

What Is Missing in the Study of the Development of Jealousy?

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This commentary will emphasize some aspects of the development of jealousy that the previous chapters did not cover, viz., a more complete consideration of the development of jealousy from infancy to adulthood. It takes as a starting point that recent studies are sufficiently convincing in demonstrating the *existence* of a form of jealousy, perhaps manifested in a very rudimentary way, by the middle of the first year of life, but that this discovery, important as it is, leaves many important issues uncovered. For instance, the discovery has little bearing on the distinction between "basic" and "non-basic" emotions. Moreover, these important findings on early manifestations of jealousy must be extended to the study of development of jealousy into older ages, and to the more complex ways by which jealousy can be manifested. We agree with the various authors that jealousy takes place in a triadic interaction involving a target person (e.g., a young infant), a partner (e.g., a mother), and a rival (e.g., a sibling or another child), but that the identification of structural differences in the social organization of events that result in jealousy does not go far enough to explain the generation of the emotion or the ways by which the emotion is manifested. This commentary accepts the assumption that infants must have a cognitive understanding of social relationships, without which they cannot show jealousy; however, to understand the role of cognition in jealousy, we must also understand the development of different behavioral strategies that are used in jealousy encounters, and how cognition plays into those strategies. In sum, this commentary is designed to supplement, rather than to reiterate or criticize, the chapters on which it is based.

Two questions form the heart of our comments on jealousy: (1) What are the roles and functions of jealousy in the social relationships of the young child? (2) Are these functions at all similar to the functions of jealousy in adults?

We will maintain that jealousy does not serve the same set of functions at each point in life. Furthermore, even if jealousy in a young child plays some of the roles that adult jealousy plays, we cannot assume that a child can exhibit the full range of behaviors associated with jealousy in adults. In what follows, we will

elaborate on some of the major ways in which jealousy can be expressed—the different *behavioral modes* of jealousy, as we will call them. Clearly, these behavioral modes of jealousy do not all develop simultaneously, nor are they present from birth. Indeed, there is a need for very important research documenting in what sequence, if any, these behavioral modes become manifest, and how factors related to age, experience, and socialization help bring these behavioral modes online. In laying out these behavioral modes, we also highlight useful, but often neglected, principles of emotion. One is the *goal relevance* of emotions and their manifestation; that is, emotions always follow from a person's goals, and cannot be inferred independently of these goals. A second principle is that of *intentionality*; emotions are always *targeted* toward something—they have an “object,” which in the case of jealousy is a social one. In concluding, we will argue that only when one considers which among the many manifestations of jealousy are shown at a given point in development can one begin to theorize more precisely about the cognitive prerequisites for jealousy.

Emotional Development: A Principle to Keep in Mind

Emotional development is often conceptualized inadequately. A major misconstrual, seen in the literature on jealousy and elsewhere, relates to the tendency to differentiate a “true” emotion from a “proto-emotion.” A classic instance of this misconstrual is in the otherwise-excellent article on the development of disgust by Rozin and Fallon (1987). They delineated a series of steps a child goes through with development to manifest disgust. These steps proceed from the neonate's facial reactions and aversive movements to bitter and sour tastes, continue through avoidance at later ages of ingestion of a fluid within which a child can see floating pieces of plastic feces, and terminate with the child's avoidance of ingestion of a fluid into which the pieces of plastic feces were inserted, but then removed. Although each of these steps produced clear negative reactions in children, Rozin and Fallon stressed that only in the last-described step, at about 7 years of age, is the child's reaction “true” disgust. The authors, in brief, set up an arbitrary criterion—the prior but no longer evident contamination of a foodstuff—to discriminate “proto-disgust” from “true” disgust. A similar categorical division was made by Arnold Buss and colleagues (Buss, Iscoe, & Buss, 1979), who argued that a child could not show “true” embarrassment until the age of 5, because only then did the child have a sense of self sufficiently developed to warrant the attribution of that emotion. Such arbitrary divisions lead investigators to focus on the later-manifested (i.e., “true”) emotion to the neglect of the study of developmental antecedents, or to study the developmentally prior manifestations, without considering linkages to later manifestations. We shall note both tendencies in the review of the jealousy literature that follows.

How should we more appropriately view the development of emotion? We view emotional development using Wittgenstein's (1958) metaphor of a rope. There need be no continuity between one end of a rope and the other, yet the rope is a single entity. The overlapping strands of the rope, proceeding systematically along its length, unify it. Similarly, the early manifestations in the development of an emotion need have no similarity with its adult manifestation. However, each step in development overlaps sufficiently with the preceding and the subsequent ones to provide unity. The major proponents of this view of emotional development have been Mascolo and Fischer (e.g., 1995), along with Barrett and Campos (1987).

