

Border Crossings: Points of Contact between Psychoanalysis and Linguistics, Cognitive/Developmental Psychology, and Philosophy of Mind¹

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Introduction

I will follow the hallowed psychoanalytic tradition of beginning with a joke, usually an old, well-worn one: The nations of the world agree to hold a conference on the elephant. The French present a long, romantic, difficult, and obscure paper entitled “L’Amour et L’Elephant.” The Germans present a highly detailed and rigorously documented paper entitled “Die Weltanschauung des Elefanten.” The Israelis present a disorganized, rambling, argumentative paper entitled “The Elephant and the Jewish Question.” This joke echoes a complaint I made to one of the senior analysts at my institute early in my training: that since psychoanalysis was about everything, psychoanalysts thought they had something important to say about everything, that every paper seemed to be about psychoanalysis and X (fill in the blank). And yet, here I am, apparently doing the same.

The complaint to my senior colleague wasn’t unreasonable. The extension of psychoanalytic ideas can sometimes seem to be an overreach, bordering on the comical, as in, for example, a course at the University of Wisconsin entitled “Psychoanalysis and Colonialism,” which seems awfully close to “Psychoanalysis and the Jewish Question.”

Nevertheless, in the academic world, scholarly disciplines do regularly refer to each other. They look to neighboring disciplines to find data to support or disconfirm their hypotheses, to provide metaphors for new hypotheses, and to generally enrich their thinking about their own discipline. This usually occurs in university and medical settings where researchers and scholars regularly meet to investigate border phenomena, those aspects of another discipline that border one’s own.

Unfortunately, such opportunities have been the exception rather than the rule in psychoanalysis. Freud’s determination to stay outside of institutions of scholarship was a fateful decision, one that has cost us dearly, leading to our virtual isolation from the larger academic community. This isolationist trend was there from the beginning as memorialized in a series of letters between Freud and Bleuler from 1910-1925 (I am grateful to Werner Bohleber for directing me to this correspondence). Bleuler was the leader of Swiss psychoanalysis and one of the few international figures in psychiatry who had accepted psychoanalysis. He ultimately resigned from the newly organized

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International Psycho-Analytical Association over its lack of openness to scientific inquiry. That is, he disagreed with Freud's decision that psychoanalysis should develop as a movement, a self-contained community isolated from the rest of the medical establishment.

Writing about this fateful decision in a paper in honor of the 100th anniversary of the birth of psychoanalysis, Arnold Cooper (1984 IJP) wrote:

Our boundaries cannot and ought not to be kept too sharply delineated.... One aspect of our maturity is that there will be increasing difficulty defining the boundary between psychoanalysis and other disciplines. It seems clear that, with increasing speed, psychoanalytic knowledge spills into other fields, and information not psychoanalytically derived, whether about the nature of infant attachment or the biological determinants of anxiety, will be important for the psychoanalyst.... An excessive concern with protection of its boundaries may retard our future development. At a time of rapid growth, and this is such a time, it is a good strategy to keep porous boundaries and to allow our discoveries to define our field rather than to risk that excessively sharp boundary-setting might inhibit discovery.

In the 33 years since Cooper's plea, psychoanalysis has largely remained outside of the structures and norms of academic institutions, unfamiliar with knowledge bases that would have enriched it, unfettered by rigorous academic standards, and cut adrift from the habits of mind that constitute scientific investigation.

The existence of the International Psychoanalytic University is a remarkable corrective on this history, and perhaps the most hopeful sign that our isolation will not continue everywhere. The IPU appears to be the unique fulfillment of Cooper's (1984 IJP) exhortation in his thirty-three year old essay:

We have to build a research establishment. We must establish closer ties to the intellectual and scientific communities.... We must work toward achievement of the full-time analytic school, about which we have dreamed for years.... One might say that psychoanalysis is far too important to be left only to psychoanalysts, it is certainly too important to be confined solely to the conduct of psychoanalytic treatment. The enlightened spread of psychoanalysis in the culture is an obligation in the best psychoanalytic tradition and was part of Freud's bold vision.... The institutes might begin their own eventual transformation by reconstituting themselves as university-like structures...in which the traditional training of the practitioner will be one important pursuit embedded in our broadened research and scholarly tasks.

