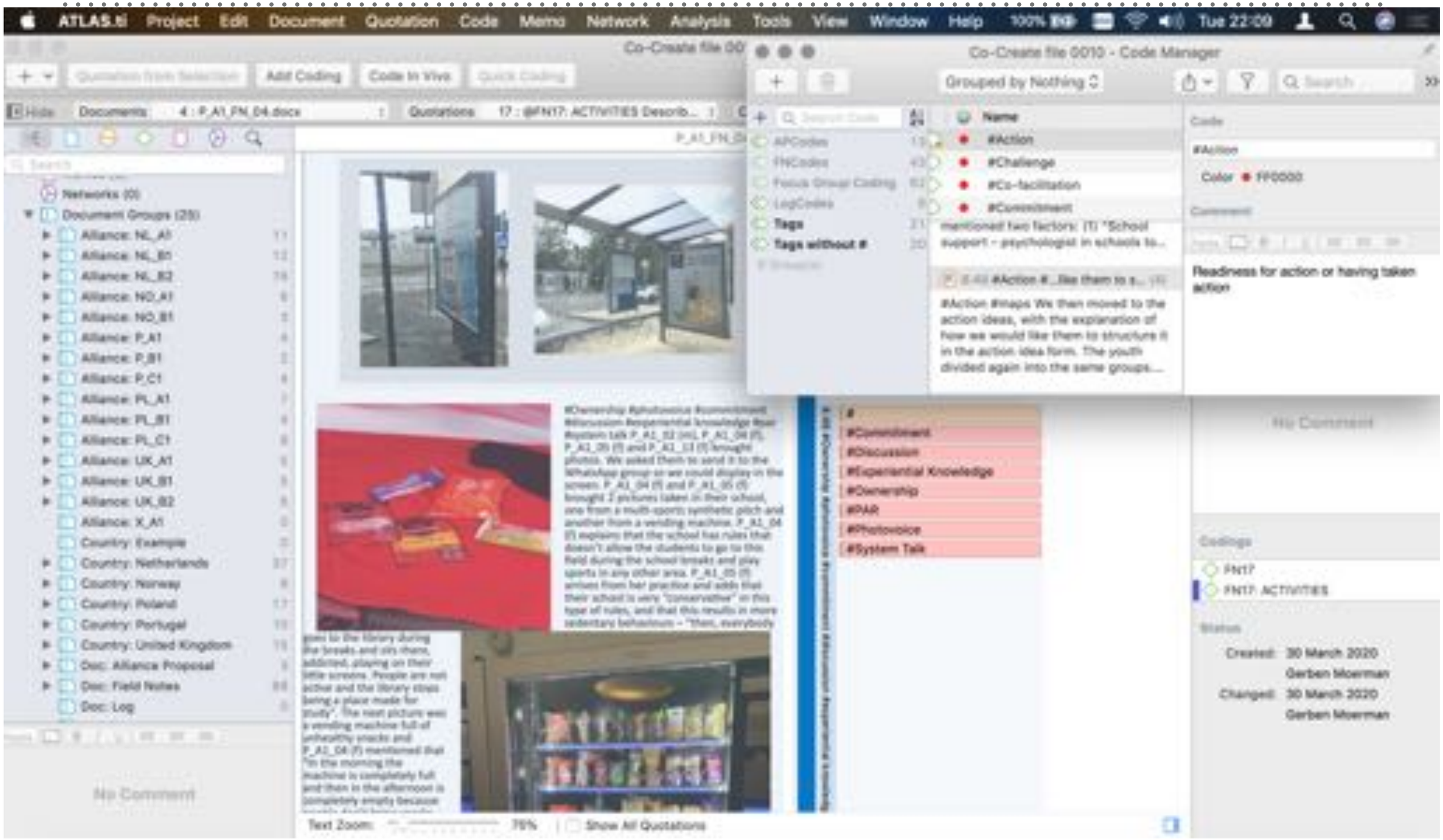

Example for ATLAS.ti Seminar
Documents (2)
1 EX_A1_FN_00.docx
2 EX_A1_AP_00.docx
Codes (247)
Memos (0)
Networks (0)
Document Groups (2)
Code Groups (9)
Memo Groups (0)
Network Groups (0)
Multimedia Transcripts (0)
EX_A1_FN_00.docx
Field notes
Foreword
Field notes are at the core of the data we collect to evaluate the alliances. After each meeting of the Alliances, facilitators report about the meeting concerning participation, activities and deviations from the protocol, outcomes (in terms of policy proposal, readiness for action, and perspective on the problem), the use of knowledge (from youth research activities, from other work packages, experiential knowledge, etc.), interactions within the alliances, and particularly what you, the facilitator, found remarkable, unexpected, and worth exploring.
Field notes are based on the facilitators' observations and the PAR minutes prepared by the co-facilitators. Field notes are common in ethnographic research and often used in a very intuitive and open way. For CO-CREATE, we have standardized the notetaking a bit more. However, please train yourself to report your own observations in detail and to attend to everything that strikes you as relevant even if it is not asked for in the form explicitly. We want and need to work with your knowledge about the alliances. Field notes are not a bureaucratic reporting device, it is a key piece of data, that will be subjected to data analysis by all facilitators and the WP5/6/7 team (UvA). So, it matters much that field notes are prepared adequately. We will take time to rehearse the notes in the beginning and we are ready to assist you whenever needed.
