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Integrative Themes in Social and Developmental Theories of Self

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Introduction

In this chapter, we seek points of contact between developmental and social psychological theories of the self. This is obviously a formidable undertaking, but we attempt it with the modest hope that a more articulated understanding of the self can be made evident and that the lines of inquiry can be made more clear. At the very least, we wish to begin the process whereby integrative hypotheses would be forthcoming from a consideration of both social and developmental literatures. Such an integration is badly needed. It is hard to imagine an academic division of labor that is more formidable, and at the same time more artificial, than the division between social and developmental psychology. With rare exception (e.g., Brehm, Kassin, & Gibbons, 1981), social psychologists often treat their theoretical categories as if they have no ontogenetic history and no promise of further development. Developmentalists have just recently begun examining the social bases of development and the life-span perspective. We would have ordinarily thought it too trite and obvious to urge that social psychology become more developmental and developmentalists more social, were it not for the obvious lack of communication between the disciplines. Fortunately, there is a growing recognition that a *rapprochement* between social and developmental psychology is required in order to account for human development in context across the life span (e.g., Gergen, in press; Blasi, 1983; Harter, 1983; Pryor & Day, this book).

To make our task more manageable we restrict our attention to two social psychological frameworks for understanding the self, the *objective self-awareness* paradigm (e.g., Wicklund, 1975; Carver & Scheier, 1978) and (what we are calling) the *information-processing approach* to the self. This latter framework includes both the totalitarian ego and the self-as-memory views that owe much to the work of Anthony Greenwald and his colleagues (for reviews see Greenwald, 1980, 1981; Greenwald & Pratkanis, in press). After reviewing the major features of these theoretical frameworks, we attempt to highlight points of convergence with relevant

developmental literatures, perhaps suggesting an outline of what an integrative life-span account of the self might look like. We also report on recent research that we have done on the developmental implication of the objective self-awareness paradigm of social psychology. This can be seen as one example of an empirical test of an integrative hypothesis concerning the self.

It is useful to review briefly one of the most important features of psychological approaches to the self, the distinction between self as *knower*, and self as *object*. This distinction has proven to be quite resilient and viable (Wylie, 1974; Harter, 1983), and it serves as a useful heuristic for clarifying the lines of integration between social and developmental approaches to the self.

The modern rendition of the self subject-object dichotomy is generally attributed to William James (1890/1963), though we may trace the introduction of this epistemological dualism back to Descartes (Broughton, 1980). For James, the self as subject is the *I* as knower, the "pure ego" of personal identity. In contrast, the self as object is an empirical "Me"; it is an abstraction of the features of a person's personal experiences. The empirical Me is the result of taking the self as an object of knowledge and perception. It is the observed self, what is revealed when attention is focused on the self. James was not optimistic about the possibility of developing an adequate account of subjectivity that did not somehow reify the subject-self into a metaphysical "soul" (Broughton & Riegel, 1977). James concluded that there was no substantial self as knower that was distinguishable from our experiences or from the stream of consciousness. Rather, James considered the subjective self to be an attribute of thought itself. Thus, "The thoughts themselves are the thinker" (James, 1890/1963, p. 198). Much more promising for psychological analysis, according to James, is the empirical self, the self as observed and known, as an object of a person's knowledge (self-concept) and evaluation (self-esteem). Thus, "the only way in which subjectivity is anything more than superfluous is as an object, as in the empirical 'me' of the self-concept" (Broughton, 1980, p. 87).

Not surprisingly much of the subsequent research on the self has tended to focus on the self-concept (e.g. Wylie, 1961, 1974). However, a number of contemporary research programs in both social (see Greenwald & Pratkanis, in press) and developmental (e.g., Lewis & Brooks-Gunn, 1979; Bertenthal & Fisher, 1978; Dickstein, 1977; Broughton, 1981) psychology are mounting an assault on the problem of the self as knower. The concern is to develop an account of self that includes not only the more comfortable notion of self as object of knowledge, attention, and evaluation, but one that also includes the more challenging notions of personal agency and control, of self as an active observing process that "establishes the perspective and contextual ground for much of the person's perception and interpretation" (Harter, 1983, p. 295). In short, the challenge is to incorporate agency (I) and structure (me) into a common theoretical

account (Gergen, in press; Broughton & Riegel, 1977, p. 159). The first step, then, is to establish the psychological parameters of the self-as-knower. The information-processing approach in social psychology has been recently incorporating this aspect of the self, conceiving it to be a regulator of memory and personal biography. To this approach we now turn.

Information Processing and the Self

The Self as Memory

According to Greenwald (1981; Greenwald & Pratkanis, in press), the self as knower is very much in evidence in several adult memory phenomenon. Indeed, Greenwald conceptualizes the self as essentially a memory system. In his words "the major function of the self system may be to provide the organization that preserves access to information from the varying distant past" (Greenwald, 1981, p. 202). Two memory effects in particular are thought to reflect the influence of the self-as-knower, namely, the self-generation and the self-reference effects.

The self-generation effect describes those cases where material that is self-generated is more easily retrieved and better recalled than material that is passively engaged (e.g., Bobrow & Bower, 1969; Jacoby, 1978). For example, Greenwald and Albert (1968) showed that subjects are better able to recall their own contributions to a discussion of a controversial topic than they are the contributions of other participants. Similarly, the cued-recall of a concrete noun is facilitated when subjects generate their own linkage of the noun pairs than when the experimenter provides the associative link (Bobrow & Bower, 1969). These and other data (Slamecka & Graf, 1979; Erdelyi, Buschke, & Finklestein, 1977) are interpreted as supporting the proposition that self-generated material occupies a privileged position in memory. According to Greenwald (1981, p. 218), "the self-generation procedures serve to guarantee the availability of a mechanism that must be used in eventual retrieval." It is the self that is thought to serve as the mechanism mediating acquisition and retrieval. How the self is deployed to facilitate the retrieval of self-generated material can perhaps be accounted for in terms of the self-reference effect.

