

# Don't Neglect the Middle Ground, Inspector Gadget! There Is Ample Space Between Big Special and Small Ordinary Norm Psychology

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In her characteristically clear and thought-provoking style, Cecilia Heyes challenged basic assumptions of rich nativist approaches to “norm psychology” and proposed a lean alternative explanation of how humans come to be normative creatures. We agree with many of Heyes’s criticisms of rich nativist accounts. But we think that this well-founded critique neither necessitates nor justifies an account as lean as Heyes’s proposed alternative. We thus argue for two main points in this commentary. First, conceptually, there is ample space between overly rich and overly lean accounts for theoretical approaches that view humans as starting with cognitive structures, capacities, and motivations richer than Heyes’s proposed lean ones but leaner than the rich domain-specific ones suggested by nativist norm psychology. Second, empirically, such third-way theories do indeed capture more accurately the normative capacities in early child development.<sup>1</sup>

According to Heyes, the lean gadget account differs from rich nativist norm psychology in three main respects (p. **XX**): (a) Domain-general implicit processes rather than domain-specific processes (e.g., for norm detection) serve as the starting kit; (b) the domain-general processes track frequencies and outcomes of behavior (i.e., no representation of either intentions, expectations, or norms); (c) explicit processes operate by cultural—not genetic—evolution and are rule-based and norm-specific. However, this way of mapping the logical space overlooks crucial alternatives to the two extreme positions. In particular, we think that one can (and ought to) accept some variants of (a) and (c) without accepting (b) because even early processes (not all of which need to be implicit) clearly go beyond merely tracking frequencies, seeking familiarity and pleasure, or avoiding punishment. In our view, the alleged dichotomy between nativist and gadgetist norm psychology mirrors debates about rich and lean accounts

in other areas of cognitive development, such as theory of mind development. Here, the binary opposition between rich (infants are full-fledged mentalizers; Scott & Baillargeon, 2017) and lean (infants are mere sub-mentalizers; Heyes, 2014) accounts is too simplistic. It misses more differentiated middle-ground alternatives that attribute to infants basic and limited mentalizing capacities, richer than mere submentalizing but leaner than full-fledged adult mentalizing (e.g., Apperly & Butterfill, 2009; Phillips et al., 2021).

Likewise, in the present case of developing norm psychology, there are many ways of spelling out alternatives to Heyes’s minimalist domain-general processes and thus of rejecting Point (b) above. On a broader notion of normativity, for example, even basic individual intentionality (e.g., intentional action, beliefs) involves normative dimensions, such as standards of accuracy (conditions of success, truth, etc.; e.g., Burge, 2009; Hurley, 2003). In this vein, for example, one of Heyes’s collaborators recently proposed that practical intentionality and skills (e.g., toolmaking), with its focus on successful performance, may ground normativity in evolution and development (Birch, 2021). Other accounts have emphasized how capacities and motivations for shared intentionality ground the emergence of truly social and impersonal normativity in development (Rakoczy & Tomasello, 2007; Schmidt & Rakoczy, 2019; Tomasello, 2016; Vaish & Tomasello, 2014). According to such third views, what underlies, drives, and explains the emergence of normativity are ordinary processes (in contrast to domain-specific, modular ones) of individual and shared intentionality. Nonetheless, these simple

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ordinary processes may already involve some appreciation of truly normative matters (conditions of satisfaction, correctness, success, etc.) that go beyond descriptive representations (behavioral regularities) and simple preferences.

On the empirical side, such middle-ground theories do indeed perform better than Heyes's minimalist model when it comes to describing and explaining young children's developing normative dealings in the real world. Using a variety of methods, researchers have found that young children show normative awareness not only in their own actions (e.g., "over-imitation" based on a normative reading of others' actions; for an overview, see Keupp et al., 2018) but also as disinterested third parties who witness and object to others' norm violations (see, e.g., Rakoczy & Schmidt, 2013; Schmidt & Rakoczy, 2018). What this means for young children's imitative actions is that they do not blindly copy behavior or merely seek to receive positive (or avoid negative) sanctions; rather, they show rational imitation, try to "get it right," and do so in highly context-sensitive ways.

Regarding enforcement behavior, ample research has documented that 2- to 3-year-olds engage in selective and context-sensitive norm enforcement, such as considering the validity of (agreed-on) arbitrary game rules (Rakoczy et al., 2009; Schmidt, Rakoczy, et al., 2016), "correct" (but irregular, unfamiliar) use of objects in pretend games (Rakoczy, 2008; Wyman et al., 2009), normative consequences of speech acts (Lohse et al., 2014; Pea, 1982), individual preference versus norm-guided action (Li et al., 2021; Schmidt et al., 2019), presence of harm and free choice (Josephs et al., 2016; Vaish et al., 2011; Yucel & Vaish, 2018), model characteristics (Rakoczy et al., 2010), group membership and type of norm (Josephs et al., 2016; Schmidt et al., 2012; Smetana et al., 2018; Yucel et al., 2020), ownership (Rossano et al., 2011), and entitlements (Schmidt et al., 2013). Many of these studies controlled for regularity and familiarity of the actions performed by adults and puppets and, importantly, varied whether "deviant" actions were subject to normative evaluation, suggesting that early norm enforcement cannot be reduced to a motivation to "restore familiarity" in the environment or to a blind opposition to any "deviant" behavior without contextual understanding of whether the act constitutes a rule violation. Young children do not even wait for explicit teaching but proactively search for minimal cues about potential norms (e.g., intentional actions), for how "we do things" (Schmidt, Butler, et al., 2016). Normative awareness seems to emerge hand in hand with developing capacities for shared intentionality in the second year of life, when toddlers show sensitivity (including "commentary") to how "we act" and

to standards that apply to objects (Kagan, 1981; Schmidt et al., 2019). Together, these early normative attitudes go beyond what Heyes characterized as reflex-like (nonnormative) "compliance" and "enforcement"; they would (and should) count as normative "commentary" because children categorize actions as appropriate or inappropriate in selective and context-sensitive ways.

Overall, Heyes has done the field a great service by sharpening the debate between rich and lean accounts of norm psychology and by charting the logical geography in which opposing views are located. What this makes particularly clear, in our view, is that this logical geography leaves much space for third ways between the extreme positions. One of the many merits of Heyes's target article is that it has very clearly shown how such third ways will need to be conceptually spelled out and empirically tested in future inquiry.

### Transparency

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### Note

1. Inspector Gadget was a 1980s cartoon cyborg detective (see [https://en.wikipedia.org/wiki/Inspector\\_Gadget](https://en.wikipedia.org/wiki/Inspector_Gadget)) who fought with the help of the many (physical rather than cognitive) gadgets installed in his body. Here, we could not resist this pun, primarily for the joke's sake. But upon second thought, perhaps the pun also works beneath the surface in some ways: Inspector Gadget solves complicated cases, performs heroic acts, furthers the general good—but sometimes does so despite (or because of?) neglecting some options.

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