The IPU, with its undergraduate and graduate programs in psychoanalytic studies, a degree granting university with funded research devoted to psychoanalytic ideas as well as links to other universities and neighboring disciplines, appears to be the realization of Cooper's dream.

Contact with neighboring disciplines helps to set parameters on the hypotheses we generate. The corrective function that data from other disciplines can serve is illustrated

by Freud's erroneous supposition that infant mentation consists of hallucinatory wish fulfillment until the infant finally recognizes its futility for gaining satisfaction of its needs, and "reluctantly" turns to reality for that purpose. All the developmental literature of the last half-century has demonstrated just the opposite: that the infant is, in fact, highly reality-oriented from birth. Of course, Freud cannot be blamed for being ignorant of findings that postdate him by over a century, but it has taken a long time for this knowledge to permeate psychoanalytic circles, and, as I have noted elsewhere, the implications of these findings are still not fully accepted by many psychoanalysts.

Standing apart from relevant disciplines has led to other erroneous assumptions in our more recent history. Following the lead of Kanner and Bettelheim in the 1950's, psychoanalysts tragically told generations of parents that their autistic children's deficits were due to environmental deficiencies in mothering, so-called "refrigerator mothers." This was the standard psychoanalytic belief at a time when developmental psychology already understood that language acquisition, the absence of which was an important diagnostic criterion for autism, was a universal, brain-based, critical period phenomenon in all children. This conclusion was supported by many findings, including the observation that language acquisition occurred universally around age four, within a wide range of intelligence, cultural customs, and parenting styles. Thus, the absence of language would most likely indicate a neurological deficit, not an environmental one. Our ignorance of the basic facts of child development has led to errors that have harmed patients as well as the reputation of psychoanalysis in the popular imagination.

But contact with other disciplines is not a one-way street, where psychoanalysis is on the receiving end only. Psychoanalytic clinicians and researchers are in possession of important data that could never be available to academic researchers who focus on nomothetic rather than idiographic data. Elsewhere, I have argued that the unique data of psychoanalysis, particularly clinical data from very young children, require a reconsideration and reformulation of findings in developmental psychology regarding infant memory, particularly in its relation to traumatic events. That is, the integration of psychoanalysis with other disciplines works in both directions.

In recent decades, psychoanalysts have shown signs of turning outward toward neighboring disciplines. This welcome change begs the question: which disciplines would most enhance psychoanalysis? Freud was ecumenical in this respect, borrowing from the arts and humanities (visual art, literature, mythology, philosophy) as well as medical science (neurology and neurophysiology).

Attention to the arts and humanities has been most fully exploited by various hermeneutic and post-modern schools of psychoanalysis, especially in North America.

These analysts have rejected Freud's metapsychology, and ego psychology in general, as failed projects, and have declared that theory-making itself is a positivist undertaking that should be avoided, insisting that psychoanalysis should concern itself solely with subjective meaning and its novel creation and interpretation in the analytic dyad.

But some of us, like Freud himself, aspire to create a psychoanalytic science, a discipline that fits into an overall science of mind rather than one focused only on aesthetics or hermeneutic subjectivity. We hope to contribute to a conceptualization of how the mind works and develops so as to better help our patients; we are like the mechanic who needs to understand the workings of an internal combustion engine in order to fix the carburetor.

Not long ago, I used the phrase "psychoanalytic science" in reviewing a book for a prominent American psychoanalytic journal, and was reprimanded by its editor because he insisted that I could no longer assume that most readers would agree with characterizing psychoanalysis as a "science." I believe this view poses an existential threat to the continuation of clinical psychoanalysis, at least in North America.

In a 2008 article in the Journal of the American Psychoanalytic Association (JAPA), Redmond and Shulman surveyed 150 highly ranked American colleges and universities. Their goal was to review undergraduate course offerings to see where psychoanalysis appeared in their academic departments. They found six times as many courses that included some study of psychoanalysis outside psychology departments. The courses that contained references to psychoanalysis were offerings on film, gender and queer studies, media, and mythology. In these courses, psychoanalysis was treated as a "form of reading" with no mention of it as a form of treatment. Redmond and Shulman reported that the material of these courses was steeped in Lacanian or post-modern thinking, with psychoanalytic terminology used in a manner that would be unfamiliar or jarring to psychoanalytic clinicians. Sadly, psychoanalytic ideas were rarely found in courses in psychology departments, and where they occurred, there were virtually no references to psychoanalytic thinkers beyond Freud and Lacan. There was little mention of how psychoanalytic thinking had evolved in the post-Freudian era, a view shared by the popular American press as evidenced by writing in the NY Times, the New Yorker, and the New York Review of Books, where psychoanalysis is almost exclusively identified with Freud's work rather than as an ongoing, evolving discipline.