This document provides guidelines for preparing the field notes and a template for the field notes. As such, the guidelines also provide guidelines for the structure of alliance discussion, namely by pointing to issues that need to be addressed and observed.
Please keep in mind that you have a twofold and maybe contradictory roles in the alliances: you are running them and evaluating them at the same time. The advantage is, that we can profit from insider knowledge. The disadvantage is, that you might be tempted to justify what happened in the alliances when you fill in the reporting form. Keep this in mind and try to separate descriptions from interpretations or accounts.
The field notes are in English and anonymous (names of attendees are

EXCELLENT WORK BY FACILITATORS: #TAGS

- **#Individual Talk**
  Talk on individual responsibility
- **#System Talk**
  Talk on system level/societal responsibility
- **#Diversity**
  Talk on diversity
- **#Ownership**
  Youth taking up responsibility
- **#Policy**
  Policy and politics, both talk and proposals
- **#Action**
  Readiness for action or having taken action
- **#PAR**
  Awareness of being a researcher
- **#Experiential Knowledge**
  Talk on experiential knowledge on obesity
- **#Other Knowledge**
  Talk on non-experiential knowledge on obesity
- **#Discussion**
  (Co-)Facilitator proposes to discuss this
- **#Interesting**
  (Co-)Facilitator finds this interesting

Graphic: Sherria Ayuandini

#TAGS


ATLAS.ti Project Edit Document Quotation Code Memo Network Analysis Tools View Window Help Tue 22:09
Co-Create file 0010 - Code Manager
Grouped by Nothing
Name
#Action
#Challenge
#Co-facilitation
#Commitment
#Ownership
#Photovoice
#System Talk
Color FF0000
Readiness for action or having taken action
Codings
FN17
FN17: ACTIVITIES
Created: 30 March 2020 Gerben Moerman
Changed: 30 March 2020 Gerben Moerman
No Comment
Text Zoom: 75% Show All Quotations