The self-reference effect describes the efficient retrieval of information that is encoded with reference to the self, as opposed to information that is not so encoded. The earliest studies on the self-reference effect were conducted by Rogers and his colleagues (Rogers, 1974; Rogers, Kuiper & Kirker, 1977; Rogers, 1981). These studies typically employed an incidental memory task whereby subjects were asked to determine whether or not trait words were self-descriptive. The dependent variables in these studies were judgment latencies and performance on the unexpected recall

task. The general finding is that self-referent traits are judged more rapidly as self-descriptive than are other-referent judgments, and that self-referent traits are also better recalled. Similar results are reported by Markus (1979; 1981). Markus finds that people who are "schematic" for a trait make self-referent judgments related to the trait more rapidly than they do for other traits, and also more rapidly than do people who are not schematic for the trait (Greenwald, 1981). According to Markus (1977, p. 63), "Self-schemata are cognitive generalizations about the self, derived from past experience, that organize and guide the processing of the self-related information contained in an individual's social experiences."

COGNITIVE PROTOTYPE OR LEVELS OF PROCESSING?

Self-schemas, and the self-reference effects reported by Rogers (1974, 1981) are compatible with either a cognitive-prototype interpretation or with a levels-of-processing view. The cognitive-prototype position assumes the existence of a self-prototype that serves as a touchstone by which trait items are evaluated. If an item represents a "model instance" of the self-prototype (i.e., is self-descriptive), it is judged more rapidly as being a member of the category than if an item is not an instance of the self-prototype. The self-schema may also serve as a retrieval cue during the recall phase of an incidental memory task (Rogers, Kuipers, & Kirker, 1977). The levels-of-processing (or associative elaboration) view holds that tasks that produce the self-reference effect activate a wider network of associations; self-reference provides a basis for "deeper" more elaborate processing. The difficulty with this view, however, is that it does not seem capable of accounting for the rapidity with which self-reference judgments are made, since temporal processing is assumed to increase as a function of elaborate depth (Craik & Lockhart, 1972; Craik & Tulving, 1972; Anderson, & Bower, 1973). It is also unclear whether there is any need to posit the existence of a self-system under the elaborative-depth interpretation (Bower & Gilligan, 1979; but see Greenwald, 1981). And while the cognitive prototype view *does* explicitly posit a self-system, this self does not seem congruent with the self-as-knower. For example, when the self-system is described as "a superordinate schema that contains an abstracted record of a person's past experience" (Rogers et al., 1977, p. 685), and when self-schemata are said to be "cognitive generalizations about the self derived from past experiences" (Markus, 1977, p. 63), the reference is to the empirical self-concept, which is "a cognitive induction from the regular features of self-experience" (Broughton & Riegel, 1977, p. 151). Hence an examiner could distinguish between the rival interpretations by noting that the associative elaboration view explains the self-reference effect by reference to the self as *process* (i.e., as knower), while the cognitive prototype view explains the effect by reference to the self as *structure* (Greenwald & Pratkanis, in press). Once again the duality of the self intrudes.

A COMPUTER METAPHOR

Greenwald and Pratkanis (in press; Greenwald, 1981) have proposed a computer metaphor to account for the duality of self. They argue that the self-as-knower is analogous to the computer *program* (which no doubt has a structure, though it is not available to us through introspection), while the self as object of knowledge, the self-concept, is analogous to computer *content*, the input and output data stored in the computer's memory. As the authors point out the program/data distinction is not a sharp one and, in fact, the self/memory effects may be treated alternatively as process or structure. An adequate theory of the self is only possible when both process and structure assumptions are specified. This is seen most clearly in the concept of self-schema. While Markus (1977), for example, defines the self-schema partly in terms of a prototype induced from personal experience (i.e., as a self-concept), it is also the case that the self-schema *organizes* and *guides* the processing of the self-related information contained in a person's self-experiences. Hence, the concept of self-schemata accommodates *both* the self as knower and the empirical self. The former is akin to the process part of a computer, its format and program; the latter is analogous to data content.

DEVELOPMENTAL IMPLICATIONS

Although the computer metaphor may be an entirely sensible way of characterizing the duality of the self, it may prove to be a difficult one insofar as attempts to render developmental implications are concerned. This is so because the computer, which is the root metaphor of the information-processing approach, does not develop. As Brown (1982, p. 100) noted "A system that cannot grow, or show adaptive modifications to a changing environment, is a strange metaphor for human thought processes which are constantly changing over the life span of an individual." However, even though the metaphor may seem strange, the information-processing approach is nonetheless proving to be an increasingly powerful framework for interpreting development change (e.g., Kail & Bisanz, 1982; Siegler, 1983). Such an approach would need to place the self/memory effects discussed here into an ontogenetic context. According to Greenwald (1981), the self/memory effects have a common explanation. The tasks in which these effects are observed oblige the subject to use the self-system to encode information. Two properties of the self-system, *self-activation* and *ordered access*, are particularly salient. Self-activation refers to the fact that the cognitive organization is not dependent on external stimulation, its content is always available on demand. In addition, some items are more accessible than others by virtue of privileged location. "The organization's activity can be characterized as an ordered search (or activation) of its components; the order is a consequence of the organization's structure" (Greenwald, 1981, p. 224). This defines the ordered access

feature of the self-system. The challenge for developmentalists is to render an ontogenetic account of these features.

