

Cambridge University Press

978-0-521-03133-2 - Language, Learning, and Behavior Disorders: Developmental, Biological, and Clinical Perspectives

Edited by Joseph H. Beitchman, Nancy J. Cohen, M. Mary Konstantareas and Rosemary Tannock

Excerpt

[More information](#)

PART I

DEVELOPMENTAL PERSPECTIVE

Introduction

NANCY J. COHEN

The chapters in this part all discuss developmental processes associated with the interrelation of language, cognition, and behavior. In most of the chapters the perspective of developmental psychopathology is applied to highlight the ways that growth or retardation in one aspect of development can have profound implications for other aspects.

In the first two chapters, Dale and Chaban examine normal developmental processes that may underlie the relation between cognitive, language, and emotional development. The central thesis of Philip Dale's Chapter 1 is that language is a complex tool that is used for emotional and cognitive self-regulation as well as for social communication. Dale begins his chapter by delineating the qualities of language important for socioemotional development that begin to emerge at an early age. These include use of language for categorization, displacement of events from the here-and-now, productivity or creativity, and for intrapersonal and interpersonal functions. Whereas these qualities of language have been accepted as being associated with cognitive development for some time, it is only more recently that their importance for affective functioning has been acknowledged. In particular, current functional theories of emotion have led to a shift away from the view of language and affect as incompatible systems to a view that they are integrated and that language is essential to express and regulate internal states ("internal state language"). Dale also outlines trends in research that have elucidated the developmental sequence of components of internal state language and factors that influence it. By way of illustration, Dale considers the implications of a functional developmental framework in relation to three disorders of development that vary in organismic and environmental etiology: autism, childhood maltreatment, and language and learning disabilities. The chapter ends by raising some issues for consideration in research on intervention.

In Chapter 2, Chaban provides a much needed overview of the development of communication. Going beyond the simple language structures that

Cambridge University Press

978-0-521-03133-2 - Language, Learning, and Behavior Disorders: Developmental, Biological, and Clinical Perspectives

Edited by Joseph H. Beitchman, Nancy J. Cohen, M. Mary Konstantareas and Rosemary Tannock
Excerpt[More information](#)

children normally develop by the age of 3, Chaban traces the growth of pragmatic abilities and the underpinnings of specific pragmatic constructs within various social contexts. Pragmatic abilities are broadly defined as the ability to use language appropriately within a specified social, situational, and communicative context. These abilities depend on higher order cognitive processes, in particular, executive function or metacognitive abilities, as well as social and linguistic knowledge. Through his explanation of pragmatic constructs such as turn-taking, speech acts, topic maintenance, and cohesion, Chaban illustrates how problems in language usage may reflect either metacognitive or linguistic problems or both. This chapter serves as a useful reference for terminology adopted in other chapters in this volume that address causes, effects, and remediation of pragmatic deficits (see chapters by Caplan, Cohen, Gallagher, Hayden and Pukonen, Tannock and Schachar).

Turning to atypical populations, Siegel's Chapter 3 describes a developmental model for systematically observing growth in children with neuro-pathological conditions. Her working hypothesis is that disability in any single developmental domain will affect relatively intact functions from other domains to compensate for or potentiate disability. Siegel distinguishes between primary or innate signs which are a direct expression of the neuro-pathological disorder from secondary or virtual signs of a disorder that represent an adaptation to it and tertiary or epiphenomenal signs that represent a failure in coping with the disorder. She illustrates the use of this developmental approach by mapping the emergence of symptoms, their earliest manifestations, and their later transformations in children with autistic spectrum disorders, attention deficit hyperactivity disorder, learning disabilities, mental retardation, and language disorders. Siegel argues that it is important to adopt a developmental rather than a medical model to chart the simultaneous progression of normal and atypical development. By doing so, early emerging innate signs can be separated from later emerging virtual and epiphenomenal signs, which is critical for early identification and intervention.

