

Sexual Differentiation of Childhood Play: A Contemporary Psychoanalytic Perspective

Richard C. Friedman · Jennifer I. Downey

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Abstract Freud (1905/1953) anchored his theories of unconscious psychological functioning in observations and inferences about childhood sexuality. These ideas remain influential among psychoanalysts today. Much progress subsequently occurred in extra-psychoanalytic research in human sexuality. This included the discovery in 1959 of an entirely new area of psychology: the sexual differentiation of behavior (Phoenix, Goy, Gerall, & Young, 1959; Wallen, 2009). The observations that led to this new field originally concerned the effects of androgen administered prenatally to non-human animals. This early research was compatible with later studies of humans as well. Prenatal androgen influences both erotic and non-erotic behavior, including childhood rough-and-tumble play (RTP). We have previously emphasized the need to integrate this psychoneuroendocrine knowledge with psychoanalytic theory and practice (Friedman, 1988; Friedman & Downey, 2002, 2008a, 2008b). In this article, we discuss additional aspects of the relationship between sexually differentiated childhood play, particularly RTP, and gender differences in psychosexual development and functioning. These topics and other aspects of the sexual differentiation of behavior have been under-emphasized in psychoanalytic thought.

Keywords Androgen · Childhood · Play · Prenatal · Sexuality · Psychoanalysis · Unconscious

Introduction

This article concerns childhood play and, more specifically, the need for psychoanalysis to revise its theories of psychosexual development in light of extra-psychoanalytic knowledge about childhood play. Although the literature on childhood play is substantial, important questions about its origins, function, and significance for psychoanalytic theory remain to be explored (Fonagy & Target, 1996; Freud, 1920/1955; Mahon, 1990; Mayes & Cohen, 1993; Sandler, Kennedy & Tyson, 1980; Winnicott, 1953, 1967).

We discuss rough-and-tumble play (RTP), which occurs much more frequently among boys than girls. In considering the origins and significance of RTP, we discuss aspects of gender psychology as well. In so doing, we do not distinguish between the terms sex and gender. We follow the usage suggested by Maccoby (1998) and recommended in a standard text (Golombok & Hines, 2004). We do not assume that “sex” is biologically determined and “gender” socially constructed. Understanding the origins and consequences of RTP is fundamentally important for psychoanalysts. The reasons:

- (1) It is a form of behavior that results from prenatal effects of androgen on the organization of the embryonic brain, a neurobiological phenomenon unknown to Freud (1905/1953, 1940/1964b). Discovery of the prenatal organizational effects of sex steroid hormones and of their pubertal and post-pubertal activational effects marked the beginning of a new field of psychology—the sexual differentiation of behavior (Phoenix, Goy, Gerall, & Young, 1959; Wallen, 2009). Since psychoanalytic psychology was originally rooted in theories of childhood sexuality and psy-

R. C. Friedman
Department of Psychiatry, Cornell/Weill Medical College,
New York, NY, USA

R. C. Friedman (✉)
225 Central Park West, #103, New York, NY 10024, USA
e-mail: rcf2@columbia.edu

J. I. Downey
Department of Psychiatry, Columbia University College of
Physicians and Surgeons, New York, NY, USA

choanalysts regularly consider and discuss childhood sexuality, understanding this more recently understood area of behavior will enhance their work.

- (2) RTP is part of a developmental pattern of other behaviors, including sex differences in toy preferences during early childhood. Considered as a group, boys innately prefer weapons, trucks, and cars and girls, as a group, innately prefer dolls (Hines, 2004a). Differences in the play styles of boys and girls during mid-childhood contribute to gender-segregated play, a universal behavioral tendency among children (Fabes, 1994; Maccoby, 1998). The innate tendency toward RTP among boys is at its peak during the same age range of childhood as when gender-segregated play occurs (Pellegrini & Smith, 1998). The occurrence of these two phenomena during the same stage of life has important consequences for psychoanalytic theory and practice.
- (3) The tendency toward RTP may influence the status that boys have in male peer groups between ages 6 and 11–12 or so. Status, in turn, may influence gender-valued self-regard (pride vs. shame about one's masculinity). It may influence relationships between boys and also between the sexes in other ways as well. It may also influence interpersonal relationships and reactions across the generations, especially within families. Ultimately, then, the tendency toward RTP may be part of developmental sequences and patterns of behavior that include the construction of personal narratives (Friedman, 1988; Kryatzis, 2000; Nicolopoulou, 1997; Nicolopoulou, Scales, & Weintraub, 1994).
- (4) The innate tendency toward RTP is often embedded in gender-role behavior. We think that gender-role behavior, gender-valued self-esteem, male–male peer relationships, male–female relationships, as well as intrafamilial relationships may all be influenced by neurobiological factors unknown to Freud and not part of present psychoanalytic theories of psychosexuality (Friedman & Downey, 2008b).