A 2006 JAPA review of introductory psychology textbooks by Park and Auchincloss found similar results: references to psychoanalysis failed to characterize its central contributions, or described it as lacking scientific merit. The one topic that has made it into psychology departments and the popular press, attachment theory, has been

understood in the most superficial behavioral terms, without any awareness, as I have written elsewhere, that the richness of the attachment construct and the research that supports it, is based on assumptions regarding unconscious fantasies and defensive maneuvers in very young children.

I am curious to learn whether this is so in German colleges and universities, but clearly the situation in America is such that psychology departments do not introduce psychoanalytic thinking to their students because their professors, like the general public, believe that psychoanalysis is an old-fashioned, “unscientific” option for treating psychological problems. In this context, a recent issue of JAPA (2016, #3) has been devoted to a consideration of the crisis regarding the very legitimacy of psychoanalysis as a discipline, beginning with a target paper by Otto Kernberg and Robert Michels on psychoanalytic education.

Thus, I believe that we do not have the luxury to dispense with scientific inquiry in psychoanalysis, the kind of inquiry that naturally seeks dialog with those disciplines whose empirical research can enrich our thinking and set appropriate parameters on our theorizing. In my opinion, the future of the psychoanalytic project, at least in North America, depends on progress toward the establishment of a scientific discipline, one with its own unique database to offer. Thirty-three years ago, Cooper (1984 IJP) wrote “Even if we do not feel impelled by our scientific and theoretical curiosity, we might respond to the demands of a society that will not forever allow us to practice clinical psychoanalysis without evidence of its efficacy.”

Tonight I will try to illustrate some points of contact between psychoanalysis and other disciplines whose findings have the potential to enrich our thinking and to support our claims to having established a scientific endeavor. These other disciplines, linguistics, cognitive and developmental psychology, and contemporary philosophy of mind, have been in dialog with each other rather intensely at least since the 1960’s, and their findings have converged on a set of overlapping assumptions and data which point to some shared conclusions. I will try to illustrate how their shared assumptions and findings open up non-trivial points of contact with psychoanalysis, often helping to shore up our claims from multiple directions.

Much of the impetus for current thinking in these disciplines owes its motivation to the work of the linguist Noam Chomsky, who, beginning in the late 1950’s, offered his theory of generative transformational grammar as a challenge to both structural linguistics and behaviorist psychology. I entered graduate school in linguistics in the 1970’s, around the same time that I entered my first psychoanalysis. The encounter with unconscious aspects of my mind, though remarkable, nevertheless seemed fully

compatible with the view of mind held by linguists who were then in thrall to Chomsky's ideas. The Chomskyan revolution significantly affected a remarkable number of disciplines, obvious ones like cognitive and developmental psychology, but even music theory was affected, as demonstrated by Leonard Bernstein's 1973 Harvard lecture series which included lectures on "Musical Phonology," "Musical Syntax," and "Musical Semantics," modeled on Chomsky's notion regarding the three major components of all human language. Over time there has been some convergence regarding mind and mental processes, and that is what I wish to highlight tonight, by illustrating several overlapping assumptions that constitute points of contact between psychoanalysis and these disciplines.

The capacity for sophisticated out-of-awareness mentation

Psychoanalysis has been intimately tied to language, especially in its early years where the importance of enactment was not yet understood. However, psychoanalytic writers have generally assumed that language consisted of words and their meanings. Though word meanings are of greatest interest to psychoanalysts, this component has been perhaps the least interesting aspect to linguists, for whom the study of syntax and phonology have been more useful in generating hypotheses regarding human mentation. Findings in these two domains provide significant support for seminal assumptions in psychoanalysis, particularly with regard to out-of-awareness mentation.

