

# Normativity, Representation, Language: Overview of (parts of) the Interactivist Model

Mark H. Bickhard  
[mhb0@lehigh.edu](mailto:mhb0@lehigh.edu)

# Introduction

- I will outline three interrelated realms addressed in the model:
- Normativity
- Representation
- Language

# Three Realms

- Normativity, representation, and language involve levels of *emergence* ultimately grounded in a process metaphysics
- Each level depends on the preceding, and enables the later level(s)

# Three Realms II

- So:
- To begin — a basic shift in metaphysics is required:
- Claim: Process metaphysics is logically consistent and consistent with physics
- While substance metaphysics is neither

# Three Realms III

- Furthermore:
- Process metaphysics enables emergence
  - While substance metaphysics precludes emergence
- Emergence grounds normative emergence (normative function)
  - While substance metaphysics renders normativity a mystery
- Normative emergence grounds representation
  - While substance metaphysics renders it inexplicable
- Which is crucial for the ground of language
  - While substance metaphysics forces false and impossible models

# Three Realms IV

- In interest of satisfying time constraints
- I will focus primarily on the models and their interrelations
- More than on engagements with relevant literature

# Normativity

- Normativity poses a metaphysical problem
- Why?
- Because it doesn't seem to fit with the natural world

# Substance Metaphysics and Some Problems

- Parmenides
  - Democritus
  - Empedocles
  - Aristotle
- Stasis is the default
- Emergence is impossible
- Yields a metaphysical split — a dual metaphysical framework

# Metaphysical Split

- The “natural” world is a world of substance, fact, cause
- There is no ‘room’ for normativity, intentionality, ...
- Can adopt two metaphysical realms — a dualism
  - Aristotle
  - Descartes
- Or attempt a strictly ‘mind’ account of the world
  - Hegel
  - Some contemporary idealists
- Or attempt a strictly ‘material’ account of the world
  - Hobbes
  - Most contemporary philosophers, cognitive scientists, and psychologists

# Metaphysical Split II

- These are the only three possibilities so long as the split framework is accepted — both (sides of the split), or one, or the other
- Would 'like' to reintegrate via emergence
- But this is explicitly blocked by the substance metaphysics that creates the split in the first place

# Process Metaphysics

- A process metaphysics makes emergence possible
  - Back to Heraclitus
- And is consistent with logic and physics
  - Which substance metaphysics is not
- Within a process metaphysics, when we ask ‘what is it?’
  - The answer is not a kind of substance, but, rather
  - What sort of process organization constitutes it
    - Fire, heat, life, ...

# Process, Logic, and Physics

- ‘Logical’ coherence
  - A universe constituted solely in point particles is a universe in which nothing would ever happen
    - They will never hit each other
    - There is nothing to either attract or repel them from each other
    - Fields can “resolve” this problem, but fields already are processes
- Consistent with physics
  - There are no particles, according to QFT
  - Particulars cannot ground spacetime according to mathematics and GR
  - Multiple intrinsically relational phenomena in physics make particularism impossible

# Process and Emergence

- Any process has influence on the world in strong part in terms of its organization
  - Arguments against emergence (e.g., Kim) presuppose particles
  - Which presupposition renders organization not even a candidate for causal influence:
  - Organization is not a substance or particle
  - Thus, emergence is precluded by (substance) background assumptions
  - Begs the question
- Organization has 'causal' import
- So 'new' or different organization can have new or different causality
- *Emergent* causality

# Process and Emergence II

- Arguments that emergence, and normative emergence (e.g., Hume, Kim, ...), are impossible are unsound
- This opens the possibility of constructing a model of *normative* emergence
- Any particular such model is defeasable, and potentially improvable
- But the very possibility of a model of normative emergence is open
  - With the refutation of arguments against that possibility

# Process and Normative Emergence

- Normative emergence requires, first, that emergence per se make metaphysical sense
- Process metaphysics grounds that
- Normative emergence requires, further, a ground for the asymmetry between positive normativity and negative normativity
- Most of physics does *not* provide that

# Thermodynamics

- Thermodynamics does provide such an asymmetry
- In particular, process organizations may or may not be stable/persistent
- And there is an asymmetry involved in different ways that such stability can occur

# Thermodynamics II

- Energy well stabilities
  - E.g., atoms
- FFE stabilities
  - E.g., candle flame
- FFE stabilities require maintenance
  - Energy well stabilities do not
  - Fundamental asymmetry

# Normative Function — thus Normativity

- Contribution to the maintenance of FFE stability is (relationally) functional for that stability
  - Self-organization
    - Chemical bath
  - Self-maintenance
    - Candle flame
  - Recursive self-maintenance
    - Bacteria

# Representation

- Representational normativity — truth value — emerges in certain kinds of function that are universal in all agents
- Agents must (somehow) realize the function of indicating what actions/interactions are available to them
- So that they can pursue some interaction trajectory that is ‘actually’ available
  - Indications of interaction possibility are *anticipative* of what is possible
- Such indications of interaction possibility can be true or can be false
- This is the basic emergence of normative representationality
  - Representing in terms of having truth value, not in terms of correspondence

# Correspondence

- Substance metaphysics have always suggested some form of correspondence model of representation
  - Signet ring (structural); pointing; causal; nomological; indicating; transduction; informational; ....
- None have been able to successfully account for representational truth value
  - How to represent falsely; how to represent something that does not exist
- And none have been able to address *organism detectable error*
  - But without organism detectable error, error guided behavior and learning are not possible
  - So, error guidance and learning refute any model that cannot account for organism detectable error
    - Radical skeptical argument