Descriptive Aspects of Rough-and-Tumble Play

Rough-and-tumble play refers to wrestling, grappling, rolling about vigorously, bumping chests, and pushing. It is a high-energy activity and involves bodily contact. Sex differences in frequency of RTP between ages 3–1/2 or so and 11–12 are substantial (DiPietro, 1981; Eaton & Yu, 1989; Hines, 2004a; Hines & Kaufman, 1994; Maccoby, 1988, 1998). Most studies of RTP have been of children in free play during school recess.

Pellegrini and Smith (1998) reviewed research in this area and concluded that RTP accounts for 3–5 % of free play in pre-school children, about 10 % in 6–11 year-olds, and only about 5 % in 11–13 year-olds and 3 % in 14 year-olds. Although the

exact percentages of time spent on RTP and related activities, including body-contact sports during various phases of childhood, has not been quantitatively assessed among large numbers of boys and in population-based representative samples, the consensus among developmental researchers is that the inverted U type of distribution observed by Pellegrini and Smith seems to be valid. RTP increases among boys during the latter half of childhood prior to puberty, roughly at the same time as the tendency toward gender-segregated play emerges (Friedman, 1988; Maccoby, 1998).

Boys participate in RTP more frequently than girls in naturalistic settings in all cultures studied (DiPietro, 1981; Maccoby, 1998; Smith & Connolly, 1980). Studies have been carried out during an age range from toddlerhood through middle childhood when there are no significant sex differences in blood androgen levels. The robust behavioral sex difference in RTP cannot be attributed to the increased size and physical maturity of boys, presumably under the influence of androgen, since it occurs when there is virtually no androgen in the blood. During this phase of development, girls actually tend to be taller than boys. At the same period, they are less prone to vigorous exercise and particularly RTP (Eaton & Yu, 1989; Pellegrini & Smith, 1998).

Many researchers and scholars who have studied RTP in non-human animals and children have concluded that RTP is not a form of fighting, but rather an exuberant social activity of childhood (or its equivalent in other species) (Burghardt, 2005; Fagen, 1981; Humphreys & Smith, 1987; Maccoby, 1998).

The literature discussing RTP is substantial. Among the many research reports in this area, we have selected two to provide a sense of some of the findings. These brief summaries are meant to be illustrative. In order to be demonstrative, detailed summaries of all research would be necessary. We refer interested readers to the descriptive literature on RTP for further data in this area (Bjorklund & Brown, 1998; Bjorklund & Pellegrini, 2000; Blurton Jones, 1972; Boulton & Smith, 1992; Golombok & Hines, 2004; Hines, 2004a, 2004b; Humphreys & Smith, 1987; Jarvis, 2006; Maccoby, 1998; Pellegrini, 1988, 2003; Pellegrini, Dupuis, & Smith, 2007; Pellegrini & Smith, 1998; Pellis & Pellis, 2007; Smith & Lewis, 1985).

Humphreys and Smith (1987) observed children during free play in a school setting. They found that boys participated in RTP significantly more than girls at ages 7 and 11. At age 9, the reason that no significant differences were reported was that, 60 % of the time, boys elected to play football, a contact game but rule-based and hence not counted as RTP. Girls did not play football, however, and did not participate in body contact play. In this study, it was found that, as children grow older, the tendency to integrate RTP into social-dominance activities in all-male hierarchies increased, being most notable in 11-year-olds.