ADVANTAGES

- Quick
- Database retrieval
- Link to research questions

DISADVANTAGES

- No context
- Broad themes
- Serendipity is difficult

ADVANTAGES

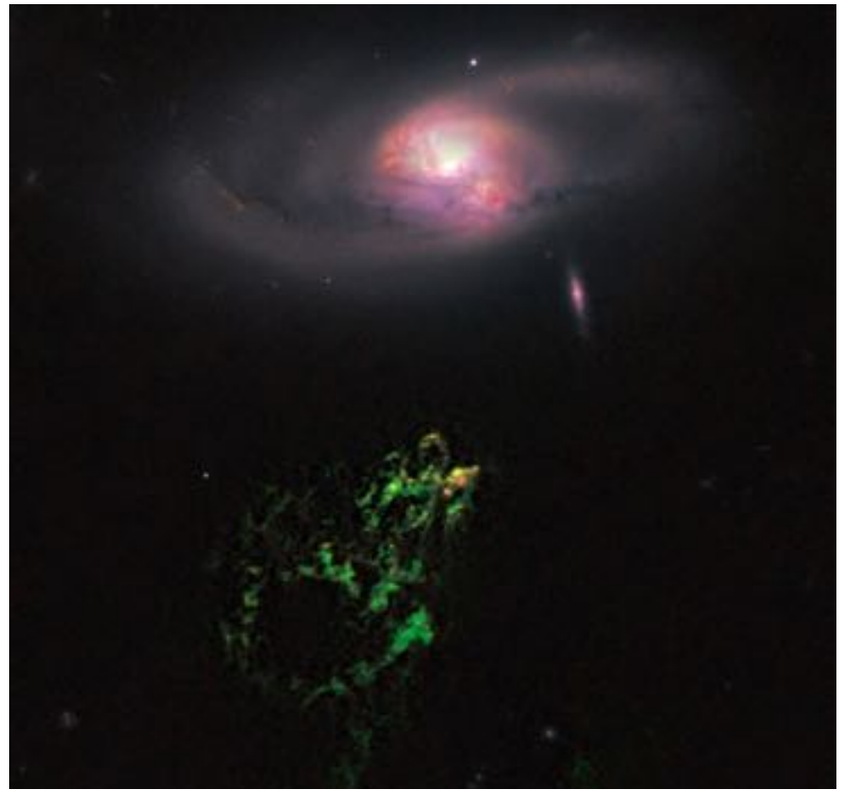
- Quick
- Crowd sourced
- Grounded in context
- Link to research questions
- Abductive/ inductive codes

DISADVANTAGES

- Comparability
- Code retrieval leads to detachment of contexts

CODING IS USEFUL, BUT…

- Does (crowd sourced) coding answer all research questions?
- Aren't we over focussing on coding?
- Is coding always conscious interpretation?
- Does crowd sourced coding lead to serendipity?



By NASA, ESA, W. Keel (University of Alabama), and the Galaxy Zoo Team [Public domain], via Wikimedia Commons http://www.hannysvoorwerp.com