Crittenden's Chapter 4 presents the thought provoking view that caregiver-child relationships can have an impact on mental processing of affective and cognitive information, and ultimately on the representational models of reality. In her chapter she explores individual differences in brain structure and maturation and in the process of children's learning to use their minds as that process is inferred from language use in interpersonal relationships. Integrating research on memory systems, she postulates that insecurely attached children, who do not obtain accurate information from their attachment figures, can learn to distrust language. Crittenden illustrates how the child's expressive and receptive language can come to reflect this distortion in relationships, such as by using language to hide feelings or to lie about them. This is contrasted to the situation for securely attached children who can mentally integrate affective and cognitive information. In their day-to-day life securely attached children use language to express feelings, to plan for

Cambridge University Press

978-0-521-03133-2 - Language, Learning, and Behavior Disorders: Developmental, Biological, and Clinical Perspectives

Edited by Joseph H. Beitchman, Nancy J. Cohen, M. Mary Konstantareas and Rosemary Tannock

Excerpt

[More information](#)*Introduction to Part I*

3

the future, and to negotiate and reach satisfying compromises. Throughout the chapter, Crittenden's integrative theoretical view is applied to the analysis of numerous samples of dialogues between mother-child dyads from the preschool years through adolescence.

In the final chapter in this section, Stevenson steps back to take a broad view of the complex transactions between biology, and individual and familial factors to show the bidirectional effects that contribute to behavior disorders. He first discusses the strength and specificity of the relations between language impairments, verbal and nonverbal learning disabilities and behavior disorders, and then considers the nature of the underlying causal mechanisms for the associations. Throughout Chapter 5, Stevenson provides evidence for developmental changes in the relation between the type of behavior problem and language impairment. Accordingly, he proposes that the importance of various mechanisms will likely change with age. The chapter concludes with a preliminary developmental model of mechanisms linking language development and behavior which Stevenson offers for empirical validation.

Cambridge University Press

978-0-521-03133-2 - Language, Learning, and Behavior Disorders: Developmental, Biological, and Clinical Perspectives

Edited by Joseph H. Beitchman, Nancy J. Cohen, M. Mary Konstantareas and Rosemary Tannock

Excerpt

[More information](#)

1 Language and emotion: a developmental perspective

PHILIP S. DALE

Many of the chapters in this volume document a strikingly high, yet less than perfect, comorbidity of language and learning disabilities with a range of behavioral and emotional disturbances. The present chapter, like others in this first part, is addressed to constructing a developmental framework to illuminate this connection, and by extension, the relationship between language and socioemotional development in all children. In particular, the chapter reflects the perspective of a developmental psycholinguist fascinated by a unique and complex component of language, the language of internal states and emotions. It is not a comprehensive review of research in this area, but rather an overview of some key questions, findings, and theories.

For better and for worse, language stands near the core of both psychiatry and developmental psychology. There are a good many reasons for this. Probably the most important is the highly public nature of language, unique among human cognitive functions. Because we can, and do, talk about nearly every aspect of our experience, our lives are permeated with language. Language also serves a central methodological role in both fields, in introspection, in research, and in therapy. Sometimes this misleads us. As Fred Pine (1985) has noted, the overwhelming emphasis on oedipal-level pathology in classical psychoanalytic theorizing is probably due in large part to the fact that at this level and beyond, language is central to the child's mental and social life. Similarly in cognitive psychology, the availability of language for observation and experimentation for a long time blinded us to the extent and importance of spatial and other nonverbal processes. Nevertheless, language is a crucial aspect of human experience, and the focus of this chapter.