# Passive Mind — Active Mind

- Correspondence models invite models of passive mind into which correspondences are impressed
  - Signet ring; transduction; ...
- Action based models preclude such passive models
- Interaction systems cannot be “impressed”
- They must be constructed
  - Non-prescient
  - Variation and selection
  - Evolutionary epistemology
- Piaget’s copy argument

# Contact — Content

- Indications of interactive potentialities must be based on contact with the environment being interacted with
- Interactions that differentiate environments serve for such *contact*
- Indications of interactive potentialities based on such contact are anticipatory, and have truth value
- They are the locus of *content*
  - Implicit content: (implicit) presupposition that the environment will in fact support the indicated interacting

# More Complex Representing

- Indications of interactive potentialities can branch
  - E.g., frog with more than one fly/worm as possibilities for tongue flicking and eating
- And also iterate
  - Frog: move to the left, which brings other tongue flicking and eating possibilities into range
- And such branching and iterating indications can form complex webs
- These webs constitute the organism's pragmatic 'knowledge' of its interactive situation — *situation knowledge*

# Representing Small Objects

- Example of a more complex representational kind
  - Toy block
  - Internally reachable possibilities
  - Invariance
  - Piaget — action base
- How about the number three?
  - E.g., represent ‘strategy’ that involves “try three times”
  - Via next interactive level

# Apperception

- Situation knowledge must be maintained and updated
- I call such processes *apperception*
- Perceiving: interacting in support of apperception
- Processes of apperception must, in general, be learned

# Affordances

- Indications of interactive possibilities sound like (one interpretation of) Gibsonian affordances
- To a first approximation, that is correct
- But:
  - Gibsonians in general do not like ‘internal’ organizations such as situation knowledge — they might accept branching, but often not iterations and webs
  - Affordances are usually understood to be discrete, while ‘indications’ are of ranges of potentialities
  - There is no contact/content distinction in Gibsonian theory

# Emergent Representation

- Representation, thus, emerges in the agentively necessary function of indicating interaction possibilities
- Representing emerges in the anticipating of what's interactively possible
  - Pragmatic; future oriented; modal; ...

# Language

- Perceiving cannot be a matter of sensory encodings
- And languaging cannot be a matter of emitted encodings and audience decodings
- Engagement in the world is via interaction, in all cases

# Language II

- If language is constituted in interaction
  - Interaction with what?
    - With other minds?
- Must be so in some sense, but cannot be the proximate locus of interaction
- This would ignore — disregard — the social metaphysics of language

# Language III

- General form of model:
- Language is a conventional 'toolkit' for the construction of interactions with social realities
  - Social realities are constituted as *situation conventions*

# Situation Conventions

- Situation conventions are resolutions of the joint/functionally complementary problem of interactively characterizing social situations among the participants
- Each individual seeks to apperceptively characterize the situation including other agents
- Which includes the other agents' characterization of their situation
- Which includes the other agents' characterization of the 'first' agent's characterization
- Etc.

# Situation Conventions II

- Insofar as there is a mutual interest in arriving at compatible interactive characterizations (which may not exist, or exist in limited form, in some circumstances — e.g., deception)
- This constitutes a Schelling coordination problem
- And solutions, thus, constitute a (modified) Lewis convention about the situation
  - Not only language as conventional, but the interactive realm/locus of interaction is convention
  - Requires model of non-repeated conventions
    - E.g., Characterizations of interactive potentialities mid-utterance, or mid joint construction of a situation convention modification
  - Not just “institutional” conventions that repeat across populations and times
- Thus: situation convention

# Linguistic Situation Conventions

- Interactions with situation conventions may be constructed out of conventional ‘partial’ operators
  - Not necessarily formal/fixed — hermeneutic circle, creative language, language change, etc.
  - Apperceptive, not encoded
  - Gestures, etc. ... interactions with situation conventions do not require conventionalization of the manners of interaction — though those conventionalized tools are very powerful
- At each phase of such ‘partial’ interactions, the range of acceptable ways of proceeding must itself be coherent among participants
- Must form a special kind of convention — a linguistic situation convention

# “Syntax”

- Not all operators can take as ‘arguments’ the contexts created by all other operators
- There are constraints on what can compose with what
- Some constraints are intrinsic; some are conventional; some arise as processing trade-offs
- All support generating a full interaction with/“operation’ on” the situation convention
  - Something like an “inverse” recursive function theory
    - Two kinds of recursion
  - What will compose with what? Echos of categorial grammars
- Such interactions can be jointly constructed by more than one participant in the situation — e.g., splits (Kempson and Gregoromichelaki)
- Syntax in this sense is a kind of dynamic operator well-formedness or well-definedness, but is not a well-formedness of formal strings or of propositions

# Some Consequences

- Syntactical constraints are not formal
- “Utterances” are not representational, and certainly not encodings
  - They are operations on conventions, which conventions are constituted in *relations among* (interactive) representations
- Semantics and pragmatics as in standard definitions do not exist
  - There are sets of criteria for each that do not go together in an operator framework
  - E.g., truth value is emergent/‘resident’ in ‘pragmatic’ *results* of utterances, not in the utterance semantics per se
- Context dependence is universal (not just in indexicals and demonstratives)
  - The results of an operator depend both on context and on the operator

# Conclusions

- Modeling phenomena of normativity, representation, and language requires a shift in background/framework metaphysics
- A shift that makes sense of emergence, and normative emergence
- Resulting models differ in fundamental ways from standard encodingism models of representation, and, thus, of standard models of perceiving, cognition, and language