A different type of study was carried out of younger children by Jarvis (2006), who observed boys and girls in free play, but

took note of the stories that they constructed and/or acted out during play as well. Girls-only RTP was rare, occurring in only four instances from a set of 33 target-child observations. One observation concerned a “gentle” pile on in which the girls acted out a scenario which they called “putting baby to bed.” This was associated with giggling and hugging. The RTP of the boys was quite different. Fifteen such episodes of target-child observations were recorded. The boys’ games were rougher and replete with karate chops, tumbling about in contests, and acted-out stories of warriors. Jarvis concluded:

In summary, the finding relating to single-gender play supported previous human and non-human animal observational findings in this area indicating a greater prevalence of RTP and RTP-based fantasy narratives that reflect the findings of Kryatzis (2000). Such findings are compatible with the theory of an evolved, gender biopsychological “template.” Gendered bio-psychology can therefore be theorized to be both utilized and further developed in physical play and associated narrative during early childhood. (p. 272)

Gender differences in narrative construction by children have been studied by others and are compatible with the developmental differences in play that we have outlined (Nicolopoulou, 1997; Marsh, 2000; Nicolopoulou et al., 1994).

We put forth a qualification here. Naturalistic observations are not the only way in which RTP has been studied in childhood. Scott and Panksepp (2003) reported a laboratory study in which the usual sex difference in RTP did not occur. The investigators studied 10 male (M age, 54 months) and 10 female (M age, 57 months) pairs of children in a laboratory setting with no toys available and with music playing in the background. The interactions of the children were videotaped and revealed only modest differences in aspects of RTP, with boys manifesting slightly more ventral contacts and pushes. Scott and Panksepp also emphasized that RTP was not a form of aggression and, in fact, observed no instances of aggressive behavior. They discussed the differences between data obtained in laboratory and naturalistic settings.

This study illustrates two major points. First, the observation that the sex difference in RTP is “universal” does not mean that such differences are found in every single study, no matter what methods of investigation are used. Scott and Panksepp, for example, studied the behavior of children in a laboratory. The laboratory setting has advantages but also disadvantages. Naturalistic investigations are replete with confounding influences. On the other hand, RTP is usually expressed in naturalistically-occurring situations, which also offer research advantages. The laboratory environment itself, for example, might inhibit children. Furthermore, many types of spontaneously-occurring social situations are found naturalistically in a rich exploratory environment, but not in the laboratory. Although the Scott and Panksepp investigation was carefully designed, the weight of

its findings must be balanced against the substantial evidence documenting robust sex differences in childhood RTP.

The qualification raised by the study, however, does bring up another complicating factor. Sex differences in children’s play behavior have been investigated by researchers from different disciplines using different methods of investigation. These differences affect research findings. For example, RTP is embedded in gender role behavior. When gender role behavior is studied, researchers tend to include RTP as one of many variables (Berenbaum & Beltz, 2011; Friedman & Downey, 1993a; Maccoby, 1998; Money & Ehrhardt, 1972; Wallen, 2009). The behavior is not described with the specificity and detail that Scott and Panksepp used in their investigation. In considering sex differences in RTP, scholars make inferences across disciplines using common sense and, in some instances, clinical judgment.

Prenatal Testosterone

There is overwhelming evidence that prenatal androgen influences RTP and that this influence has meaningful psychodevelopmental meanings and consequences. Some facts about effects of prenatal testosterone will put this in perspective.

In male embryos, fetal testosterone is synthesized and secreted during the first part of pregnancy, beginning at about seven weeks of gestation under direction of the Sry gene on the Y chromosome. Testosterone secretion initially occurs under the influence of chorionic gonadotropin and, subsequently, leutenizing hormone (LH). Prenatal testosterone is not secreted by female embryos (Matsumoto & Bremner, 2011).