THE PUBLIC AND PRIVATE FACES OF LANGUAGE

What *is* language? What aspects of this universal communicative system are distinctively human and distinctively significant for socioemotional development? Four characteristics are most important. The first is that language is a system of *categorization*. Word meanings, grammatical rules, all linguistic structures function as categories that can be used to go “beyond the

Cambridge University Press

978-0-521-03133-2 - Language, Learning, and Behavior Disorders: Developmental, Biological, and Clinical Perspectives

Edited by Joseph H. Beitchman, Nancy J. Cohen, M. Mary Konstantareas and Rosemary Tannock

Excerpt

[More information](#)

information given” (Bruner, 1973). This is obvious for the categories that correspond to nouns, such as *dog* or *woman*, but it is equally valid for verbs (e.g., *walk* and *love*), prepositions (e.g., *in* and *to*), and adjectives (e.g., *green* and *good*). Categories provide us a basis for acting in the future on the basis of the past, even though the past never repeats itself exactly. The challenge for the child learner of language is to perform a leap of induction for each word, a leap from a few examples (a few dogs, a few shades of green, etc.) to a general concept, and to do this 6000 times by the age of 6 (Carey, 1978).

A second distinctive quality of language is *displacement*; we are not limited to the here-and-now, but can talk about persons, objects, and events not present. In this way language unites past, present, and future. A third essential property of language is *productivity*, or creativity. The overwhelming majority of utterances we produce and hear are novel. When we encounter new situations, or have new meanings to convey, we can construct new sentences with reasonable hope that we will be understood by our listeners (or readers). This is possible because among the categories we have acquired in learning language are the patterns, or rules, for constructing and decoding sentences.

Finally, language has both a public and a private face. That is, language has an interpersonal function – as an instrument of social interaction – and an intrapersonal function – as an instrument of cognitive functioning – without any distinct formal marking to distinguish them. This view of language has a long intellectual heritage, but in psychology today is most associated with the name of the great Russian psychologist Lev Vygotsky (1986), whose rediscovery by English-speaking psychologists in the 1960s (Vygotsky died very young, in 1934) transformed cognitive and developmental psychology. Vygotsky emphasized the private, cognitive function of language, and proposed a developmental model of the relationship between the two faces of language. Somewhat oversimplified, his model runs as follows. Cultures transmit tools from generation to generation; not just physical tools such as fire and the wheel, but cognitive tools such as number systems, and above all, language. There is a developmental shift from interpersonal to intrapersonal functioning in the use of these tools. The child can first use language for problem-solving, for example, under direct stimulation from a more competent adult; later he/she can function in this way independently, but necessarily overtly; still later he/she can use language internally. It was Vygotsky who first coined the term “inner speech,” and characterized it as an abbreviated streamlined version of language, a form of cognition which is thinking in pure word meanings. The process of learning new tools at first involves a kind of “scaffolding” (Ninio & Bruner, 1978; Rogoff, 1990) in which adults simplify and structure the problem so that the child can make the small advance necessary to solve it. Vygotsky coined the term “zone of proximal development” to capture the idea that beyond what a child can do on his/her own is a range of problems which can be solved *with* adult assistance.

Cambridge University Press

978-0-521-03133-2 - Language, Learning, and Behavior Disorders: Developmental, Biological, and Clinical Perspectives

Edited by Joseph H. Beitchman, Nancy J. Cohen, M. Mary Konstantareas and Rosemary Tannock

Excerpt

[More information](#)

Now the interesting thing about this set of four distinctive qualities of language is that they have been well accepted for some time for cognitive functioning, that is, for representation and communication about the nonsocial physical world. But the validity of this characterization of language for affective functioning has been much more slowly acknowledged. The growth of this approach is one of the most exciting and fruitful developments in psychology today. It is one component of a “sea-change” in psychology over the past 20 years. Previously there has been an all too strong tendency in psychology, as in our culture more generally, to see affect and cognition, feeling and knowing, as not only distinct, but having nothing to do with each other, except possibly get in each other’s way. Which certainly happens. But the parallels and interconnections between affect and cognition are much clearer now, and this makes it possible to understand the parallel roles of language in the two domains.