Chomsky's work and that of his colleagues provided empirical support for the notion that much of mental processing occurs out of awareness as evidenced by the obvious fact that by age four, children, regardless of differences in geography, culture, or parenting styles, manage to acquire the basic phonological and syntactic rules of their native language without instruction or conscious awareness. (In contrast, the acquisition of the semantic component of language, that is, vocabulary, continues over our lifetimes, and occurs via more ordinary processes of learning.) These ideas were put forth at a time when the notion of mind, let alone out-of-awareness mentation, was still under attack in academic settings.

In the US, psychology since the 1920's had been dominated by the behaviorist model as exemplified in the work of psychologists like John Watson and B.F. Skinner. This view had emerged partially in reaction to the Gestalt psychologists' previous interest in introspection and mental phenomena. The behaviorists called a halt to investigations into the "black box" of mind, declaring that only behavior that was observable and measurable was of any value; mind was an irrelevant construct.

From the first, there was grumbling about the impossibility of accounting for human or even animal behavior without making reference to mental events, including motivation and the inherent nature of each species. However, the final death knell for behaviorist psychology, and for the empiricist tradition in which it was grounded, was sounded in 1959 by Noam Chomsky. In a brilliantly argued review of Verbal Behavior, Skinner's attempt to account for language, Chomsky demonstrated that language acquisition and use could never be adequately accounted for by behaviorist principles. Taking a rationalist stance, Chomsky criticized Skinner's view that the child is essentially a "tabula rasa," and that language could be accounted for by principles of contingent reinforcement. Instead, Chomsky proposed that infants must be genetically endowed with hypothesis-testing mechanisms that allow for the rapid, automatic character of the language acquisition process. Despite the ensuing years of debate in linguistics regarding the accuracy and details of this proposal, Chomsky continues to maintain the evolutionary uniqueness of the human capacity for language:

A newborn human infant instantly selects from the environment language-related data, no trivial feat. An ape with approximately the same auditory system hears only noise. The human infant then proceeds on a systematic course of acquisition that is unique to humans, and that demonstrably goes beyond what any general learning mechanism can provide, from word learning to syntactic structure and semantic interpretation. (Berwick and Chomsky 2016, p.98.)

Chomsky proposed that the study of language was part of a larger investigation into the operation of all higher mental functions, like perception, memory, and reasoning. Thus, his work ushered in the so-called "cognitive revolution," and academic psychology returned to an interest in mind.

The opportunity for collaboration with psychoanalysis was now possible, but still some years away. The proven existence of sophisticated out-of-awareness mental processing would certainly have supported Freud's proposals regarding a psychoanalytic unconscious, and the notion of unconscious fantasies in very young children, had psychoanalysts been aware of that research. Given my own training in linguistics, it appeared quite reasonable to attribute, for example, oedipal fantasies to four year olds when by that same age they had managed to acquire without instruction, the phonological and syntactic systems of their native language.

The epiphenomenal nature of observable behavior and the role of errors in revealing underlying mental processes

Psychoanalysts and academic researchers alike are faced with the same epistemological problem: how can we know the subjective mental states of others when all we have access to is their manifest behavior? This is true for an adult on the couch as well as an infant in a crib.

Chomsky had provided the metaphor of the child as a little linguist: The child must discover the rules of the linguistic system into which she has been born by testing innate linguistic hypotheses, derived from what he called universal grammar, against the language data she hears until she generates an approximate adult grammar of her language. On this view, children's errors are important because they provide clues about the kinds of hypotheses children are testing. For example, errors such as "childrens," "goed" and "wented" could not be the result of imitation, which behaviorists had assumed to be a powerful explanation for language acquisition. Instead, such errors indicated that children had inferred, for example, the general rules for English plurals and past tense, but they had not yet learned that there were exceptions to those rules. Thus, what manifestly appear to be errors are in fact indicators of rule-governed, out-of-awareness processes at work.