Unfortunately, the developmental findings on memory and information processing are not generally interpreted in terms of the self-system, although there are a number of findings that would either seem to implicate the self directly, or would suggest a developmental explanation of adult self/memory phenomena. The literature is relatively clear, for example, that young children do not spontaneously use encoding and retrieval strategies (e.g., Siegler, 1983; Flavell, Beach, & Chinsky, 1966). The poor performance of young children on memory tasks can be attributed to a production deficiency—they do not know how or when to use appropriate memory strategies, although they can be taught to do so. And when children are strategic, their memory performance invariably improves. Hence, we would not expect young children to encode to-be-remembered items with reference to the self (self-reference effect) or to generate material strategically to aid retrieval (self-generation effect). For example, we know that children do not and cannot always produce their own elaborations of to-be-remembered items (Pressley, 1982). When the experimenter provides the elaboration, or otherwise imposes an encoding or retrieval strategy, the memory performance of young children improves (Levin, 1976). Older children, on the other hand, do much better when they generate their own memory strategy rather than use the strategies provided by an experimenter (Siegler, 1983; Pressley, 1982). It could be argued that the developmental differences in strategy use in children may reflect the differential availability of a self-schema for organizing memory input.

REFLECTIVE ABSTRACTION AS AN ONTOGENETIC SELF-MEMORY PROCESS

With development, children not only come to use memory strategies spontaneously, but their knowledge of their own memory abilities, or metamemory, also increases (Kreutzer, Leonard, & Flavell, 1975; Flavell & Wellman, 1977). Knowing how and when to use particular strategies, knowing that strategies can make for efficient learning, knowing how to acquire knowledge about new strategies (e.g., Borkowski & Pressley, 1983), knowing what variables interact in what ways to affect the quality of memory performance (Flavell & Wellman, 1977), may well suggest the emergence of the self-as-knower. Interestingly, the description by Flavell & Wellman (1977) of the development of metamemory resembles not only the development of the "existential self" in infancy (Lewis & Brooks-Gunn, 1979; Harter, 1983), but also the description of self-schemata in adulthood (Markus, 1977), which suggests a common ontogenetic process. For example, metamemory is thought to develop through a process of "reflective abstraction." Knowledge about memory is acquired through

feedback from self-initiated experience. "A child could learn a great deal by repeatedly noting . . . interdependencies among the original input data, his own storage and retrieval activities, and what and how much of the original input gets retrieved" (Flavell & Wellman, 1977, p. 29). Similarly, the so-called existential self is thought to develop through the infant's experience of regular and consistent contingencies between his or her actions and the outcomes they produce (Lewis & Brooks-Gunn, 1979). By noting contingent feedback between actions and outcomes, by noting the interdependence between input, memory activity, and subsequent retrieval, the person can develop "cognitive generalizations about the self," a cognitive self-prototype, which is an "abstracted record of past experience," all of which defines the self-schema (Markus, 1977; Rogers et al., 1977).

AUTOMATICITY AS AN ONTOGENETIC SELF-MEMORY PROCESS

It was noted above that self-activation and ordered access are two processes that seem to characterize the self-as-memory system in adulthood (Greenwald, 1981). We might suggest another integrative theme that may place these features in a developmental context. There are known developmental improvements in the speed of certain cognitive processes such as *memory search* and *perceptual encoding* (e.g., Keating & Bobbitt, 1978). Manis, Keating, and Morrison (1980) have shown that the allocation of attentional capacity may account for developmental differences in basic information processing skills. It is possible that increases in speed are related to increases in the automaticity by which schemes are applied or attentional capacity is allocated. Automaticity of processing may be related (1) to efficiency of speeded information processing (Manis et al., 1980; Chi, 1976), or (2) to maturational increases in the total amount of available capacity (Pascual-Leone, 1970; Case, 1974). According to the neo-Piagetian framework, for example, the amount of operating space required for storage and manipulation decreases as operational automaticity increases. Automaticity reduces the amount of mental capacity required for operation, thus releasing more "mental space" for storage (Case, 1978). We might suggest that *self-activation* and *ordered access* represent the operational automaticity of the self-schema. On this basis, self-relevant trait words (for example) are recalled faster and with greater accuracy than nonself input because self-relevant judgments are executed with greater operational efficiency (automaticity, self-activation) and because more memory is available for its storage (ordered access). In contrast, nonself input requires more cumbersome processing, thus taxing the amount of space available for storage. In our view, the neo-Piagetian approach offers a useful ontogenetic account of adult self/memory phenomena and should no doubt prove to be a productive source of integrative hypotheses for future research.

SELF-ENCODING AND STRUCTURAL DEVELOPMENTALISM

We would like to note two additional points of contact between the self/memory and developmental literature. Studies of the self-reference effect typically employ self-evaluative trait adjectives as memory input. It would be of interest to know whether the development of self-understanding as described by the structural developmentalists (Selman, 1981; Damon & Hart, 1982) is related to the deployment of the self as a memory encoder. Pender (cited in Wickens, 1970), using the release from proactive interference (PI) paradigm, does provide evidence that even young children (age 7) are able to encode words along the Evaluative dimension of the Semantic Differential. Pender did not, however, employ trait adjectives, nor was her study designed to provide evidence for *self*-encoding, though such research is much needed. It is not clear, for example, whether young children who are sensitive to the Evaluative dimension would also encode *self*-evaluative trait adjectives in manner similar to older children and adults. We mention this study not only to highlight the need for self-encoding studies in childhood, but to promote the use of the release from PI methodology (Wickens, 1970). This technique is a reliable, "projective" index of the dimensions along which words are encoded. It is not often used in the self/memory literature, though it should prove to be a valuable weapon for both developmental and social psychologists in their efforts to provide converging evidence for self-encoding.