FUNCTIONALIST THEORIES OF EMOTION, AND THE ROLE OF LANGUAGE

An understanding of these parallels and connections has emerged in several fields, and with differing terminologies. But one particularly useful perspective is provided by functionalist theories of emotion (Bretherton et al., 1986). Like language, emotions have both an interpersonal and an intrapersonal function. Bretherton et al. (1986) characterize this approach on the basis of three fundamental postulates. First, emotions have evolved as adaptive, survival-promoting processes with intrapsychic and interpersonal functions. Second, emotions have major intrapsychic regulative functions: categorizing and evaluating the meaning of events, and motivating and guiding subsequent behavior. Third, emotions have interpersonal regulative functions, including gaining indirect access to another’s emotional states, predicting future behavior, and masking emotional expression.

Perhaps the most important consequence of such a viewpoint, emphasizing as it does the parallels and potential connections among systems previously viewed discretely, is to identify the integration of cognitive, language, and emotional systems as a fundamental challenge of human development. A vivid example is provided by the research of Bloom and her associates (Bloom & Capatides, 1987; Bloom & Beckwith, 1989). On the basis of observational research on young children’s communication, they have posited a shift from language and affect as incompatible systems to an integrated system. Children in the second year of life can express positive and negative emotions directly, as in laughter and crying, or they can communicate in words when in a neutral emotional state, but they can neither communicate under conditions of emotional arousal nor communicate in words *about* emotions. Furthermore, rate of early language development is correlated with the amount of time spent in *neutral* affect expression; both positive and negative affect displays

Cambridge University Press

978-0-521-03133-2 - Language, Learning, and Behavior Disorders: Developmental, Biological, and Clinical Perspectives

Edited by Joseph H. Beitchman, Nancy J. Cohen, M. Mary Konstantareas and Rosemary Tannock

Excerpt

[More information](#)

8

P.S. DALE

Table 1.1. *A model of the stages of developmental integration*

-
-
1. *Infancy* (Birth to 18 months)
 - Emotion = communication
 - Arousal and desire = behavior
 2. *Toddlerhood* (18 months to 36 months)
 - Language supplements emotion = communication
 - Very initial development of emotional labeling
 - Arousal and desire = behavior
 3. *Preschool Years* (3 to 6 years)
 - Language develops powerful role in communication
 - Child can recognize/label basic emotions
 - Arousal and desire > symbolic mediation > behavior
 - Development of role-taking abilities
 - Beginning of reflective social planning and problem-solving
 4. *School Years* (6 to 12–13 years)
 - Thinking in language has become habitual
 - Increasing ability to reflect on and plan sequences of action
 - Developing ability to consider multiple consequences of action
 - Increasing ability to take multiple perspectives on a situation
 5. *Adolescence*
 - Utilize language in the service of hypothetical thought
 - Ability to simultaneously consider multiple perspectives
-
-

Source: Adapted from Greenberg & Kusché (1993).

are negatively correlated with development. Thus language learning is at first incompatible with the expression of affect.

Thus the developmental task is not simply to manage both systems; it is to integrate them. The potential of integration for the child's emotional life has been captured eloquently by Pine:

As the child learns speech, he can begin to express in a "cooler" medium, in general, what before could be expressed only in action, image, or affectivity (p. 163).

Words provide a moment of recognition and delay in which discomfort over feeling might have a chance of being handled in ways other than denial or immediate discharge through action. Words facilitate coping ... (p. 139)

Similarly, Kopp (1989) proposed that language plays an important role in helping young children understand emotions, especially for negative emotional regulation.