This notion is analogous to Freud's principle of psychic determinism and his interest in parapraxes. Similar to linguists' interest in errors, Freud had argued that parapraxes were errors that gave insight into the unconscious motivations of his patients. Elsewhere, I have argued that parapraxes result when an unconscious fantasy is activated as an individual is faced with circumstances that are analogous to an earlier trauma. For example, after a female psychiatry resident relocated her training to live with a man she had dated for some years, he summarily ended the relationship, and she was forced to find other housing to complete her training before returning to her home state. Her outpatient work required that she write her name in a space that said "therapist" on a slip of paper that her patients gave her from the admissions desk. In her own treatment, she reported that she continually kept "misreading" the word "therapist" as "the rapist." She quickly realized that this parapraxis represented her conscious belief that she had been violently abused by her former boyfriend; nevertheless, the "misreading" continued to overrule her conscious awareness for many months. Over time, we came to discover that her recent traumatic romantic experience was an analog for an episode of childhood sexual abuse in which she had also felt "tricked" into following a man to "his place," where she was vulnerable to his sexual advances. Thus, an unconscious fantasy regarding that first traumatic experience was manifest in an epiphenomenon, a parapraxis, which revealed underlying mental processes.

The epiphenomenal nature of observable data and the difficulty of discovering its latent meaning underlies disputes regarding the relation between psychoanalysis and infant research. Analysts like Peter Wolff and Andre Green have insisted that adult analytic data are privileged over infant observational research because patients can report on their affects, conscious fantasies, and dreams, while infant research is based only on behavior. The strong version of this argument cannot be true. One can only claim direct access to adult patients' affects and unconscious fantasies if one believes that a

patient's manifest presentation in words or behavior represents subjective experience that can be taken at face value. However, most of our training is focused on teaching principles of decoding manifest presentations to get at the "real" meaning. We speak of derivatives of unconscious fantasies precisely because we do not have direct access to them, and it is clear from our collegial disputes that we often disagree about how to understand patients' subjective experience from clinical data. More importantly, subjective states of intention, desire, and affect are not evident to patients themselves, who often disavow or distort them. Dreams and fantasies all demand interpretation from manifest data via principles of clinical inference. The same is true for infant researchers, who must also subject manifest behavior to an inferential process, as is the case in the analysis of young children.

As psychoanalysts, we have much to offer academic psychology regarding the epiphenomenal nature of observable data. Studies of attachment were first published in academic journals, not psychoanalytic ones, and their findings were limited to the interpretation of manifest behaviors. In an early article by Alan Sroufe and his colleagues published in a developmental journal, the authors struggled to explain the behavior of avoidantly attached children: those who show no overt distress when their mothers leave them alone with an experimenter, and avoid or rebuff their mothers when they return. Based on their manifest behavior, Jerome Kagan, a developmental psychologist at Harvard, had previously pronounced these children to be "precociously independent." Yet Sroufe and his colleagues demonstrated that, despite their observable indifference to their mothers' leaving and returning, these children's heart rates spiked when their mothers left the room and when they returned. Mary Ainsworth had previously documented that the mothers of avoidantly attached children were unempathic and rejecting when their children sought them out in distress. In their article, Sroufe and his colleagues struggle to explain the fact that these children "appeared" unperturbed while their hearts raced with anxiety. Their conclusions seem strained and incoherent; because their work was published in an academic journal, they could not make reference to psychoanalytic constructs like unconscious fantasy, conflict, and defense.

While the academic literature on attachment suffered from ignorance of such psychoanalytic constructs, psychoanalytic accounts suffered from lack of attention to the actual nature of the maternal-child dyad. Developmental research on attachment theory has provided insight into how mis-attunement and lack of empathy can result in early cumulative trauma, yet for a long time, the psychoanalytic community rejected this research because it was based only on "behavior." Yet, given the findings from Sroufe and Ainsworth, it should have been obvious to a psychoanalytic reader of this literature that the manifest behavior of the avoidantly attached children provides stunning evidence of organized defensive activity at the age of twelve months,

indicating that the mental capacities that underlie defense formation are present even earlier. That is, the manifest behavior of avoidantly attached children can be seen to reveal underlying defensive processes, a seminal proposal in psychoanalytic theory.