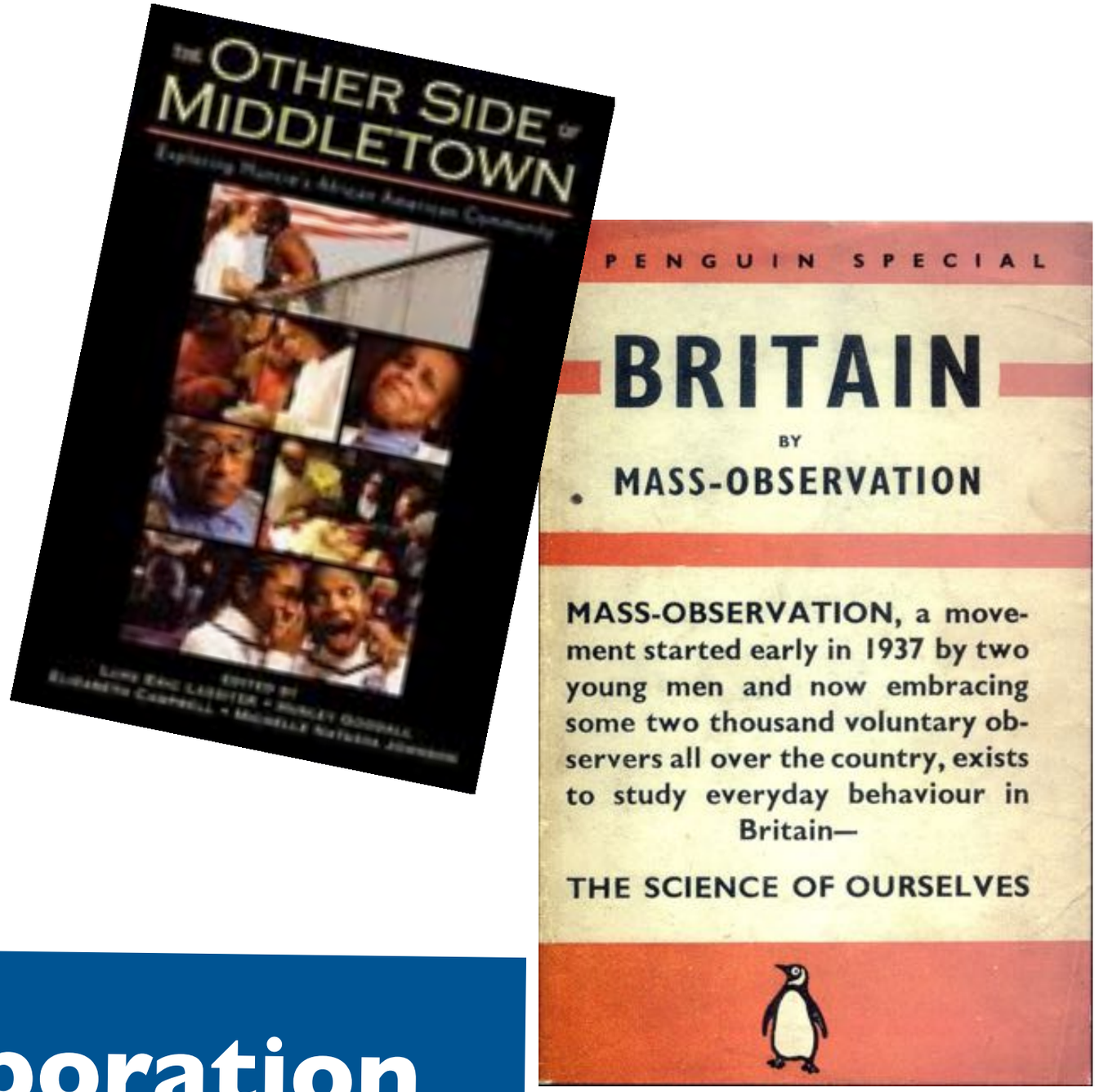
WHAT DID WE LEARN MOST FROM?

- Codes were useful to open up data
- Codes were useful to organise data
- Codes were useful for answering research questions
- Codes were useful for answering new questions
- Conversing with (co-) facilitators was useful for understanding
- Reading and writing was useful for seeing patterns
- Discussing among us was useful for seeing patterns

Photo: Christian Bröer

…COLLABORATIVE RESEARCH IS COOL

- Team based research
- Participatory methods
- Collaborative ethnography
- Mass Observation
- Citizen Science

