

UNDERSTANDING NORMS  
AND FOLLOWING RULES:

SOCIAL COGNITION IN A  
DEVELOPMENTAL CONTEXT

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# THE DEVELOPMENT OF NORMS FROM A PHILOSOPHICAL PERSPECTIVE

# NORMATIVE BEHAVIOUR, UNDERSTANDING OF NORMS, RULE-FOLLOWING

RF

# THE RECEIVED VIEW

- RF RATIONAL REASON-GIVING ACTIVITY
- ACTIONS COORDINATED ON THE BASIS OF LOGICAL REASONING ABOUT BELIEFS, DESIRES, EXPECTATIONS, PREFERENCES OF ONESELF AND OTHERS
- AGENTS IDEALLY SUPPOSED TO MAXIMIZE EXPECTED UTILITY
- WHEN PROMPTED, AGENTS CAN PROVIDE COHERENT AND LOGICALLY CONSISTENT ARGUMENTS FOR OR AGAINST THEIR ACTIONS
- AGENTS RECOGNIZE THAT OWN AND OTHERS ACTIONS MAY BE PRAISED OR CONSIDERED BLAMEWORTHY ON CONCEPTUAL OR LOGICAL GROUNDS
- COMMON VIEW IN PHILOSOPHY, SOCIAL SCIENCE, ECONOMY, DECISION THEORY, GAME THEORY AND RELATED DISCIPLINES

# SOME EXAMPLES OF WHAT RATIONAL BEHAVIOUR INVOLVES

- we-intentions (Toumela, Bratman)

We intend to J iff (i) (a) I intend that we J and (b) you intend that we J, (ii) (a) I intend that we J because of (i) (a) and (i) (b); you intend that we J because (i) (a) and (i) (b), and (iii) (i) and (ii) are common knowledge between us

- common knowledge (Lewis)

The conditions above are known to everyone, it is known to everyone that the conditions are known to everyone, etc

- conformity (Lewis) iff

Everyone conforms to R, everyone believes that the others conform to R, the belief that others conform to R gives everyone a good and decisive reason to conform to R himself, there is a general preferency to conforming to R

# THE RECEIVED VIEW FROM A DEVELOPMENTAL PERSPECTIVE

- CHILDREN DON'T DEVELOP THE CAPACITY FOR UNDERSTANDING FALSE BELIEF AND REASONING ABOUT HIGHER-ORDER INTENTIONAL STATES UNTIL BY 4 YEARS
- CHILDREN DON'T DEVELOP THE CAPACITY FOR ENGAGING IN ADVANCED LOGICAL REASONING UNTIL INTO THE SCHOOLYEARS
- CHILDREN DO NOT BEHAVE ACCORDING TO THE THEORY

# ALTERNATIVE VIEW

- NONRATIONAL ACTIVITY
- ACTIONS COORDINATED BY ENGAGING IN INTERACTION GUIDED BY (i) SHARING OF AFFECTS AND (ii) PERCEPTUAL ATTENTION
- INTENTIONAL STATES ASSUMED TO BE DIRECTLY PERCEIVABLE, E.G., AFFECTS EXPRESS DESIRE AND EVALUATION, WHEREAS PERCEPTION EXPRESS EXPECTATION, GOAL-INTENTION, AND BELIEF
- PHILOSOPHY, DEVELOPMENTAL PSYCHOLOGY

# WE WILL FOCUS ON NONRATIONAL MODELS IN PHILOSOPHY AND PSYCHOLOGY

- ON ONE HAND, ANALYSE EXISTING DATA
- EXAMINE THEORETICAL FRAMEWORK OF EXPERIMENTS
- EVALUATE EXPLANATIONS OF DATA AND CONCLUSIONS FROM EXPERIMENTS
- PHILOSOPHERS CANNOT CONTEST DATA (given that design is ok), BUT INTERPRETATION ALWAYS EXCEEDS THE DATA: DO THEY FOLLOW?
- ON OTHER HAND, ALSO ANALYSE PHILOSOPHICAL THEORIES, CHECK ASSUMPTIONS AND CONCLUSIONS AGAINST AVAILABLE DEVELOPMENTAL DATA:  
WHAT IS THE BEST EXPLANATION?