The competent infant

The issue of “what does the infant know and when do they know it” has always been paramount in psychoanalytic theorizing. As early as 1942 Ives Hendrick questioned the picture of early infantile experience that psychoanalysis had generated,

...Some analytic portrayals of the actual infant seem far more the projection of analytic theory and adult passions than scientific observation....what does require our attention is the frequency with which our conclusions concerning infancy imply the untenable assumption that the unconscious mental life of the adult (or of the post-infantile child) is a replica of the infant's experiences. (PQ)

Lampl-de Groot (1939, IJP) had called this the “transporting back” fallacy. Hendrick argued that the need to do things, to master the environment via sensory, motor, and intellectual means is at least as important as pleasure seeking mechanisms during the first two years of life, functions Freud referred to as ego instincts, though he never elaborated them.

Oddly enough, it has been the common view of both behaviorist psychologists and Freudian psychoanalysts that the infant is essentially a tabula rasa. For psychoanalysts, this view necessitated the belief that the all-important ability to differentiate self from other, and inner from outer reality, took at least 36 months to accomplish, in accord with Mahler's timetable. In contrast, Chomsky's proposals regarding infants' innate linguistic ability and the developmental research that followed, had demonstrated infants' sophisticated capacities for perceptual discrimination. By the 1970's, some of this thinking had permeated even psychoanalytic circles, rendering Mahler's account highly improbable.

This was Daniel Stern's conclusion after reading the research literature in developmental psychology. His investigations into what cognitive and developmental psychologists were calling the “competent infant” led him to differ with Mahler's findings. He argued against the presence of undifferentiated, merger states as characteristic of normative infant mentation, concluding that when such states appeared in older patients, they could not be due to regression to some earlier normative infant state. The presence of undifferentiated or symbiotic states represented neither normal infant mentation nor a deficit in the ability to move from merger to separation; rather such states represented desired ways of being-with-an-other. Contrary to long-held psychoanalytic beliefs regarding infant mentation, developmental research suggested:

- Infants are highly reality oriented from birth; in fact, they are pre-designed to discriminate between self and other, and inner and outer reality, from the earliest days of life.

- Thus, symbiotic and self-object ties cannot be a regression to an earlier undifferentiated phase, but are rather adaptive or maladaptive developmental constructions; that is, their appearance in either children or adults indicates the presence of defensive maneuvers.

Since the 1970's there has been an explosion in infant research by both academic and psychoanalytically informed infant researchers. In a recent comprehensive review of the developmental literature on concept formation, Carey (2009) suggests that evolutionary selection pressures favored our ability to understand others, and endowed humans with "core cognition," which includes innate knowledge of concepts such as agents, their goals, their communicative interactions with each other and the physical world, their attentional states, and causal potentials. Developmental research indicates that infants are intentional agents; as Carey (2009) notes, they "form mental representations with symbolic content, and their behavior is goal directed, and mediated by their representations of the world."

Anecdotal evidence for very early visual and auditory memory appears in the simple act of the infant's recognition of its mother's face and voice. But there is abundant research evidence for early memory capacity, including what appears to be pre-natal memory: that is, newborns are able to recognize a Dr. Seuss story when it is read aloud to them by their mothers in the third trimester of pregnancy, and they are able to differentiate between two different Dr. Seuss books (DeCasper and Fifer 1980). Meltzoff (1990) concludes "there is a kernel of some higher level memory system right from the earliest phases of human infancy."

In the experimental literature on infant cognition, we find evidence for object representations by 2 months of age, for comprehension of intentional agency by 3 months, and for representations of causality by 6 months of age. For example, three-month-old infants can distinguish video figures that act as either Helpers or Hinderers with respect to another video figure struggling to climb a mountain; infants prefer Helpers, demonstrating that very young infants can identify and interpret others' goals (Hamlin, Wynn, and Bloom 2010).

Elsewhere I have argued that psychoanalytic researchers and practitioners have demonstrated that pre-verbal memory exists for both cumulative and discrete trauma, that such memories can be represented symbolically in bodily sensations and behavior in later childhood and adulthood, and when expressive language develops, it too can be recruited to represent these autobiographical experiences.

The notion of a "competent infant" with robust perceptual and recall capacities is also relevant to a philosophical issue regarding what has been called "theory of mind." In

recent decades, philosophers (Dennet 1987, Fodor 1987, 1992, Block 1986, Chalmers 1996) along with developmental psychologists have been investigating the nature and origins of our ability to attribute mental states to others. This work has focused on the “intentional stance” as an evolutionary adaptation that helps to predict the behavior of other agents. As noted earlier, Carey (2009) argues that even young children are “belief-desire” psychologists who attribute desires, beliefs, goals, and emotions to others as explanations for their actions.