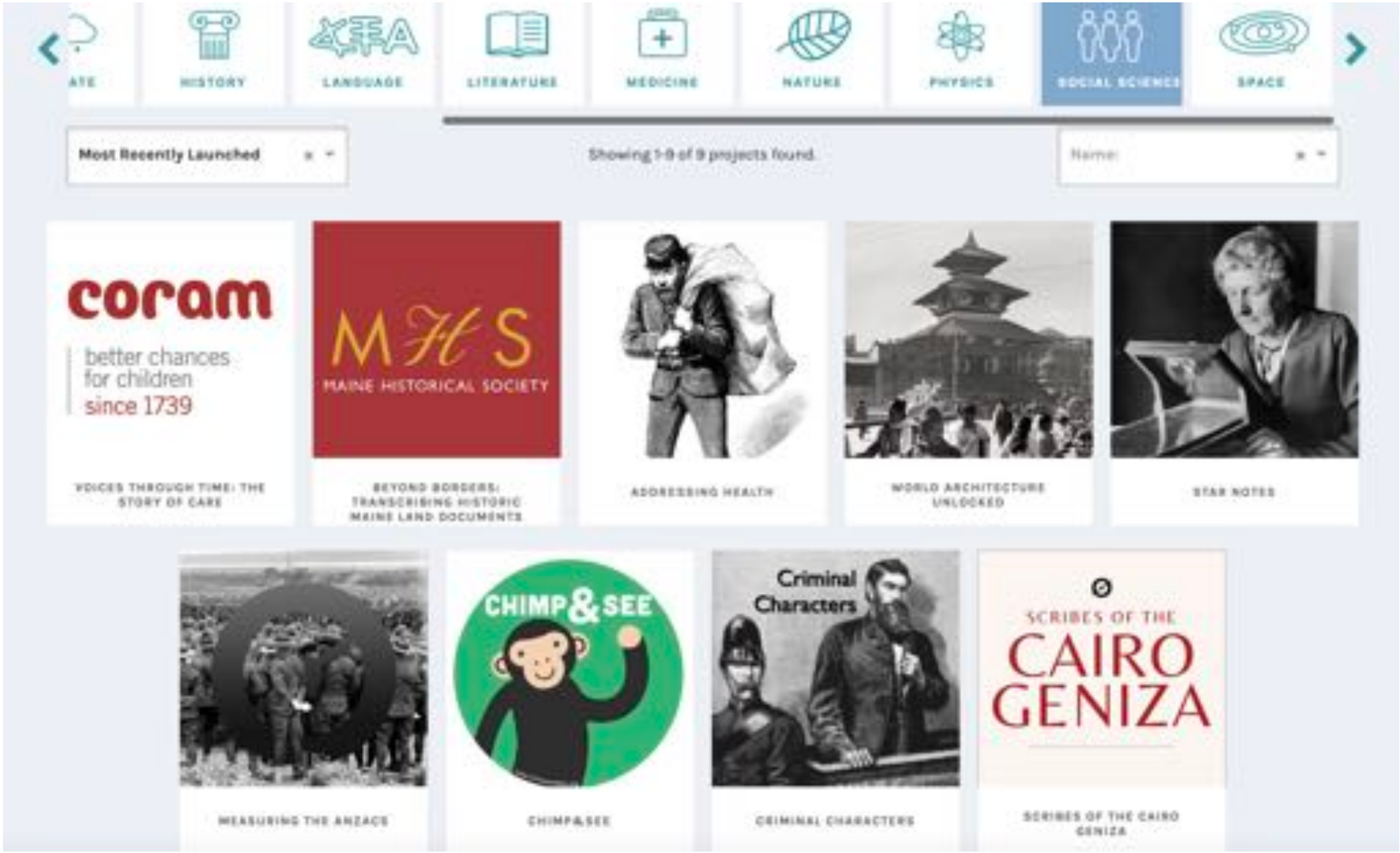


ZOONIVERSE

De Nationale Tuinvogeltelling

Collaboration

ANSWER 3:
TO THINK WITH BIGGER **CROWDS**



Find the social science citizen science project…