Prenatal testosterone influences not only the structure and function of the brain and reproductive system but postnatal behavior as well. If no testosterone is secreted, the embryo differentiates as female (Breedlove, 1994; Collaer & Hines, 1995; Gorski, 1991; Hines, 2004a; LeVay & Valente, 2006; McEwen, 1983, 1988; Money & Ehrhardt, 1972; Wallen, 2009). Scientists sometimes refer to this colloquially as “female by default” since, without testosterone, any organism will differentiate as female even if a Y chromosome is present.

In the embryonic male, testosterone concentrations increase substantially until the 20th week of gestation and then fall dramatically. They begin to rise again following birth between the 3rd and 6th month of life and then again fall. Although the peak between the 3rd and 6th month of life does not reach adult levels, the rise is substantial. It is thought that this neonatal increase may influence phallus size and possibly testicular descent (Matsumoto & Bremner, 2011).

Some psychoanalysts may speculate that another testosterone surge occurs between ages 5 and 7 but this is not the case. In fact, the next rise in testosterone following fall-off of the neonatal surge appears to occur with puberty. Adrenal androgens do begin to increase in both sexes about age 7, however, and influence pubic and axillary hair growth.

There has been speculation, particularly among scholars of human sexual orientation, that since retrospective reports frequently place the onset of male sexual fantasy/desire to the same age as adrenarche, the biological processes may influence the psychological/sexual experience. There has, however, been no direct proof of this (McClintock & Herdt, 1996).

Although the male neonatal surge of testosterone is certainly of endocrine interest, its role in hormone-behavior relationships is uncertain. Consider RTP, the behavior discussed in this article, for example. Much of the evidence for the influence of prenatal androgen on childhood RTP comes from studies of females who received excessive androgen in utero. Females do not manifest a neonatal testosterone surge.

Testosterone: Effects on Rough-and-Tumble Play

The evidence that RTP in humans is biologically determined has been thoughtfully reviewed by Maccoby (1988) and Maccoby and Jacklin (1974, 1987). Maccoby's reasoning, first published a number of years ago, has not been contradicted by any subsequent evidence. Maccoby identified five bodies of information indicating prenatal biological influence. First, she observed that sex differences in RTP have been systematically studied in many societies. In every society studied and in all reports, between ages 6 and 11–12 or so, boys engage in RTP more frequently than girls. Often, such sex differences are observed among younger children as well. There are no studies of children of this age in free-play situations in which girls engage in RTP more frequently than boys. This behavioral sex difference occurs during an age interval when there are no blood sex steroid differences between boys and girls.

Second, Maccoby noted that the same behavioral sex difference has been described in many mammalian species and occurs during comparable time intervals as in humans (the animal equivalent of years 6–12 or so) (Bekoff & Byers, 1998; Burghardt, 2005; Fagen, 1981; Harlow, 1986). Meaney (1989) has commented about this as follows:

In many social mammalian species the demands on animals differ as a function of gender. The sex differences in the social play of the juveniles appear to reflect these differences, such that young males and young females engage in behavior from which they are most likely to benefit developmentally. In the case of play-fighting, the early hormonal environment increases the tendency to engage in play-fighting. For the males of several species this is likely to be of considerable adaptive significance. Thus, perinatal androgens appear to influence selectively the type of interactions from which social learning is derived. (p. 289)

Androgen effects that are perinatal in some mammals, such as rats, for example, occur prenatally in humans (Gorski, 1991; McEwen, 1983).

Third, Maccoby observed that increased RTP occurs in girls whose mothers had abnormally high levels of androgen in their blood stream during pregnancy because of medications administered by physicians (Berenbaum & Beltz, 2011; Ehrhardt et al., 1989; Ehrhardt & Baker, 1974; Ehrhardt, Epstein, & Money, 1968a; Ehrhardt, Evers, & Money, 1968b; Ehrhardt, Grisanti, & Meyer-Bahlburg, 1977; Ehrhardt & Meyer-Bahlburg, 1981; Ehrhardt & Money, 1967; Friedman & Downey, 1993a; Hines, 2004a; Meyer-Bahlburg, Grisanti, & Ehrhardt, 1977; Meyer-Bahlburg, Feldman, Cohen, & Ehrhardt, 1988; Money & Mathews, 1982; Slijper, Drop, Molenaar, & de Muinck Keizer-Schrama, 1998).