These philosophical investigations underlie the work of Fonagy and his colleagues regarding “mentalization.” They argue that favorable conditions of mothering help the infant come to understand interpersonal behavior in terms of mental states, that is, to attribute thoughts and affects to self and others. Fonagy and his colleagues claim that the capacity for mentalization or reflective function is critical for the development of self-organization and affect regulation. It stands to reason that the ability to mentalize others necessitates the ability to distinguish inner from outer reality, and internal mental processes from interpersonal events. Fonagy and his co-authors have proposed that an understanding of self and others as mental agents grows out of interpersonal experience in primary relationships between the ages of two to five.

An alternative view is represented by Carey’s (2009) proposals regarding infants’ innately endowed “core cognition.” On this view, the capacity for mentalization is present at birth, but can be distorted for defensive reasons due to threatening experiences in the maternal dyad. Fonagy’s view represents a “competent infant,” while Carey’s view, if correct, represents a highly “competent infant.”

I have suggested that dialog with border disciplines can set parameters on psychoanalytic theorizing. Thus, the current view of the “competent infant,” one with an innate ability to register and represent (conscious or unconscious) subjective experience, in combination with abundant infant research demonstrating the infant’s early, acute capacity for perceptual discrimination (e.g., Carey 2009, Daniel Stern 1985, Erreich 2003) may pose a significant challenge for psychoanalytic theories which espouse so-called “primitive mental states” (e.g., Grotstein 1980, Bromberg 1996, Caper 1998, Ogden 2016) or “unrepresented,” “unformulated,” “unsymbolized” experience (e.g., Daniel Stern 1997, Levine 2012, Diamond 2014). Rather, both research and clinical findings regarding the innate capacity to register and represent subjective experience, and the later capacity to verbalize it, suggest that the presence of fantasies of split or merged objects, “empty” minds, or other distortions of subjective and objective reality, are defensively motivated, and arise as the result of parenting experiences after birth, rather than being characteristic of inborn infant mentation. It seems fair to say that there is a burden on the shoulders of theories that claim the

existence of such states to specify their nature in a manner that does not violate our growing knowledge of infants' mental capacities.

“What’s past is prologue” (The Tempest)

One of Freud’s seminal discoveries has been that, as aptly noted by Faulkner, “the past is never dead, it’s not even past.” Often unknowingly, our histories re-enact themselves in small ways and in grand, overarching trends in our lives. Fortunately, there is ample research in cognitive and developmental psychology to support this seminal psychoanalytic assumption, one that has been mocked as a quaint anachronism in some quarters.

Contemporary memory research has shown that autobiographical memory appears to be organized along networks of associations representing admixtures of content that is both in-and-out-of-awareness. Freud fortuitously stumbled into this finding with his technique of free association. He discovered that discrete traumatic events, those stored in declarative memory, could be unconscious but still influential in his patients’ lives. What about cumulative trauma, events stored in procedural memory that are so much the fabric of relatedness in the mother-infant dyad, that they are not recalled as discrete events but as ways-of-being?

In order to systematically investigate implicit/procedural memory networks, researchers have employed a technique called priming. Priming is a procedure that indicates whether previous exposure to some stimulus influences an individual’s subsequent judgment or behavior. Priming studies demonstrate that individuals can be influenced by stimuli that they are unaware of when the stimuli are presented either subliminally, that is, below the level of conscious awareness, or supra-liminally, but masked or altered.

For example, subjects are subliminally primed with the word “dog”; then they are asked to press a button when they recognize that sets of letters flashed on a screen represent an actual word. Subjects who have been primed with the word “dog” respond significantly faster to words like “terrier” and “poodle” than subjects who have not been primed (Westen 1999). Despite no awareness of the subliminally presented word, the subjects are hyper-alert to words that are part of the associative network of the prime “dog”; the priming procedure renders words representing dog breeds more accessible.