What Is Jealousy and What Is Its Importance?

It is tempting to skip definitions, and indeed, some of the preceding chapters do so. For us, jealousy is the emotion evoked when we perceive that a significant relationship is challenged by a third person. Jealousy is distinguished from envy on the basis of the social structure of the interaction. In envy, there is a person who wishes for what another has, and the person who has that which is wished-for; there need be no third party. In both jealousy and envy, the principle of goal relevance comes into play, insofar as there is in both cases something that another has and that the first person wants. To see how pervasive jealousy is in our adult relationships, and how it depends on the personal goal relevance of the interactions involved, we should consider the circumstances in which we do *not* feel jealous. For example, no jealousy can arise in a relationship where the attention and affection of the partner are entirely unimportant to us (thus attesting to the motivational principle mentioned above). The audience watching Shakespeare's *Othello* is not jealous of Cassio were it to think that he had an affair with Desdemona, though Desdemona's husband would be. We might be *envious* of Brad Pitt because he is seeing Angelina Jolie, but we are not *jealous* of him (unless Angelina is a former girlfriend of ours). Neither would we have envy if for whatever reason we did not value Angelina's charms. (We will leave it for a later section of this commentary to elaborate on how critical the principle of intentionality, described above, is for a fuller understanding of jealousy.)

Jealousy is important for many reasons. It is a universal experience, a bitter one, and a potentially violent one as well. The phenomenon is universal because we enter numerous relationships that to a lesser or greater extent are significant to us. In fact, the greater the relevance the relationship has for oneself, the more intense (and hence, the more dangerous) the manifestation of jealousy. For instance, participants reporting greater dependency on their partners also thought they would react more strongly to seeing their partner flirting with someone of the

opposite sex (Rydell & Bringle, 2007). Furthermore, it is unavoidable that we sometimes compete for the attention and affection of those we love, even when they do love us in return. An illustrative case in point is the jealousy young siblings exhibit when fighting for their mother's attention (Miller, Volling, & McElwain, 2000).

Jealousy is important also for its relevance to the evolution of human psychology. From an evolutionary perspective, situations evoking jealousy are more than unpleasant; they constitute threats to the passing on of our genes. Accordingly, Buss and Haselton (2005) characterize jealousy as "an emotion designed to alert an individual to threats to a valued relationship" (p. 506). It is easy to imagine how naïve, unjealous, males were wiped out of the evolutionary tournament by our more watchful ancestors, because the former unknowingly helped raise the offspring of the latter. To secure the survival of one's genes (and not those of another), it was (and continues to be) essential to keep one's female partner for oneself. David Buss and his colleagues (Buss, Larsen, Westen, & Semmelroth, 1992; Shackelford et al., 2004) have provided support for this idea by finding that men were likely to be most upset by imagining their partner engaging in the reproductive act of sexual intercourse with another person. In contrast, women responded that they felt more distress when imagining their partner forming a deep emotional attachment to someone else; for women there was never any doubt that the child was their own offspring and their major concern was the loss of the mate's commitment and protection to another female.

In brief, jealousy has a large impact on our adult lives. The role and the importance of jealousy in young children's social relationships is less obvious—and is even less so in infants. This subtlety accounts, in part, for the neglect of the study of jealousy in early development; yet, the functions of jealousy in early development, different as they are in many ways from those of adults, may nevertheless be extraordinarily important. Surely, jealousy must have enduring consequences, both for child–parent attachment, as well as sibling–peer relationships. The question is worth posing in the context of this handbook: How similar, then, are the functions of jealousy in childhood to jealousy in adulthood, and what role do they play in the organization of the later social relationships of the child?

The Apparent Paradox of Early Jealousy

There is a paradox about the presence of jealousy in the middle of the first year of life, a presence now confirmed by Draghi-Lorenz (this volume, Chapter 11), Hart (this volume, Chapter 4), and Legerstee, Ellenbogen, Neinhuis, and Marsh (this volume, Chapter 9). The paradox is that jealousy should not exist in the first year of life, yet it evidently does.