A fourth body of data noted by Maccoby concerns increased RTP in girls with congenital adrenal hyperplasia (CAH) even when their anatomical and physiological defects are corrected at birth (Berenbaum & Beltz, 2011; Friedman & Downey, 1993a; Money & Ehrhardt, 1972; Pasterski et al., 2005). This difference is attributed to excess levels of prenatal androgen experienced by children with CAH.

Finally, increased stereotypic male-like play behavior including RTP occurs among female children with diverse types of developmental sexual disorders in which androgen is increased during prenatal life (Berenbaum & Beltz, 2011; Diamond, 2009; Hines, 2004b; Pasterski, Hindmarsh, Geffner, Brook, & Hines (2007).

Rough-and-Tumble Play and Gender Psychology

Human behavior, although similar to that of our non-human primate relatives in some respects, differs in others. We have thus far noted that RTP among children is similar in its gender distribution and expression to RTP in other mammals. An important difference, however, is that RTP in humans tends to be embedded in a more global constellation of behaviors that include gender identity, gender role behavior, and gender-valued self-esteem.

Discussion of gender psychology in relation to childhood play requires us to consider the influence of sex-stereotypic behavior on development. The term refers to behaviors, such as fighting with weapons, for example, or behaving in a parental way toward a baby doll, that are stereotypes of the activities of one gender or the other. The term stereotype is, of course, a cognitive construct and an implied value is often associated with it. Nature has no such values, however. That mid-childhood boys are more likely to play-fight than girls is an empirical fact just as the greater tendency of girls to play with baby dolls. This does not mean that boys should play-fight or that girls should play with baby dolls. As virtually all researchers working in this area have pointed out, there are substantial differences between individuals within gender groups (male or female) with respect to their interest and participation in sex-stereotyped activities. Many boys, for example, are not drawn to RTP and many girls seem to enjoy boy-like behavior,

including rough play to some extent (Berenbaum & Beltz, 2011; Friedman, 1988; Friedman & Downey, 2002, 2008b; Friedman, Richard, & Vande Wiele, 1974; Hines, 2004a; LeVay & Valente, 2006).

Implications of Rough-and-Tumble Play for the Development of Gender-Specific Peer Cultures During the Latter Half of Childhood

Maccoby (1988) discussed the significance of gender-segregated play for the development of different peer cultures in children between ages 6 and 11 or so. Boys' groups are more hierarchical, larger, and more walled-off from adult society than are girls' groups. Physical dominance plays more of a role in determining status among boys than girls.

A number of investigators have observed that, as boys grow older, but prior to puberty, they are likely to form peer-group dominance hierarchies. The relationship between their participation and competence in RTP and the construction of male peer groups has been noted (Pellegrini & Smith, 1998). The relationship between the social relationships of boys, their innate temperamental predispositions towards physical activities, and intra-male competitive activities has also been discussed (Friedman, 1988; Friedman & Downey, 2002; Humphreys & Smith, 1987; Jarvis, 2006; Maccoby, 1998; Pellegrini, 1988). The particular tendency for pre-pubertal boys to form cultures emphasizing "toughness," respect, and courage with corresponding narratives has been emphasized by investigators (Humphreys & Smith, 1987).

There is a pathway, usually not considered in psychoanalytic developmental theory of childhood sex differences, from early childhood toy preferences to sex differences in degree of preference for vigorous activity and body-contact play (RTP) to gender-segregated mid-childhood peer play (influenced by the aversion of girls to the rough play style characteristic of boys) (Berenbaum & Beltz, 2011; Fabes, 1994; Hines, 2004a, 2004b, 2011; Hines & Kaufman, 1994; Maccoby, 1998). This pathway results in the development of different peer cultures in boys and girls during the latter phases of childhood, prior to puberty.

The development of gender-valued self-esteem (the subjective sense of feeling adequately masculine or feminine) is often influenced by the behavior of boys and girls within their gender-segregated groups. This concept of gender-valued self-esteem is of particular interest to clinical psychoanalysts, as are other experiences and behaviors associated with RTP that develop in mid-childhood that we discuss below (Friedman, 1988).