Priming effects show robust durability over time even for rather trivial stimuli. In one remarkable finding, subjects were asked to identify fragments from black and white line drawings, some of which had been presented to them in a lab 17 years earlier, and some of which were new (Mitchell 2006, reported in Stoycheva, Weinberger and Singer 2014). Recall rates were significantly higher for previously seen fragments than for

novel fragments, even in those individuals who reported no memory of the lab experience 17 years earlier. Mitchell (2006), who performed these experiments, argues that implicit memory is “an invulnerable memory system that functions below conscious awareness,” which leads other researchers to conclude, “implicit memory -- like the dynamic unconscious -- is timeless” (Stoycheva et al., p.107). Priming effects have also been implicated in models of PTSD because traumatic events appear to act as robust primes, they have rendered individuals hyper-alert to elements reminiscent of those original traumatic events (Ehlers and Clark 2000).

For purposes of psychoanalytic theorizing, we would want to know how early in life children are able to encode events in memory to allow for priming effects, so that we can generate accurate hypotheses regarding the effects of both discrete and cumulative trauma on infant experience. Surely traumatic events are likely to have more salience for babies than neutral ones.

The behavior of avoidantly attached children in the Strange Situation provides evidence for the encoding of cumulative trauma, that is, on-going defects in maternal attunement and empathy in the mother-infant dyad within the first year of life, and its later recall at 12 months in the Strange Situation. Early object relational patterns “prime” infants to seek out or re-create those kinds of object ties in later life.

Bernstein and Blacher (1967) present clinical evidence for the encoding of discrete traumatic events and priming in very young infants. The youngest case, Laura, was born with hydrocephalus that required several painful surgical procedures at three months. The hospital was undergoing renovation, resulting in constant loud banging during her pneumoencephalogram; she awoke screaming and terrified. At 28 months, Laura became terrified at the sound of hammering from next door and would awaken frightened from naps. She explained “man is knocking....in the hospital the man knocked my head off,” reminding her mother about the construction work during her procedure. When questioned further, Laura responded “man stuck me in the tushie and knocked my head off,” indicating that the procedures had hurt her head. Here we have evidence of the priming effect of sounds that accompanied a discrete traumatic experience encoded in declarative memory at three months of age.

Coates (2015) presents additional clinical material from children who experienced discrete traumatic events at ten months and twelve months. She also describes the fascinating case of a two-year-old boy who had been traumatized by his mother’s grabbing him by the neck and shaking him during her rages, until she finally brought her son for treatment. During the treatment, which terminated at age eight, he reported a “weird feeling” when his guinea pigs fought, adding that his neck would get “hot and

cold.” This boy returned to Coates 14 years later at age 22 for help with a strange symptom: whenever he watched violent scenes on TV or film, his neck would feel weak and he felt he had to put his hands around it to hold it up, a posture identical to what his mother had done to him twenty years earlier. Here we have evidence of a discrete traumatic event encoded symbolically in somatic sensations and behavior by a two-year-old boy.

Thus, we have evidence that very young infants are able to encode cumulative trauma in procedural memory, to encode discrete traumatic events in declarative memory, and with the onset of expressive language, to add verbalization to the somatic and behavioral representation of these experiences. All these capabilities allow very young children to be “primed” by past traumatic experiences, which can be then be re-awakened when they are faced with analogous circumstances in the present.

It is not a trivial matter to find experimental evidence that supports one of the seminal claims in our field, one that is frequently attacked as an outmoded shibboleth: that is, that the past matters because it contours our present-day lives, and that the power of the priming phenomenon for both declarative and procedural memory is robust and long-lasting.

Border crossings and points of contact

Scott Page, professor of complex systems, political science, and economics at the University of Michigan, argues in favor of diversity in organizations. He observes that when faced with complex problems, people who think in the same ways will get stuck in the same place, while people who think differently may be able to come up with a novel solution. He suggests that breakthroughs in science come from teams of bright, diverse people, and that interdisciplinary work is the most important trend in scientific research.

We psychoanalysts have been far too jealous of our autonomy. I believe our survival depends on a willingness to engage meaningfully with other disciplines. To quote Cooper’s (1984 IJP) thirty-three year old plea, “psychoanalysis is far too important to be left only to psychoanalysts, it is certainly too important to be confined solely to the conduct of psychoanalytic treatment.”