Finally, a word about "self-environment interaction." According to Greenwald (1981, p. 225), "the pattern of activity within the (self) organization is determined by the interaction of its (relatively fixed) structure and the (relatively variable) structure of environmental input; further, the organization's structure is modified by its activity." This is broadly suggestive of the developmental process of equilibration that coordinates the construction of structural schemes by the dual operation of assimilation and accommodation. Assimilation describes the transformation of environmental information in terms of the structure (e.g., encoding in terms of self-relevance), while accommodation describes the process of structural change in response to inputs. The equilibration process is, of course, the heart of structural developmentalism (e.g., Kohlberg, 1969). By phrasing self-environment interaction in terms of the equilibration process, it is possible to explore additional points of contact between social and developmental literatures on the self. Before we can discuss these themes, it is first necessary to review additional features of adult cognitive functioning that have been thought to implicate the self and to discuss the objective self-awareness paradigm.

The Totalitarian Ego: Biases in Self-Referent Judgments

The *totalitarian ego* is a suggestive term coined by Greenwald (1980) to characterize the self's organization and control of cognitive structures and

personal history. Three lines of evidence are offered in documentation of totalitarian ego functioning, namely egocentricity, benefactance, and cognitive conservatism. Egocentricity is best illustrated by the self/memory effects discussed in the previous section (e.g., Rogers et al., 1977; Bower & Gilligan, 1978; Markus, 1977; Lord, 1980). Information that is encoded with reference to the self occupies a privileged location in memory. The ego is a "self-focused historian," and "the past is remembered as if it were a drama in which the self was the leading player" (Greenwald, 1980, p. 604). Egocentricity is also evident in research reported by Ross and Sicoly (1979), who investigated (in five experiments) not only biases in the availability of information in memory, but also attributions of responsibility for group actions and decisions. They found that a person's own contributions to a joint project were more easily and more frequently recalled than were the contributions of others and that statements attributed to the self were more accurately recalled. Further, they found that people accepted more responsibility for a group product than others attributed to them. Egocentricity in political decision-making has been analyzed by Jervis (1976). Jervis was concerned with the egocentric overperception of a person's self as an influence or a target of influence, or, to use Greenwald's (1980, p. 604) phrase, viewing the self "as the axis of cause and effect." This aspect of egocentricity may provide the basis for an integration with an important developmental literature. For other examples of egocentricity, see Langer (1979) and Brenner (1973).

BENEFACTANCE

Greenwald (1980) compounded the terms *beneficence* and *effectance* to yield *benefactance*, which describes the second type of ego bias. Not surprising, benefactance is the bias of seeing the self as effective and competent. It involves the following characteristics (from Greenwald, 1980; also, Greenwald & Pratkanis, in press): (1) the tendency to recall successes more readily than failures; (2) the acceptance of responsibility for successes, but not for failures; (3) the denial of responsibility for harming others; and (4) "vicarious benefactance," or the tendency to identify with victors and disaffiliate with losers. The benefactant self is self-serving and defensive and, as such, is a "self-aggrandizing historian" who sees the self as the origin of good effects (Greenwald, 1980; also, Bowerman, 1980).

Cognitive conservatism is present in at least two change-resistant processes, *confirmation bias* and *rewriting of memory*. Confirmation bias can be illustrated by three phenomenon: (1) the tendency to select information that confirms a person's hypothesis; (2) the tendency to selectively recall information that confirms a person's beliefs; and (3) the selective generation of arguments supporting a person's opinions (Greenwald, 1980; Greenwald & Pratkanis, in press; also Swann, 1983; Petty et al., 1981). Rewriting of memory is perhaps the most intriguing of the totalitarian ego processes. It has the effect of permitting the contents of

memory to change while simultaneously fostering the illusion that no such change has taken place. This is accomplished by failing to recall, or by misrecalling, earlier opinions, by asserting that inaccurate memories are indeed veridical, and by "rapidly aging new opinions" such that new beliefs are said to be actually longstanding (Greenwald, 1980, p. 607). The principle function of these ego biases (apart from benefactance) seems to be one of maintaining cognitive organization. We believe that certain aspects of totalitarian ego functioning can be ontogenetically grounded with reference to two developmental literatures. Selman's (1980) theory of interpersonal understanding posits an emergence of self in early adolescence that is endowed with active agency and that is seen (by the adolescent) as a manipulator of inner experience. Elkind's (1967) theory of adolescent egocentrism conceives the self to be embedded in a person's own perspective and is, therefore, the "axis of cause and effect" in social relationships. These developmental theories suggest that totalitarian ego functioning is an outcome of social cognitive development, first emerging in early adolescence. These theories also account for the increased self-consciousness of young adolescents, and would hence aid in our understanding of another social psychological approach to the self, the objective self-awareness theory. To facilitate our discussion of integrative themes, it would be helpful to first discuss the objective self-awareness theory before considering further the developmental implications of the totalitarian ego.