Psychoanalytic Discussions of Neurobiological Influences on Rough-and-Tumble Play and Gender Psychology

The most influential psychoanalyst who discussed the relevance of the (then) emerging field of sexual differentiation of

behavior for psychoanalysis was Stoller (1968, 1975, 1979, 1985). Stoller's contributions focused on different areas of behavior than we do in this article. He wrote extensively about gender identity, pornography, perversion, and erotic passion. Stoller did not discuss the significance of RTP for mid-childhood peer behavior, however. He did not critically consider the relevance of the sexual differentiation of behavior for the need to revise psychosexual psychoanalytic paradigms as we do here.

We have previously discussed the relevance of prenatal testosterone's influence on behavior for psychoanalytic theory and practice in a number of publications. Most of these appeared in journals published in the U.S. Psychoanalysis is an international enterprise, however, and our experience has been that this body of work, although largely published in standard psychoanalytic journals such as the *Journal of the American Psychoanalytic Association* and the *Psychoanalytic Quarterly*, is unfamiliar to most European, Asian, and Latin-American colleagues. Our earlier research and scholarship concerned the relationship between childhood play, social relationships, internalizations, and sexual orientation in heterosexual, bisexual, and homosexual men and women (Friedman, 1988; Friedman & Downey, 2002, 2008b). Our more recent interest has been in the significance of prenatal hormonal influence on behavior for understanding sex differences in behavior generally (Friedman & Downey, 2008a).

Since our previous scholarly work extensively discussed the relationship between sexual differentiation of behavior, including childhood play for psychoanalytic theory and practice, we briefly summarize some of the major points here (Friedman, 1988, 2001a, 2001b; Friedman & Downey, 1993a, 1993b, 1995a, 2000, 2002, 2008a, 2008b). We present this summary because we are aware that it might not be apparent to many clinicians why the influence of hormones prenatally should be of concern to psychoanalytic practitioners and theorists.

Twenty years ago, we began an article on psychoanalysis, psychobiology, and homosexuality by emphasizing the value of a biopsychosocial interaction model to understand human development, including play behavior (Friedman & Downey, 1993b). In all of our subsequent work, we have stressed the usefulness of a developmental biopsychosocial model in contrast to an exclusively biological or psychological paradigm of determinism. We wrote about the strong evidence that girls who have been exposed to excessive androgen prenatally are more likely to be tomboys than control subjects. Subsequent research demonstrated that girls with CAH manifested male-like sex stereotypical toy preferences even when both parents encouraged them to prefer female sex stereotypical toys similar to their physically normal sisters (Pasterski et al., 2005). In a recent study of 137 individuals with CAH compared to 137 control subjects, Wong, Pasterski, Hindmarch, Geffner, and Hines (2013) observed that both prenatal testosterone and parental socialization contributed to sex-typical toy play.

Compared with controls, girls exposed to excess prenatal androgen because of CAH have a greater preference for boys as playmates and display higher energy expenditure and more rough-and-tumble activity at play (Berenbaum & Beltz, 2011; Dittmann et al., 1990a, 1990b; Ehrhardt & Baker, 1974; Ehrhardt et al., 1968a, 1968b; Ehrhardt & Meyer-Bahlburg, 1981; Friedman & Downey, 1993a; Slijper et al., 1998). Subsequent studies have confirmed this (Diamond, 2009; Hines, 2004b).

The increase in RTP noted in studies of tomboyism in girls with CAH has been observed in other disorders causing girls to have been exposed to excess androgens prenatally (Achermann & Hughes, 2011; Berenbaum & Beltz, 2011). In these studies, RTP was not labeled as such and was not studied with the meticulousness of investigators such as Scott and Panksepp (2003). Reading across discussions of different types of disorders, we infer that increased RTP is associated with male-like gender-role behavior of many children with developmental sexual disorders (Berenbaum & Beltz, 2011; Diamond, 2009). The biological effects are pronounced despite diverse rearing influences.