COLLABORATION IN panel

DATA SESSIONS

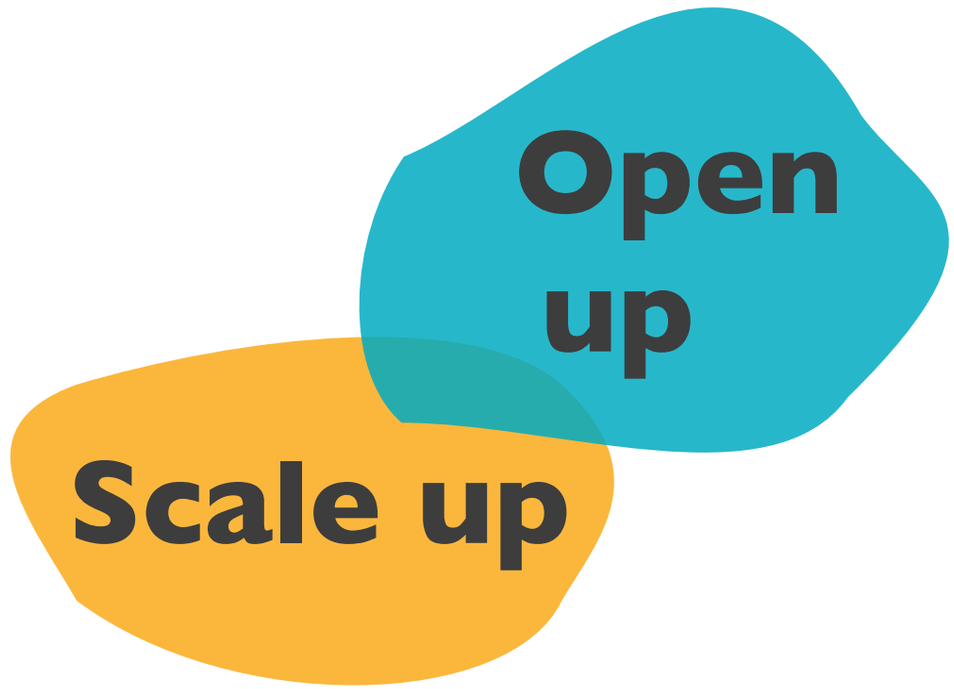
Group interpretations

Lead to:

- Quick & Interesting findings

Through:

- Serendipity
- Abduction
- Simplicity
- Fun

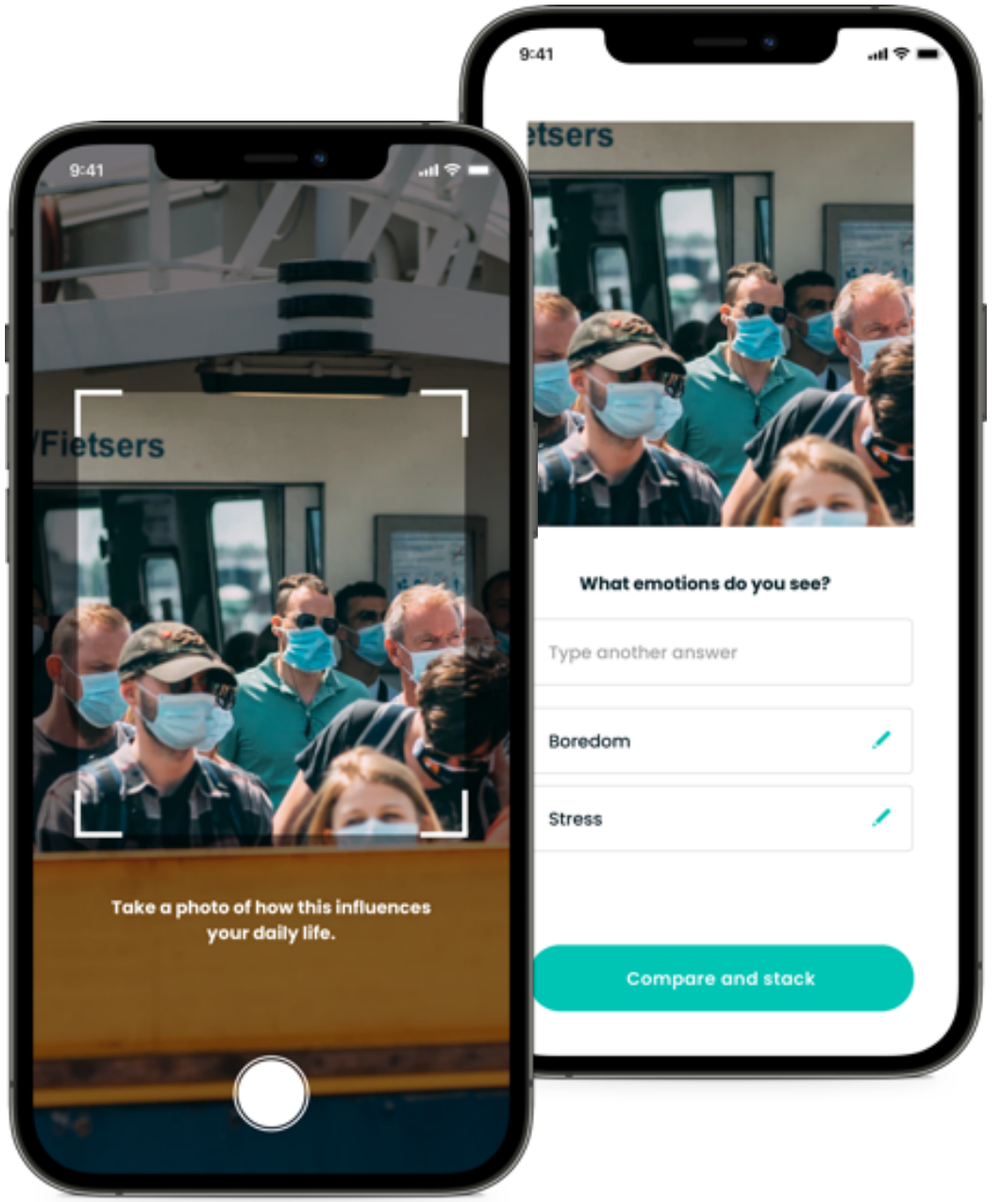


METHODOLOGY FOR COLLABORATIVE INTERPRETATION

- Coding ➜ Interpreting
- Comparing interpretations
- Appreciating different perspectives
- No overriding researcher ➜ Plurality of perspectives
- No averages
- No ‘most votes count’

HOW DOES IT WORK?

1. Upload material/observations
2. Read material
3. Add interpretations
4. Compare interpretations
5. Stacking interpretations
6. Reflect and discuss



ANGRY CITIZENS MAN, 43

By political choice, there is a division among the population. Right or left. By discussing freedom of speech as being the most important thing for the Dutch, you grow the feeling that you can say everything and thus hurt others too. Because the CDA has represented the 'farmers' for years, animal welfare is clearly put aside, which also means that people are becoming increasingly socially irresponsible for animals in general. Disgraceful. Population groups that are clearly stigmatised by the Cabinet will cause more concern among the population. I'm really worried about that.

Male, 43

ANGRY CITIZENS MAN, 43

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Male, 43

Why is this man upset?