Reasons for neglecting the study of early jealousy

There are at least two reasons why it had been thought that jealousy should not exist in the first year. First of all, some influential writers on jealousy, such as White and Mullen (1989), do not talk about jealousy in infancy and childhood, preferring to refer to *developmental antecedents* of jealousy, such as sibling rivalry. Presumably, White and Mullen would consider the experimental operations used by those who investigate jealousy in the first year of life to be too rudimentary to infer jealousy, in the manner that Rozin and Fallon (1987) dismissed distaste in infancy as an indicator of disgust, and Buss et al. (1979) dismissed early embarrassment. The second reason is the widespread distinction in emotional development between basic and non-basic emotions (the basic emotions being joy, fear, sadness, anger, distaste, surprise, and possibly others including pride and shame; see Tracy, Robins, & Tangney, 2007). The second reason has as a corollary the belief that basic emotions should be observable in the first year of life but the non-basic ones only after 15–18 months (Lewis, 2000), despite reports of early manifestations of jealousy by Gesell (1906). Both of these objections have had the undesirable consequence of discouraging investigations into jealousy in the first year of life, or worse, implying that jealousy should not be observable in early infancy at all.

There is reason for not putting too much stock in either basis for believing that jealousy should not be observable in the first year of life. We have already addressed the problems with the first issue, that of developmental antecedents, believing that the approach of Mascolo and Fischer (1995) avoids categorical thinking that discourages investigations of phenomena that are not the full-blown manifestation of an emotion. The groundbreaking work by Hart, Draghi-Lorenz, Legerstee, and others has clearly established that emotions meeting the criteria of jealousy are observable by the beginning of the second half-year of life, and possibly even earlier. Infant jealousy is definitely part of the family of emotions designated as jealousy.

The second basis for the neglect of investigations of jealousy in the first year of life—that based on the distinction between basic and non-basic emotions—is harder to deal with. There are many misconceptions about what a basic emotion is and is not. When properly understood, the conceptualizations of two categories of emotion—basic vs. non-basic—in no way should preclude the observation of jealousy in the first year of life. However, in another sense, what are called basic emotions may indeed condition at what age the manifestation of jealousy is evident in the first year of life. If we are correct in making this assertion, the criticism of basic emotions that is both implicit and explicit in the infant jealousy literature is not apt.

Clarifying the distinction between basic and non-basic emotions

To clarify the misconceptualizations about basic emotions and jealousy, we will deal here with some of the inclusion and exclusion criteria that define basic and

non-basic emotions, to ascertain (a) why the basic vs. non-basic distinction should not have delayed the study of infant jealousy, and (b) why there are good ontological reasons for dividing emotions into two rather different sets. We make the second distinction because at times it appears as if research on jealousy blurs a distinction we consider both valid and very relevant for understanding how jealousy is manifest. The inclusion and exclusion criteria we apply to basic emotions are as follows:

- 1 Basic emotions refer to that subset of emotions that (a) show cross-cultural universality in the recognition of their expression; (b) have cross-modal specification (i.e., can be identified in face and voice, and possibly touch and gesture as well); (c) may be evident in phylogenesis, at least among higher primates (Plutchik, 1982); and (d) can be directed to both physical objects and social ones (whereas the non-basic emotions apply only to social encounters, except when used metaphorically). It is clear that there are some emotions that meet these criteria, as well as some that do not; the latter are the so-called non-basic emotions, with jealousy one such non-basic emotion.
- 2 The concept of basic emotions was never intended to imply their emergence in the first year of life, and the emergence of the non-basic only after the first year and a half of age. In fact, the emotion of contempt is a basic emotion (Boucher & Brant, 1981), but contempt has not been reported in the first year of life and may not be evident until the late preschool years or afterward. A simplistic equation of basic with emergence in the first year and non-basic at later ages is not warranted.
- 3 The term basic emotion does not imply that such an emotion is *constitutive* of other emotions, in the fashion that a Mendeleev chemical element is constitutive of a chemical mixture (as hydrogen, together with oxygen, is constitutive of water). Because they are not constitutive, emotions like fear, joy, anger, sadness, etc., are not necessary to generate jealousy.
- 4 Basic emotions *do* enter into emotion blends, by which we mean combinations of emotional responses to a situation. These blends can be sequential or simultaneous. Thus, one can express both fear and anger in close temporal proximity in response to the same transaction. Similarly, joy and contempt go together (e.g., in smugness), as well as surprise with any one or more of the other basic emotions. Scrutiny of the responses cited when young infants are said to be jealous leads us to consider jealousy to be a blended emotion (Hart, this volume; Hobson, this volume, Chapter 13; Legerstee et al., this volume; Rydell & Bringle, 2007). When feeling jealous, a person can simultaneously experience several emotions, like sadness, anger, and shame.

In sum, this examination of what constitutes basic and non-basic emotions leads us to conclude that (1) the term "basic" has unfortunate and erroneous connotations of being constitutive of more complex emotions, (2) that the distinction

between two different classes of emotions is real, though the distinction requires redesignation to eliminate undesirable implications of the terms basic and non-basic, and (3) that for jealousy to be manifest, the responses of what are currently designated as the basic emotions must be available to the child. If we conceptualize jealousy as a shifting between or among various emotional states, some of them "basic," it becomes less paradoxical that jealousy appears to emerge during the first year of life but yet is somehow secondary to the manifestation of simpler (i.e., basic) emotions. We thus caution against the use of findings on early jealousy to challenge a valid distinction between two classes of emotions.