With language, children can state their feelings to others, obtain verbal feedback about the appropriateness of their emotions, and hear and think about ways to manage them ... Especially in pretend play, children use language to describe feelings and share them with others, to sharpen their understanding of feelings, and to act out ways of regulating feelings without fear of sanctions. (p. 349)

Cambridge University Press

978-0-521-03133-2 - Language, Learning, and Behavior Disorders: Developmental, Biological, and Clinical Perspectives

Edited by Joseph H. Beitchman, Nancy J. Cohen, M. Mary Konstantareas and Rosemary Tannock

Excerpt

[More information](#)

Kopp also poses a crucial question, to which we return later: What are the relative roles of caregivers and peers in fostering emotion regulation?

The ideas of Vygotsky, Freud, Pine, and others have been integrated by Greenberg & Kusché (1993) into their “Affective-Behavioral-Cognitive-Dynamic Model” (the ABCD model), which provides a useful organizing framework (see Table 1.1). Like Vygotsky, Greenberg and Kusché assume that the emergence of new skills is largely dependent on adult–child interactions in which the child can develop a growing sense of self-confidence. The two factors which contribute most to this confidence are first, being able to successfully take increasing responsibility for more complex plans of behavior, and secondly, being able to utilize language to express internal states of being (cf. quotation above from Pine, 1985).

THE LANGUAGE OF EMOTIONS AND OTHER INTERNAL STATES

The language of emotions has most often been studied as part of a larger subset of language, typically referred to as “internal state language.” Table 1.2, based on the work of Bretherton and others, illustrates the subcategories of internal state language most frequently studied.

Some investigators have focused exclusively on the emotion lexicon (Ridgeway, Waters, & Kuczaj, 1985), or on the lexicon of desire (subset of volition and ability), feeling (positive and negative emotion), and mental state (Brown & Dunn, 1991), or other subsets. These semantic subcategories are quite heterogeneous, and all findings must be interpreted in the context of the specific definitions used.

Many words of English which can refer to emotions or other internal states have multiple meanings, only some of which are relevant here. For example, the word *like* may refer to an emotional state or a judgement of similarity; the word *blue* to an emotional state or a color; and the word *can* to ability/permission or to a container. For this reason, observational studies of internal state language require careful examination of potential internal state words in context, and parental checklists require the specification of the relevant meaning.

Although the vocabulary of emotions and other internal states is extensive and distinctive, these words have no distinctive grammatical correlate (they include nouns, verbs, adjectives, and adverbs) or pronunciation. Thus this aspect of language is not specifically marked in any way for children, despite the very considerable challenge such words pose. These words are relatively abstract: most of them do not have a clear, consistent, visible referent. Even in those cases which do have a visible referent, such as *happy* and *mad*, it is transitory and somewhat idiosyncratic across individuals. Furthermore, the essence of each word is a categorization across the internal state of other persons as well as the self. Such an act of categorization would appear to

Cambridge University Press

978-0-521-03133-2 - Language, Learning, and Behavior Disorders: Developmental, Biological, and Clinical Perspectives

Edited by Joseph H. Beitchman, Nancy J. Cohen, M. Mary Konstantareas and Rosemary Tannock

Excerpt

[More information](#)

10 P.S. DALE

Table 1.2. *Representative subcategories and examples of internal state vocabulary*

Subcategory	Example items
Sensory perception:	see, taste, hot, ...
Physiology:	sleepy, hungry, sick, ...
Emotion-positive:	love, good, happy, ...
Emotion-negative:	bad, mad, yucky, ...
Affect expression:	cry, kiss, smile, ...
Volition and ability (includes desire words):	wanna, hard, need to, ...
Cognition (mental state):	know, think, wish, ...
Moral judgement and obligation:	should, bad, naughty

require a high degree of nonegocentrism on the part of the child to infer an internal state for another. Research on internal state language did not begin until relatively recently, in part because of the assumption that such nonegocentrism would not be reliably established until the concrete operational period, i.e., the early school years. Finally, the processes that have been posited to enable children to master an enormous vocabulary in the preschool years have little to offer in this area of learning. For example, the taxonomic constraint has been proposed as a pre-existing bias to apply labels to categories of similar objects, and the principle of mutual exclusivity has been proposed as a bias to assume that a new label refers to a new object or set of objects (Markman & Wachtel, 1988). Neither appears to be particularly relevant for internal state language.