# EXAMPLE: Rakoczy et al. on assignment of status function and children's understanding of arbitrary norms

- NORM=DECLARATION OF OBJECT OR ACTION X COUNTS AS Y IN CONTEXT C (John Searle)  
ex. money (paper), stop sign (hand in air)
- Experiment: I'll show you a game called "daxing"! Centred around an object. Children act accordingly and protest against irregular uses of puppet.
- EXPLANATION: 3-year-olds have developed the capacity for shared intentionality

# THE KIND OF QUESTIONS THE EXPERIMENT RAISES

- SHARED INTENTIONALITY
- What does SI involve? How can SI explain the perception of joint intentions and commitment/obligation? How does SI emerge, from what, and why at this point in time in development? How does SI in infants compare to SI in adults? Is SI all there is to NU and RF?
- NORMS
- Are all norms arbitrary and confined to well-defined contexts? What about, e.g., social norms of groups, rules of etiquette, moral norms, traffic rules — some seem motivated by how humans naturally behave in certain environments, others by moral feelings, yet others by biological coordination principles. What do these data say about the general human capacity for NC?

# Ex. littering: different kinds of RF

- You see somebody else litter in a clean place, without thinking start littering yourself
- You care about the environment in general, therefore never litter
- You are a young teenager, you and your friends litter (it is cool)
- There is a law against littering and a fine, and you don't want to pay, so you avoid littering
- Your parents once taught you that it is morally blameworthy to litter
- You feel shame and guilt when people see you litter, so you never litter in public places

# LEADS TO FURTHER QUESTIONS AND SOME HYPOTHESES

## 1) NORMS/RF HYPOTHESES

- NORMS OCCUR ON A CONTINUUM BETWEEN REGULATIVE AND CONSTITUTIVE RULES
- SOMETIMES RF IS OPEN-ENDED AND CHANGES OVER TIME IN RESPONSE TO CHANGES IN ENVIRONMENT (AND CONVERSELY, CHANGES IN RF CAUSE CHANGES IN THE ENVIRONMENT)
- RF REQUIRES DIFFERENT SKILLS DEPENDING ON WHERE ON THE CONTINUUM THE NORM IN QUESTION OCCURS

## 2) DEVELOPMENTAL TRAJECTORY

- IS NORMATIVE DEVELOPMENT PIECEMEAL AND CONSTRUCTIVE OR GOVERNED BY BIOLOGICALLY DETERMINED ONSET OF INDIVIDUAL CAPACITIES?
- DOES IT FUNCTION IN ANALOGY WITH DEVELOPMENT OF NONVERBAL COMMUNICATION AND REFERENTIAL CAPACITIES?
- JUDGING BY THE DIVERSITY OF DATA?

# DIVERSITY OF DATA, MORE EXAMPLES

- SENSITIVITY TO SOCIAL CONTINGENCIES IN YOUNG INFANTS IN FACE-TO-FACE INTERACTION (PROTOCONVERSATION 2-4 months)
- COORDINATION OF BEHAVIOUR, SYNCHRONY, CONTAGION: SAME BEHAVIOUR
- CONFORMITY: SAME ACTIONS (goal-directed)
- UNDERSTANDING OF ACTION AS GOAL-DIRECTED (2nd year)
  - SOME AUTOMATIC AND MANDATORY, OTHER EXPERIENTIALLY BASED, YET OTHER INTERSUBJECTIVELY GUIDED

# HOW DO DIFFERENT FORMS OF RF RELATE: LEVELS OR MODES?

- CONTRASTIVE FORMS OF RF  
DEPENDING ON PROCESS: SENSORY,  
AUTOMATIC versus EXPERIENTIAL,  
INTERSUBJECTIVE versus  
CONCEPTUAL, VERBAL, RATIONAL
- LOW-LEVEL, INTERMEDIATE LEVEL,  
HIGH-LEVEL?
- MODES THAT DEVELOP IN PARALLEL?

# ULTIMATE QUESTIONS

- WHAT IF SOCIAL COGNITION ESSENTIALLY DEPENDS ON NONRATIONAL CAPACITIES THAT EMERGE EARLY IN DEVELOPMENT?
- WHAT ARE THE CONSEQUENCES FOR HOW HUMAN BEINGS PERCEIVE OF THEMSELVES? FOR HOW PEOPLE UNDERSTAND EACH OTHER?
- WHAT ARE THE CONSEQUENCES FOR THE CHOICE OF POLITICAL SYSTEM (democracy entails presupposes rationality), THE RELATION BETWEEN GOVERNMENT AND CITIZENS (e.g., the communication of risk)? ...