Objective Self-Awareness

According to Wicklund (1975; 1979; Wicklund & Frey, 1979; Duval & Wicklund, 1972), the self is a behavior guidance system that becomes activated only when a person's attention is self-focused and inward-directed. That is, some component of the self must become an object of the person's attention before the self can play a role in psychological functioning or have an impact on behavior. The theory assumes that attention can be directed either toward the self or toward some nonself object at any given time, but not in both directions simultaneously. Self-directed attention can be triggered by any number of situations. It can be set off by the intruding presence of a mirror or camera or by a photograph (Duval & Wicklund, 1972; Carver, 1975). It can be triggered by hearing a recording of a person's own voice (Stephenson & Wicklund, 1983), by being in an unfamiliar or unstructured environment (Edison & Fink, 1976), or by being placed in a minority status (Wegner & Schaeffer, 1978). On activation, self-directed attention becomes intensely focused on whatever aspect of the self is most salient. When a selected dimension of the self is the focus of self-directed attention, the process of self-evaluation is initiated. The evaluation process involves the comparison of a person's behavior to a rule or standard. The resulting state is often aversive since people are rarely

satisfied with themselves when they engage in self-evaluation (Wicklund & Frey, 1979). The aversive state can be ameliorated either by avoidance of self-awareness or by "discrepancy reduction," whereby behavior is brought into line with the standard. It is this latter phenomenon that is the focus of much of the research on self-awareness theory (Wicklund, 1979; Duval & Wicklund, 1972). For example, productivity on simple verbal problems (McDonald, 1979) and on a prose-copying task (Wicklund & Duval, 1971) were found to increase in the presence of a mirror. When social standards of helping others is highly salient, altruistic acts are more likely with self-awareness (Wegner & Schaeffer, 1978). Self-awareness has been found to inhibit inappropriate aggressiveness (Scheier, Fenigstein, & Buss, 1974), to increase honesty in test-taking situations (Diener & Wallbom, 1976), and to enhance susceptibility to group control (Duval, 1976). In general, enhanced self-awareness has the effect of minimizing discrepancies between behavior, personal attitudes, and general societal values (Wicklund & Frey, 1979; see Pryor, Gibbons, Wicklund, Fazio, & Hood, 1977).

SELF-DIRECTED ATTENTION AND ROLE-TAKING

Stephenson and Wicklund (1983) attempted to assess the influence of self-directed attention on the ability to take another's perspective. This question was developed in the context of the symbolic interactionist account of the self (for a review, Shrauger & Schoeneman, 1979). According to this view, the sense of self and other is constructed simultaneously during the course of social interaction. "My sense of myself grows by imitation of you, and my sense of yourself grows in terms of my sense of myself" (Baldwin, 1897, p. 7). The "looking-glass" metaphor aptly captures the essential element in the symbolic interactionist theory of the self, that the self is a social construction requiring the ability to engage in social perspective-taking. Self-consciousness is an outcome of seeing the self as an object from the viewpoint of another. In this respect, the mirror manipulations used by Wicklund and his colleagues is a particularly apt analogue of the looking-glass self, where the I observes the Me as an object of reflection, from the perspective of another (Harter, 1983). The symbolic interactionist perspective, then, suggests that conceptions of self and other is a *dual* and simultaneous construction. Hence, a manipulation that increases self-directed attention should have the concomitant effect of improving an orientation to the other's perspective. In their first experiment Stephenson and Wicklund (1979) had subjects perform a role-taking task (Flavell, Botkin, Fry, Wright, & Jarvis, 1968) in the presence or absence of a self-awareness manipulation. In accordance with the theory, self-aware subjects made fewer perspective-taking errors than did the control groups, suggesting that *self-awareness* concomitantly increases awareness of the perspective of others.

This study has important developmental implications. The ability of

children to infer the perspectives of another and to coordinate social perspectives has been shown to follow a developmental progression (Selman, 1980; Flavell et al., 1968; Rosenberg, 1979). It can be argued that knowledge of self cannot emerge in a mature form until the person can disengage his or her own individual perspective from the matrix of other perspectives. The development of self is an individuation process that depends on role-taking ability. Since the self is a dual or bipolar (e.g., self-other) construction, according to the symbolic interactionist school, it is plausible to presume that anything that increases self-awareness would have the concomitant effect of increasing knowledge of others. A sensitive test of this hypothesis would be to make egocentric role-takers self-aware to determine if the ensuing self-directed attention would improve their ability to infer the perspective of another. The examiner could also determine the developmental constraints on the self-awareness-perspective-taking relationship. We have recently completed a study that addresses this issue (Quintana, Lapsley, & Pryor, 1985). We asked children from grades one, three, and five to respond to the "apple-dog" story developed by Flavell et al. (1968) for assessing role-taking ability. The apple-dog story is a privileged information task (see Enright & Lapsley, 1981). The child is first asked to relay a story that is portrayed on a seven-card sequence. The three cards that reveal the motivating condition for action in the story (in this case, an angry dog chases a boy into an apple tree) are then removed, and the child is then asked to relay a story that another person might tell if the other person saw just the remaining four cards. To solve this task successfully, the child must suppress his or her privileged information concerning the motivating conditions for action. Role-taking performance was assessed with four scoring categories, in accordance with the Flavell et al. (1968) methodology.

Self-awareness was manipulated in this study by (1) playing back a recording of the subject's voice and asking the subject to acknowledge it, and by (2) requiring the subject to sit in front of a large mirror while he or she responded to the apple-dog assessment. The control condition was simply the standard role-taking assessment conducted in the absence of the mirror and voice manipulations. The results of this study are summarized in Table 6.1.

When examining the pattern of correct responses in the control conditions across grades, we notice a pronounced developmental trend. As children get older they become more adept at inferring the perspective of another. The more interesting finding is the statistically significant difference ($z = 1.89, p < .05, 1\text{-tail}$) between the mirror and control conditions at first grade for the percent "correct" scores (Categories 1-2). This indicates that the self-awareness manipulations (mirror and voice) permitted otherwise egocentric responders to suppress privileged information and to be more fully attuned to the perspective of another. The difference between mirror and control conditions was not significant at

TABLE 6.1. Percent correct role-taking by condition and grade

Grade	Condition	Role-taking categories*	
		I and II	III and IV
1	Mirror	53	47
	Control	18	82
3	Mirror	75	25
	Control	62	37.5
5	Mirror	67	33
	Control	80	20

*Categories I and II represent role-taking success, III and IV role-taking failures, in accordance with Flavell et al. (1961) methodology.

grades three and five. This probably reflects the fact that self-directed attention conveys little additional role-taking advantage when the child is already at a stage where she can assume the perspective of others with some facility.