Some psychoanalysts might question whether early maternal influences on girls such as the ones we have discussed above might in themselves shape the increased RTP effect. They might speculate that since mothers act, touch, and play differently with male versus female infants, subtle maternal influences might theoretically cause increased RTP in males compared to females. This possibility has been considered extensively discussed in the literature and rejected in many of the cited references (Friedman et al., 1974; Hines, 2004a; Maccoby, 1988, 1998; Money & Ehrhardt, 1972).

Clinicians might reason that since mother-infant interactions precede RTP development, could there be a causal effect? There is no way to prove that this never happens in individual cases. To provide evidence that it does, one would have to prospectively study play and activity behavior in infants treated in subtly different manners by their mothers. Such infants would have to be studied repeatedly during childhood. We could find no published data about this. Although there are data relating infant behavior to differential treatment by mothers according to gender, we could find no studies correlating this with the development of RTP subsequently (Ahl, Fausto-Sterling, Garcia-Coll, & Seifer, 2005).

Whereas such data are absent, a relevant prospective psychohormonal study has been carried out by Hines et al. (2002). The investigators measured testosterone and sex hormone binding globulin in the blood of pregnant woman and studied the gender role behavior of 342 boys and 337 girls at age 3.5 years. This study did not specifically assess RTP but rather assessed the child's involvement with sex-typical toys, games, and activities. No hormone-behavior relationships were observed in boys. Among girls, however, blood levels of testosterone taken from pregnant mothers related linearly to gender role behavior. In an effort to assess whether social learning might have produced

this effect, the investigators studied the presence of older brothers and sisters in the home, parental adherence to traditional sex roles, the presence of a male partner in the home, and maternal education level. No environmental effects were detectable. They concluded that normal variation in prenatal blood levels might influence gender role behavior of preschool girls.

There are other behavioral situations sometimes in which unusual cases can illuminate the hormonal developmental interactions. This was so in the descriptions of boys who traumatically lost their penises during early childhood. These tragic injuries occurred after their brains were fully androgenized. We are aware of two case reports in the literature discussing this phenomenon.

The first case has been widely discussed in the scientific and lay literature (Colapinto, 2000; Friedman, 2001a). Briefly, a child's penis was accidentally ablated during a medical procedure at age seven months. In keeping with the then prevailing knowledge and beliefs, the parents were advised to raise him as a female and medical-surgical sex change was carried out at age 21 months. This child was raised as a girl but had pronounced masculine gender role behavior despite all efforts by her parents to encourage feminine activities. This included prototypically boy-like rough play. In keeping with clinical advice, they did not inform her that she had ever been male. She was interested in playing with guns not dolls, tended to have physical fights with male peers and her twin brother, and aspired to be in the Cub Scouts not the Brownies. She was observed to carry her body in a "male-like" way as well. It was believed by her parents and various clinicians who saw her that this masculine gender role behavior contributed to her ostracism by female peers who labeled her a "cavewoman." As an adolescent, this individual rejected her female gender label, insisted on receiving male hormones, and identified as a boy. He was first told that he had been born male at that time. He dated girls and married at 25. Tragically, he ultimately went on to commit suicide as his twin had.

A second case of traumatic penile ablation occurred when the child involved was 2 months old. Assignment as a female with medical-surgical intervention occurred at 7 months. This person developed a female gender identity and her masculine gender role behavior, although clearly present, was less pronounced than the previous patient (Bradley, Oliver, Chernick, & Zucker, 1998). The clinical record available is far less extensive than that of the first patient.

The Oedipus Complex

Friedman and Downey (1995a) critically discussed the significance of the effects of androgen on sex-stereotypic behavior of boys for revision of Freud's basic formulations about the role of the Oedipus complex. At that time, we conceptualized RTP and male competitiveness as part of more complex sets and

sequences of behavior. We suggested that the male Oedipus complex can best be understood in terms of its component parts. We concluded that one component—the incestuous wish—was not universal and was not required as a trigger for the other components. We suggested that the boy's urge to engage competitively with other males, including his father, does appear to be influenced by prenatal testosterone's influence on the brain. We observed that this is often expressed as part of or associated with RTP. We observed that Freud's ideas about the role of the Oedipus complex in psychological development had become outdated and wrote: "Thus, superego development, gender identity, sexual orientation, personality structure, the etiology of the neuroses and the psychoses, all seem to be subject to influences other than oedipal conflict resolution or failure thereof" (p. 237).