Nevertheless, despite these challenges children do learn internal state language, and they begin surprisingly young. Numerous studies, using both direct observation and parent report (Bretherton & Beeghly, 1982; Ridgeway et al., 1985; Bretherton et al., 1986; Brown & Dunn, 1991) have confirmed that emotion and other internal state language emerges late in the second year of life, and undergoes a major expansion during the third year. Ridgeway et al. (1985) have provided norms for 125 emotion-descriptive adjectives for children between 18 and 71 months. Bretherton et al. (1986) provide a set of illuminating examples of internal state language drawn from observational records; most of the examples cited below are taken from this source.

Four particularly interesting trends are apparent in this research. The first concerns the relative order of emergence of the various subcategories of internal state words. Physiological and emotion labels are relatively early to appear, whereas mental state words are among the latest. For example, Ridgeway et al. (1985) report that just seven words are reported to be understood by at least 50% of 18–23-month-olds: *sleepy, hungry, good, happy, clean, tired, and sad*. Mental state words, e.g., *know, think, guess*, have the least in the way of physical correlates. It has also been argued, as will be discussed

Cambridge University Press

978-0-521-03133-2 - Language, Learning, and Behavior Disorders: Developmental, Biological, and Clinical Perspectives

Edited by Joseph H. Beitchman, Nancy J. Cohen, M. Mary Konstantareas and Rosemary Tannock

Excerpt

[More information](#)

below, that these words require a particular level of cognitive development which is late developing.

A second trend of interest concerns the application of these labels to the self as opposed to others. In the earliest stages of production of internal state language, children speak more frequently about their own states than others. As mothers are more likely to be referring to the child's internal state than to their own, this finding may reflect the role of imitation on the part of the children. However, toddlers' ability to label and discuss emotions develops rapidly, and by the middle of the third year, reference to self and others are both common (Bretherton & Beeghly, 1982; Brown & Dunn, 1991; Muchmore, Greenberg, & Crnic, unpublished). Bretherton & Beeghly (1982) traced the emergence of individual emotion words, and observed that production of a given word for self *and* other did not lag far behind production for self *or* other. Such a correlation in emergence is consistent with the view that the concepts of self and other are mutually interdependent, that a conscious sense of self is only possible in alliance with a conscious sense of other. The correlation also highlights the nature of vocabulary learning as categorization across self and other.

A third, related dimension of development was first identified by Brown & Dunn (1991). They distinguished *immediate self-interest* from *sophisticated* utterances concerning desire, feeling, or mental state. The *immediate self-interest* utterances did not imply knowledge of another's internal state; e.g., "want that kitty" and "need another green one." In contrast, *sophisticated* utterances did imply knowledge of another's internal state, typically in the context of attempting to influence or manipulate; e.g., "it's right here, just pretend." Both Brown & Dunn (1991) and Muchmore et al. (unpublished) noted a substantial development from primarily immediate self-interest use of internal state language to sophisticated use between 24 and 36 months.

The emergence of sophisticated use of internal state language strongly suggests an awareness on the part of quite young children that emotions are part of a larger system that includes behavior as well; in short, a simple functionalist theory of emotions. This is confirmed by the results of one of the most striking analyses of Bretherton & Beeghly (1982; also summarized in Bretherton et al., 1986). Twenty-eight-month-old children produced numerous examples of utterances reflecting a causal role for emotion, including

- Antecedents of motion:
 - "I give a hug. Baby be happy."
 - "Me fall down. Me cry."
- Interventions motivated by a negative state:
 - "No cry, Mama. It will be all right."
 - "Wash my hands. They're messy."
- Behavioral correlates of emotion:
 - "I not cry now. I happy."
 - "I laugh at funny man."