These findings are incongruent with the traditional "cognitive deficit" explanation of role-taking failure on this task (Flavell et al., 1966). This view assumes that egocentric youngsters lack the operative cognitive structures that would prevent centration on his or her own cognitive perspective. If the traditional Piagetian interpretation were correct, then the self-directed attention manipulation employed in this study would not have been effective in elevating the perspective-taking ability of egocentric children. But this seems to have been the case. Hence a consideration of the objective self-awareness theory bids us to seek alternative explanations of perspective-taking development on privileged information tasks.

Three explanations seem possible. If we assume the symbolic interactionist view that the self is a bipolar (self-other) construction, then attunement to another's perspective would be seen to improve under conditions of self-focused attention. This is the explanation favored by Stephenson and Wicklund (1979) in their study with college subjects.¹ One alternative explanation is that self-focused attention manipulations serve to remind egocentric responders of their own perspective. According to this view, being reminded of your own perspective helps you to suppress it, while focusing on the perspective of another. If the self is not fully individuated and seen as distinct from the matrix of other selves, highlighting the salience of personal perspective may serve to maintain the distinction between self and other. It allows the divorcing of self from the

¹A modified version of the apple-dog story was employed by Stephenson and Wicklund (1983), which accounts for their observing role-taking errors in college-age subjects. Since it was our intention to pose an integrative research question, we adhered more strictly to established methods in the developmental literature.

general matrix of perspectives, and reminds the subject that his or her own perspective must be suppressed.

A third explanation is that self-directed attention encouraged subjects to perform the role-taking task in accordance with a "standard." The standard in this case is the instruction to relay a story that a naive observer would tell if the observer saw just the four remaining cards in the reduced sequence. This explanation is more in keeping with the objective self-awareness theory. As noted above, self-focused attention has been found to bring behavior in line with performance standards on verbal problems and prose-copying tasks, to increase honesty in test-taking situations, to inhibit inappropriate aggressiveness, and to minimize discrepancies between behavior and general standards of conduct. Whatever the explanation, it is clear that egocentric children possess the competence to assume the perspectives of others. As we have seen, self-focused attention seems to minimize the discrepancy between performance and competence.

This study highlights a benefit to be derived from applying a social psychological theory of the self to developmental phenomena. This attempt at phrasing an integrative hypothesis concerning role-taking development from a consideration of objective self-awareness theory has led us to question a traditional Piagetian explanation of role-taking and to consider alternative explanations. Below we suggest additional integrative themes by linking selected features of the totalitarian ego and self-awareness theory with Selman's structural developmental account of interpersonal understanding.

Self-Awareness, the Totalitarian Ego, and Selman's Structural Developmentalism

We suggested that selected features of the objective self-awareness theory and of totalitarian ego functioning may be amenable to a structural developmental analysis. We have seen that the self-as-knower is largely considered to be an information processor that organizes memories and that fabricates and revises personal history in the service of the ego. Further, we have seen that the self is particularly well deployed under conditions of self-focused attention. In addition, we suggested that the equilibration process may prove particularly useful in developing an integrative framework for investigating the self. We believe that Selman's theory of interpersonal understanding carries us some distance in articulating an ontogenetic context for certain of the self phenomena of interest to social psychologists.

Selman's developmental perspective is grounded in the symbolic interactionist and Piagetian traditions. He argues that interpersonal understanding, which necessarily includes knowledge of self, develops through an

invariant, universal, and hierarchically integrated sequence of stages. Progression through the stages is motivated by a social equilibration process. Thus, according to this perspective

[T]he child is not a passive recipient of what society (parents, education, clergy, etc.) transmits; the young child comes to social experience with a set of immature but continually developing cognitive structures, which provide the means for the reinterpretation (*assimilation*) of social experience at a level that makes sense for the child. At the same time, relevant social experiences that do not quite make sense to the child at a particular level provide the elements for the child to change his or her own organizational structure (*to accommodate*) to one that is more advanced cognitively. The child is enabled thereby to interpret greater complexities of social organization. (Selman, 1980, p. 79, our emphasis)

This perspective on equilibration is thus congruent with Greenwald's (1981) description of the pattern of activity within the self-organization, which is determined by self-environment interaction. We have argued, as noted above, that this self-environment interaction can also be conceptualized as an equilibration process. The development of general structures of social perspective-taking, and more specifically, the development of self-awareness, has been charted across five stages that covers the range from early childhood to late adolescence (see Selman, 1980). Table 6.2 is a brief description of each perspective-taking stage. Of particular interest is the fourth stage, Level 3.