WHAT IS IT TO BE HUMAN?

## DIFFERENCE BETWEEN NORMS

- AS IDENTICAL WITH THE ACTIONS THAT EXEMPLIFY THEM

AND

- AS TYPES THAT CAN BE SELECTED FOR DIFFERENT ACTIONS AND GENERALIZED OVER CONTEXTS

# AIM

TO PROVIDE A GLOBAL THEORETICAL  
FRAMEWORK FOR INTERPRETING THE  
VARIETY OF DEVELOPMENTAL DATA ABOUT  
CHILDRENS' UNDERSTANDING OF RULES  
THAT EXPLAIN HOW THEY RELATE TO EACH  
OTHER IN THE COURSE OF DEVELOPMENT  
THUS EXPLAINING THE TRANSITIONS OR  
PROGRESSION FROM EARLY FORMS OF  
RF\* TO LATER (ADULT) FORMS

# DIFFERENT KINDS OF DATA

- INFANTS UNDERSTAND ACTIONS AS GOAL-DIRECTED — BUT NORM-GOVERNED? 16 MTH\*? G&Cs
- 2-YEAR-OLDS UNDERSTAND USAGE-BASED CONVENTIONS OF NOVEL ARTEFACTS Tellogroup Rakoczy
- 3-YEAR-OLDS UNDERSTAND ASSIGNMENT OF CONTEXT-RELATIVE STATUS FUNCTION IN PRETEND PLAY

# **EXPECTED VALUE/SOURCES OF ERROR\***

**OVERCOME DIFFICULTIES IN  
CONTEMPORARY RESEARCH ON  
DEVELOPMENT OF NORMATIVITY  
THAT CONCERN  
INCOHERENCE/INCONSISTENCIES\***

**THE INTERPRETATION OF DATA  
AND EXPLANATORY FRAMEWORK**

# **EXAMPLE: DEFINING NORMS AND TESTING FOR UNDERSTANDING**

## **FIRST, ADOPT A THEORY, THEN**

- **SUPPOSE THAT RULES ARE ARBITRARY AND CONSTITUTIVE**
- **DESIGN EXPERIMENTS THAT TEST FOR UNDERSTANDING OF ARBITRARY RULES**
- **INTERPRET POSITIVE DATA AS DEMONSTRATING AN UNDERSTANDING OF NORMS IN GENERAL**
- **EXPLAIN DATA AS RESULT OF UNDERLYING CAPACITY: COLLECTIVE INTENTIONALITY**

- the question of whether children
- this young really grasp the functions of the objects in the strong
- normative sense (“This is what it’s for,” “This is how it should be
- used”) or whether they are merely tracking statistical regularities
- (“This is how such objects are usually used”).
- objects and actions can also
- have status functions, which are assigned to them as a matter of
- convention only

- In our studies, an adult showed 2- and 3-year-old children
- simple game actions, which they played together for some while.
- A third person (a puppet) then entered and (in the target condition)
- performed an action which was inappropriate given the structure of
- the game (i.e., a mistake). Children's responses to these acts, in
- particular protest and correction, were investigated as indicators of
- their awareness of the normative structure of the game.
- Study 1
- Model phase 1st experimenter performs A1 and A2. A1 is marked as
- "daxing," A2 as an accidental mistake.
- Action phase Child's turn Test phase Max's announcement: "I'm gonna dax now!" Action: A2 :: 3 mistake



# SECOND PROBLEM: DEMONSTRATING A SKILL AND EXPLAINING ITS UNDERLYING CAUSE

According to the adopted theory, the existence of norms depend on a certain capacity in humans: collective intentionality.

As it happens, less than 4-year olds have not developed the cognitive functions that the capacity demands.

?! What to do?

Re-interpret the capacity in other (non-cognitive) terms!

—But then the theoretical framework collapses.

- These findings are, in our view, the strongest evidence to date
- that young children understand the normative structure of simple
- conventional acts involving the creation of status functions.
- That is, early in ontogeny, we find the rudiments of what lies at
- the heart of uniquely human societal and institutional reality: the
- ability to collectively act and treat objects in certain ways, thereby
- assigning functions to them and installing a normative framework
- of appropriate acts and mistakes (Searle, 1995).
- It is clear that from a very early age human
- infants are motivated to simply share interest and attention
- with others in a way that our nearest primate
- relatives are not.