This man is disappointed in politics

COMPARE AND STACK

This man is disappointed in politics

I read a lot of anger here, about the behaviour of a political party

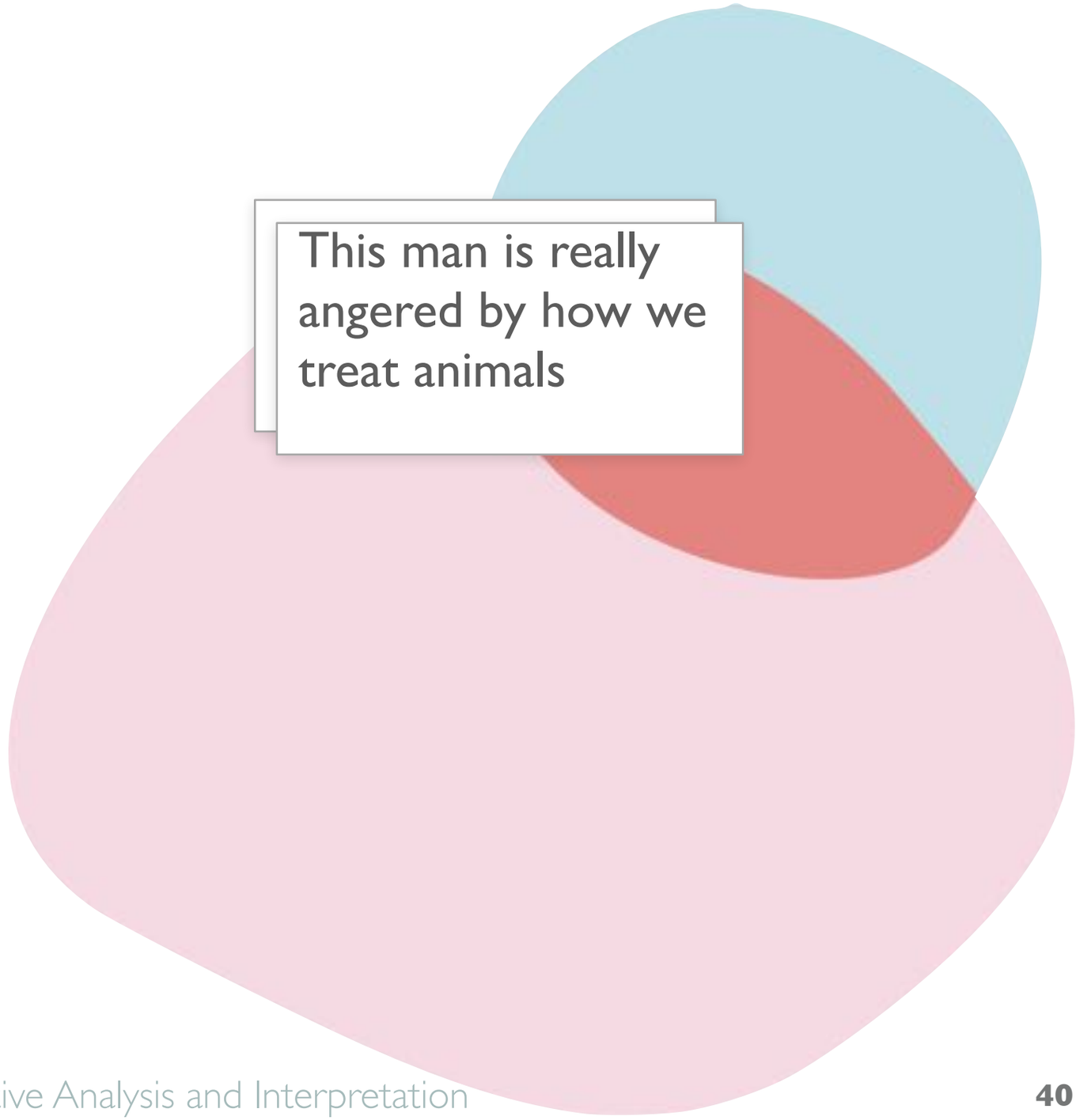
It is an animal hugger

This man is really angered by how we treat animals

REFLECT AND DISCUSS

This man is disappointed in politics

This man is really angered by how we treat animals



EXPERIMENTS: LESSONS LEARNED

- Good formulation of questions is essential
  - Classical survey
- Instruction is needed
  - Not just a matter of design
- Stacking through drag and drop is cool
  - Way too cool? ➔ *Stupid Stacking*
- Importance of ownership of depends on group
  - Stakeholders at the municipality versus students
- Especially applicable in participation project in social domain
- Developing software is a lot of work

CONCLUDING

- Very different forms of collaborative analysis
- One common goal: meaning making and interpretation of data
- Different goals in collaboration

1. **Think with bigger data**
   - Share the intelligent work
2. **Think with bigger questions**
   - Perspectivism of co-researchers
3. **Think with bigger crowds**
   - Participatory/ action/ Citizen Science

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