Level 3 marks the onset of early adolescence. The role-taking accomplishment at this level is the ability of the child to assume a third-party perspective. The young adolescent can step outside the dyadic relation and be simultaneously aware of each other's subjectivity. Thus, the adolescent can see herself as both actor and object. She can also assume the perspective of the "average" member of the group and can view self-other interactions from this more generalized perspective. Further, adolescents

TABLE 6.2. Level of role-taking and interpersonal understanding*

Level	Age (years)	Description
0	3-6	Undifferentiated and egocentric perspective-taking
1	5-9	Differentiated and subjective perspective-taking: Awareness of distinction between actions and intentions
2	7-12	Self-reflective/sound person and reciprocal perspective-taking; the emergence of an introspective self and the second-person perspective
3	10-15	Third-person and mutual perspective-taking; concepts of the self as observed and observer, and taking a third-person perspective
4	12-Adult	In depth and societal-symbolic perspective-taking; the discovery of true self-deception and the unconscious as a natural explanatory concept

*Adapted from Selman (1980).

can reflect on their own self-observations of the self. This self-awareness of his or her own self-awareness implies that the young adolescent knows that her or she can consciously monitor his or her own self-experience. This new awareness is thought to explain the increased self-awareness of young adolescents, and their heightened sense of personal agency (e.g., Damon & Hart, 1982). The sense of personal agency is the result of the adolescent's conception of the mind as a processor and manipulator of experience, which makes the powers of self-reflective self-awareness a new mode of self-control. Selman (1980) views the accomplishments of this stage as being indicative of the emergence of a concept of *mind*. In accordance with the Meadian framework within which Selman's theory is partly phrased, the *mind* represents the ability to take a third-person perspective on the self. It is the "self-as-entity," the "observing ego" that monitors thought processes, controls consciousness, and manipulates inner life. "What appears new and striking at Level 3 is a belief in the observing ego—that is, the self-aware self as an *active agent*. This concept of active agency strikes us as a development in the child's own theory critical for a child's feeling of having some control over his thoughts and feelings, even if it is not perfect. For the Level 3 child, the mind (or ego) is now seen as playing an active moderating role between inner feeling and outer actions" (Selman, 1980, p. 104).

The empirical grounding of Selman's perspective-taking levels is based on *methods clinique* interviews with children of different ages. Social dilemmas serve as the basis of the interview. Each interview covers a range of issues related to the child's understanding of psychological processes within people. Empirical support for the sequentiality of social perspective-taking has been demonstrated for early (Selman, 1971) and middle-childhood (Selman & Byrne, 1974). Byrne (1973) has extended the validation into adolescence and early adulthood. Byrne presented subjects at ages 10, 13, 16, and adult (22–30) with perspective-taking dilemmas and open-ended interviews. She found that perspective-taking was significantly correlated with age ($r = .86$). All of the adults in this study were coded at Level 4; 57% of the 16-year olds were at Level 3 (with 21% at each adjacent Levels 2 and 4); 86% of the 13-year olds were at Levels 2 and 3, while 85% of the 10-year olds were at Level 2. Selman (1980) reports longitudinal evidence that attests to the invariant progression of subjects from Level 2 to Level 4. Additional evidence for the construct validity of interpersonal understanding is summarized in Selman (1980).

Selman's model of interpersonal understanding allows us to view several of the social psychological accounts of the self in a new light. The theory suggests a developmental grounding for Greenwald's (1980) totalitarian ego. Totalitarian ego biases manipulate self-relevant information and personal history in order to preserve the organization of the self. In our view, the operation of these self-as-knower features is clearly analogous (and attributable) to the "observing ego" that emerges in Selman's Level 3. The concept of mind, endowed with active agency, permits the adolescent

to monitor intellectual awareness, to be reflectively self-aware, and to have a sense of self-control over thoughts and feelings. In a sense the mind-as-entity, the observing ego, takes on "totalitarian" qualities in early adolescence. As a monitor, as an agent of self-control, the observing ego can intervene to rewrite memory, to age new opinions (e.g., the "I knew it all along effect"), to control memory search in the service of the ego, and to become a self-aggrandizing and self-justifying historian of personal biography. In our view, the features of the totalitarian ego are made possible by the emergence of the third-person perspective characteristic of Selman's (1980) Level 3 perspective-taking. Hence under this interpretation, the totalitarian ego has an ontogenetic history. It is an outcome of social cognitive development and can be located within a stage progression that describes the emergence of interpersonal understanding.

Some support for this view is forthcoming as we examine the "egocentricity" bias of the totalitarian ego, the bias of seeing the self as the "axis of cause and effect" (Greenwald, 1980). Overperception of the self as central to events, as an influence or target, is very much analogous to the adolescent egocentrism phenomenon discussed by Elkind (1967).

ADOLESCENT EGOCENTRISM

Adolescent egocentrism is manifested in two constructions, the *imaginary audience* and the *personal fable*. The imaginary audience is the belief that others are as preoccupied with the adolescent's behaviors and appearance as he or she is about himself or herself. The imaginary audience component is operationalized, at least in Elkind and Bowen's (1979) Imaginary Audience Scale, principally in terms of self-consciousness. That is, the presence of self-consciousness in social situations is thought to represent the operation of the imaginary audience. The second component, the personal fable, involves the person's sense of personal uniqueness and indestructibility. We would argue that these components of adolescent egocentrism offer relatively clear analogs to the totalitarian egocentricity bias (e.g., Greenwald, 1980) and also to certain theoretical claims of the objective self-awareness theory (e.g., Wicklund, 1979). Seeing the self as the axis of cause and effect, defines the egocentric adolescent. Heightened self-consciousness, or to put it differently, increased "self-focused attention" defines the adolescent imbued with a personal fable. Wicklund has argued that a sense of personal uniqueness is one result of self-directed attention, since such attention disengages the self as *figure* from the *background* of social relations and perspectives.