- That is, young children respect the inferential normative structure that
- comes with collective intentionality and status function assignment, as indicated
- in their own actions. But what do they understand about the normativity
- that status functions introduce? Are they really following a rule, or are
- they just acting in accordance with a rule, so to speak? Do they indicate an
- awareness of the normative structure more directly and explicitly as in their
- own acts? Would they not only act correctly themselves but criticize others
- for incorrect acts? This is crucial, as critique, beyond mere surprise, in
- response to incorrect acts is the hallmark of appreciating normative
- structure
- (mere surprise is the appropriate response when there are acts deviant
- from purely statistical regularities). RAK 2007

- A second study investigated young children's (three-year-olds') understanding
- of the context-relative normativity of constitutive rules.
- AND THE QUESTIONS THAT THESE EXPS PROVOKE
- E.g. more kinds of norms
- Norms not contextual!
- 2007:Partly because of this, playing games might not be only the first area
- where children enter into status assignment, but a cradle, zone of proximal
- development, or bootstrap for the development into collective intentionality
- with conventional creation of status and institutions more generally.

- Ontogenetically, human children from their second year on start to
  - enter into such shared pretense and simple rule games. In fact, early pretend
  - play and other games can be considered one of the core areas where children first participate in collective, or “we,” intentionality (“We together
  - play this game”), involving the joint creation of conventional facts (“This
  - piece of wood is the queen in our game of chess”). Playing games is one
  - cradle,
  - or zone of proximal development, for later and more sophisticated
  - forms of collective intentionality and conventionality. This is the rough
  - picture
  - I draw in this chapter.
- 
- Collective intentionality is shared we-intentionality that we ascribe to
  - a group of subjects and is not directly reducible to individual intentional
  - attitudes (e.g., Bratman, 1992; Gilbert, 1990; Searle, 1990, 1995; Tuomela
  - & Miller, 1988; for an overview, see Tollefsen, 2004).

- Det är tydligt att Searles statusfunktioner kräver symbolförmåga i semiotisk mening (två operationer). Men detta är väl något som barn inte har förmåga till innan de kan använda språk? Ännu ett argument för att det ytterst är symbolfunktionen (semiotiken) och inte det sociala som utgör det avgörande villkoret för att ha förmågan till statusfunktionalitet! Jf Searles definition: "Formen för statusfunktioner är; X räknas som Y i situation C, där Y tillför något som inte kan direkt utläsas i X. "Räknas som" är det kollektiva godkännandet som tilldelar X den nya statusfunktionen, trots att X inte fysiskt fullgör Y."

- Nytt:
- In addition, when 2-year-old children observe an adult
- engage in some new activity, saying something like ‘Now
- I’m going to dax’, they not only imitatively learn to
- perform that activity, they also seem to see that activity
- in normative terms as how ‘we’ do dacing. For example,
- Rakoczy, Warneken and Tomasello (submitted) demonstrated
- such a new activity for 2- and 3-year-old children,
- and then had a puppet enter and do it ‘wrong’. Many of
- the children objected in very explicit terms, telling the
- puppet what it ‘should’ be doing, and almost all protested
- to some degree. They saw the puppet’s actions as somehow
- not conforming to the social norm of how we do dacing,
- and they enforced the norm. Social norms – even of this
- relatively trivial type – can only be created by creatures
- who engage in shared intentionality and collective beliefs,
- and they play an enormously important role in maintaining
- the shared values of human cultural groups.

# HOW GO ABOUT IT?

THEORY DEVELOPMENT AND EMPIRICAL RESEARCH MUST GO HAND IN HAND.

WILL EXAMINE TWO MODELS OF SOCIAL COGNITION TO ASSESS THEIR USEFULNESS IN DEVELOPMENTAL CONTEXTS.

LET EXISTING DATA ABOUT CHILDRENS' ABILITIES AND COGNITION INFORM THE INVESTIGATION: WHAT WE KNOW THEY CAN(NOT) DO.

TAKE A DEVELOPMENTAL PERSPECTIVE: CAN THE MODELS EXPLAIN (1) RF AT DIFFERENT AGES, AND (2) THE TRANSITION OR PROGRESSION FROM EARLY RF TO ADULT RF?