The Behavioral Modes of Jealousy

The goals, feelings, and behaviors of the jealous person will change drastically as his or her appraisal of the jealousy-evoking situation changes. It is this multifarious character of jealousy that prompted Marcel Proust to say: "jealousy is never a single continuous and indivisible passion. It is composed out of an infinity [...] of different jealousies" (Proust, 1989, p. 404). Though Proust's description of an infinite number of jealousies is a bit of poetic license, we do believe that there are multiple and distinct ways by which jealousy can be manifested.

Inspired by Bryson's (1991) notion of "response modes," we define a *behavioral mode* of an emotion as a distinct way in which the emotion is targeted and acted out with the goal of coping with the appraised situation.¹ Importantly, children can show one of the behavioral modes of jealousy without being able to show another. In fact, we argue that the development of jealousy involves describing the developmental order by which the child starts acting out more modes of jealousy and shows a more flexible response to the potentially jealousy-evoking situation (see Masciuch & Kienapple, 1993).

The emphasis on behavioral modes is fruitful in two respects. First, it provides a conceptual framework for studying jealousy in early childhood. Though interesting, we do not find the question of *when* jealousy first emerges to be the most pressing research question. In our view, the answer depends too much on how a particular researcher probes for jealousy, and operationalizes the infant's response as jealous or not. For an incremental science, it is more fruitful to ask in what way jealousy is manifested at different points in development.

Second, knowing the development of behavioral modes in jealousy puts us in a better position for theorizing about the cognitive and emotional capacities present at the different ages. Consider the study by Hobson and his colleagues involving parental reports of a range of emotions in school-aged children with and without autism (Hobson, this volume). For jealousy, but not for other emotions like pity, concern, and guilt, an equal proportion of parents of autistic and non-autistic children reported seeing clear signs of the emotion. All the other social emotions appeared to occur less frequently in children with autism than in

other children of similar age. However, it is hard to know from these data alone exactly what kind of jealous behavior the autistic children exhibited, and therefore we do not know precisely what kinds of behavior we are finding the cognitive prerequisites for.

We now turn to highlighting some of the core behavioral modes of jealousy, and the extent to which they have been noted or ignored in research on early childhood jealousy. In delineating these modes, we take into account two essential issues for the evocation of any emotion: First, what is the goal of the behavior expressing the emotion? Is it to reestablish or to sever the relationship with the beloved other? Second, toward whom is the emotion directed? Is it toward the beloved or the rival? A consideration of these two questions as they pertain to the emotion of jealousy leads to the following five core modes: (1) attempts to restore the relationship with the beloved, (2) hostility toward the beloved, (3) thwarting the rival, (4) hostility toward the rival, and (5) fear, sadness and despair in the face of perceived loss of a valued relationship.

(1) Restorative behaviors toward the beloved

One of the earliest responses infants display in jealous contexts is the attempt to reestablish social interaction with the loved one. It is important to separate such behaviors from hostility directed toward the beloved or rival. Though hostile behaviors may have the overarching goal of restoring the lost or threatened relationship, restorative behaviors as we define them are attempts to confirm or reestablish the threatened relationship with the beloved through non-hostile means.

Masciuch and Kienapple (1993) provide longitudinal data on the progressive nature of infant attempts at restoring the threatened social relationship. Early infant attempts to reestablish the social relationship with the parent are quite primitive, relying mainly on distress cries or reaching toward the parent. Anecdotal evidence of these restorative behaviors may be taking place in Bradley's (this volume, Chapter 10) reports on infant-peer trios, where games of "footsie" and vocalizations are prevalent in the effort of orienting or maintaining the attention of a sought-after partner while in competition with a rival infant.

Empirical findings of increased infant displays of sadness in jealousy-evoking situations may be indicative of the infant's attempt to restore the relationship by creating a situation that is likely to elicit caregiving behaviors by the attachment figure, especially when these sad displays are associated with infant gaze to the caregiver (Hart, Carrington, Tronick, & Carroll, 2004). The gaze of the infant is particularly significant here, as it demonstrates the directedness of the emotional display and distinguishes it from the withdrawn sadness associated with the fifth behavioral mode of despair. Additionally, Volling, Kennedy, and Jackey (this volume, Chapter 17) report that younger infants are more likely than older infants to seek comfort from mothers in jealousy-evoking situations.