It should be noted that for Greenwald (1980), the egocentricity bias is endemic to the *adult* self-system. According to Elkind (1967), however, the personal fable and imaginary audience constructions are characteristic of a phase of cognitive development in early *adolescence*. A young, formal operator is expected to overcome adolescent egocentrism in the course of

adolescent development—with the consolidation of formal operations and through interpersonal intimacy and role experimentation. The difficulty is only apparent, however, as Elkind (1967) argues that vestiges of these constructions probably continue throughout adulthood. While seeing the self as the “axis of cause and effect” seems particularly pronounced in early adolescence, we are probably never rid of the tendency to make “ego-centric” attributions.

There is an additional theoretical problem to address. By linking the self-effects of interest to Greenwald (1980) and Wicklund (1979) to features of adolescent egocentrism, we are attempting to locate them within a developmental context, namely, the ontogenesis of interpersonal understanding (Selman, 1980). However, adolescent egocentrism, itself, is placed within quite a different theoretical context. Elkind (1967) argues that each stage of Piagetian logical development is characteristic of its own variety of egocentrism and that adolescent egocentrism is the type characteristic of formal operational thought. Hence, the ontogenetic context of adolescent egocentrism is rendered in terms of standard Piagetian development from the sensorimotor stage to formal operations and not in terms of Selman's sequence of interpersonal understanding. In order to integrate adult self effects (e.g., Greenwald, 1980; Wicklund, 1975) with Selman's model of interpersonal understanding, the adolescent egocentrism construct must be capable of translation into Selman's model. This has recently been attempted by Lapsley and Murphy (in press). They argue that the proper ontogenetic context for adolescent egocentrism is not the sensorimotor-formal operations sequence, but rather the *social* cognitive developmental sequence proposed by Selman (1985). For example, they argue that the heightened sense of self-consciousness observed in early adolescence is readily accounted for by Selman's Level 3, which describes the emergence of the third-person perspective, the “observing ego.” They argue further that the personal fable and concomitant sense of uniqueness and “indestructibility” is also a result of Level 3 perspective-taking. This is seen in the increased sense of personal agency that accompanies the self-reflective self-aware state. The increased self-consciousness of the adolescent, who now conceives the mind as an active processor and manipulator of experience, may now lead the adolescent to view the power of self-reflection as the capacity or condition for exerting power in other circumstances as well. Hence, Lapsley and Murphy (in press) emphasize the fact that adolescent construction of imaginary audiences and personal fables are problems of interpersonal understanding, problems associated with the self-reflective capacity to view the self in a matrix of social relations.

In sum, we have argued that totalitarian ego effects and certain features of objective self-awareness, can be located within the developmental progression describing the growth of interpersonal understanding (e.g., Selman, 1980). As evidence of this, we invoked the adolescent egocentrism

construct as an analogy, a construct that has itself been reinterpreted in terms of a stage of social-perspective taking (Lapsley & Murphy, in press).

Summary and Conclusions

We have attempted in this chapter to provide the basis for a *rapprochement* between social and developmental theories of the self. Our strategy was to highlight two social psychological approaches to the self (e.g., objective self-awareness, information-processing), and to then attempt to find points of contact with the developmental literature. Regarding the adult self-as-memory literature, we suggested (1) that this framework may be ontogenetically grounded in memory and metamemory development in children; (2) that a common ontogenetic process, “reflective abstraction,” may underlie the development of metamemory, self, and self-schemata; (3) that the development equilibration process may govern the organization of self-activity (e.g., Greenwald's self-environment interaction), and (4) that the neo-Piagetian approach, and other approaches that address the development of capacity allocation, may provide an explanation of the ontogenesis of the ordered access and self-activation features of the adult self/memory system. We noted a potentially fruitful relation between role-taking and the objective self-awareness theory. We were impressed by the power of Selman's theory of interpersonal understanding for providing a developmental context for the “totalitarian ego” and particularly for the egocentricity bias. We reintegrated the adolescent egocentrism construct so as to give it a *social-cognitive* developmental history, which we subsequently used as evidence for the genetic background of totalitarian ego biases and for aspects of the objective self-awareness theory.

The empirical evidence to support these integrative suggestions is, of course, very meager. We have attempted here to highlight where points of contact might be made between the two literatures and what theoretical translations seem possible. But it would not be inappropriate at this point to outline a research agenda that sets for itself the task of formulating and testing integrative hypotheses. Detailing such an agenda would be a large task, since the field is so vast. We settle, therefore, only on briefly describing a number of projects that we have underway, with the hope that other lines of inquiry would be made more evident in the process.

We have already described a preliminary study that examined the link between self-directed attention and role taking. The next task is to determine if self-focused attribution has a similar salutary effect on egocentric responding across the full range of role-taking tasks and structural developmental domains. We are also employing the release from proactive interference (PI) paradigm to determine at what age children

begin encoding self-relevant input according to a self-dimension. If we could determine a modal age when children begin employing the self-system in memory tasks, we would next want to know the relationship between self-encoding and level of interpersonal understanding. Since the release from PI methodology is not commonly used in studies of adult self-memory effects, and since the method is a particularly useful way for determining how subjects are actually encoding stimuli, we are also employing the technique with samples of college students in order to provide convergent evidence for the self-reference effect. We noted earlier that the totalitarian ego biases would not be evident before the emergence of Level 3 perspective taking. Thus, it would be of interest to know whether such biases are evident earlier in social cognitive development. At what level of development, for example, do children (1) engage in selective recall of success, (2) tend toward a confirmation bias in information and memory search and in responding to persuasion, (3) rapidly age new opinions, (4) see the self as the axis of cause and effect, etc.?

In conclusion, we would like to reiterate our hope that our modest exercise here will help spur the development of theoretical frameworks that will prove more powerful than the relatively isolated approaches to the self that is now characteristic of psychological research. In our view theory-driven integrations provide the best hope of speaking with one language on the fundamental issue of the self.

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PART III

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