- COGNITIVE MODEL  
NORMATIVE CONDUCT AND RULE FOLLOWING ARE RATIONAL, REASON-GIVING ACTIVITIES: RELIES ON DELIBERATION AND LOGICAL REASONING ABOUT THE BELIEFS, DESIRES, PREFERENCES, EXPECTATIONS OF SELF AND OTHER(S), INVOLVES MUTUAL INTENTIONAL STATES, NORMS CAN BE DERIVED BY REASONING ABOUT INTENTIONAL STATES
- NONCOGNITIVE MODEL  
NORMATIVE CONDUCT AND RULE FOLLOWING ARE A MATTER OF PRAXIS: RELIES ON INTERSUBJECTIVITY AND EMBODIED SHARING OF EXPERIENCES IN CONCRETE CONTEXTS OF ACTION THAT MOTIVATE CERTAIN BEHAVIOUR AND SETS A NEGOTIABLE STANDARD, NORMS ARE EMBEDDED IN ARTEFACTS AND THE PHYSICAL LAYOUT OF THE ENVIRONMENT, ARE PERCEIVABLE BY ENGAGING IN SHARED PRACTICE – likaså bels perceivable: kovacs

WILL CONSIDER FOUR POSSIBILITIES

- 1) COGNITIVE MODEL IS CORRECT, AND TO EXPLAIN DEVELOPMENT WE SHOULD LOOK FOR PRECURSORS TO THE CAPACITIES IT POSITS two-stage model: e.g. introduce low-level interpretations of central notions such as mutual knowledge, collective intentionality, we-intentions and explain how lower- and higher-level phenomena relate
  
- 2) NONCOGNITIVE MODEL IS CORRECT deflating norms and normative conduct: e.g. develop theory about norms that seemingly rely on deliberation and agreement as a form of shared practice that can generate correct predictions about adult behaviour

3) COGNITIVE MODEL IS CORRECT FOR ADULTS, NONCOGNITIVE MODEL EXPLAINS HOW RF AND NORMATIVE CONDUCT DEVELOPS IN YOUNG CHILDREN

vertical dual model: overcome divergent ontological and theoretical assumptions of models, explain transition from noncognitive to cognitive mode

4) BOTH MODELS ARE CORRECT: THEY CONCERN DIFFERENT BUT PARALLEL SYSTEMS FOR NORMS AND RULE-FOLLOWING

horizontal dual model: each form has its own progression

- It also needs to be clarified whether the development of an understanding of norms takes different forms, depending on the kind of norm that is considered (rational or epistemic norms, instrumental norms, ethical norms, etc), or on whether the norm is learnt in one culture or environment rather than another, ... and, if so, say, it has a different progression, or alternatively, whether distinctions between different kinds of norms emerge later in development.

# INPUT FROM TWO SOURCES

THEORIES ABOUT SOCIAL  
COGNITION, NORMS, AND RULE  
FOLLOWING IN PHILOSOPHY AND TO  
SOME EXTENT SOCIAL PSYCHOLOGY

DATA FROM DEVELOPMENTAL  
PSYCHOLOGY

# FIRST PROBLEM: THE VARIETY OF NORMS

Are norms arbitrary or motivated?

Is there one kind of norm or several?

ex. driving a car

instrumental: how to achieve pragmatic actions

descriptive: what people generally do

conventional: what people do because it is prescribed by law

social: what people (do not) approve of

moral: don't lie, don't steal, don't kill

...

Is there one underlying skill and so one test for all kinds, or do they require different skills?

How do we know? What are we looking for?

# WHY?\*

- INTERPRETING DATA REQUIRES A COHERENT THEORY ABOUT THE CAPACITIES THAT UNDERLIE THE SKILLS THAT HAVE BEEN DEMONSTRATED
- AND ABOUT HOW THEY RELATE TO EACH OTHER IN THE COURSE OF DEVELOPMENT

# NORMATIVE BEHAVIOUR, UNDERSTANDING OF NORMS, RULE-FOLLOWING

- COORDINATION OF BEHAVIOUR  
minimal sense
- ACTING IN ACCORDANCE TO A  
STANDARD



# PREDICTIONS

- THE COGNITIVE MODEL CANNOT EXPLAIN CHILDRENS UNDERSTANDING OF NORMS