We also pointed out that Freud's (1905/1953) ideas about drive/instinct theory included three concepts which many psychoanalysts believe are intrinsic to the notion of "biological influence." These include the "imperative, preemptory quality associated with a feeling of being driven," "motivational influences that originate in the id" (Freud, 1923/1961a, 1940/1964b) and the "notion that social and biological influences on behavior are fundamentally in conflict with each other" (Friedman & Downey, 1995a). We pointed out that these ideas did not have scientific support.

We emphasized that what had been discovered by the researchers who formulated sexual differentiation theory was a fundamentally different way of conceptualizing childhood behavior and adult sexuality than anything thought of by Freud. The prenatal effects of testosterone are organizational while the pubertal and post-pubertal effects are activational. Organizational effects of testosterone influence the structure and function of the brain. Activational effects influence the frequency and intensity with which certain behaviors are experienced and expressed (Collaer & Hines, 1995; Gorski, 1991; McEwen, 1983, 1988; Wallen, 2009). The effects of testosterone on childhood play, for example, are organizational and are expressed in full form prior to puberty. RTP therefore is expressed prior to the activational effects of pubertal hormones.

Androgen exerts some central nervous system effects directly and others following conversion to estradiol. In the case of RTP, however, the effects of androgen do not depend on such conversion. The androgen receptor system mediates the behavioral response (McEwen, 1983; Meaney, 1989).

When the neonatal blockade of androgen receptors occurs in rats, the masculinization of play fails to occur (Meaney, Stewart, Poulin, & McEwen, 1983). Play fighting is also markedly diminished in rats with genetically determined androgen-receptor deficiency despite normal plasma testosterone levels. Meaney has demonstrated that lesions of the amygdala made at a critical time eliminate the play-fighting response in male rats. Neonatal testosterone implanted into the amygdala of female rats has been found to masculinize their play patterns (Meaney, Dodge, & Beatty, 1981; Meaney &

McEwen, 1986). Meaney suggested that the amygdala mediates the effects of androgen on play-fighting and RTP. Panksepp, Normansell, Cox, and Siviy (1994) have demonstrated that normal RTP occurs in decorticate rats.

Erotic behavior appears to be influenced more prominently by the hypothalamus. This was illustrated in neuroendocrine research carried out by Dörner in the late 1960s. Using classical stimulation-ablation techniques, Dörner reported that a prototypically-male mating center was controlled by a nucleus in the preoptic hypothalamic area and a prototypically-female mating center by the ventromedial hypothalamic nucleus (Dörner, Docke, & Hinz, 1969; Dörner, Docke, & Moustafa, 1968a, 1968b; Flanagan-Cato, 2011). Subsequent research has demonstrated that lesions of the medial preoptic anterior hypothalamus impair or eliminate mounting, intromission, and/or ejaculation in the rat (Ginton & Merari, 1979), cat (Hart, Haugen, & Peterson, 1973), dog (Hart, 1974), and monkey (Oomura, Yoshimatsu, & Aou, 1983).

Another important difference between RTP and erotic behavior is that, unlike RTP, erotic activity is rarely expressed during childhood in full form (Friedrich, Fisher, Broughton, Houston, & Ahafran, 1998; Friedrich et al., 2001). Although masturbation and orgasm have been reported in very young children (Galenson, 1993; Galenson & Roiphe, 1971, 1976, 1980, 1981; LeVay & Valente, 2006), full sexual intercourse is rare. Childhood sexual behavior is generally characterized by looking, touching, and physically exploring the body of the other but not by the integrated series of behaviors that in humans constitute sexual intercourse and, in non-human animals, constitute mounting, intromission, and orgasm. These ordinarily await the surge of pubertal hormones before being activated. The two types of behavior—RTP and erotic behavior—are also subject to influence during different sensitive periods occurring during phases of pregnancy: RTP is affected later in gestation than sexual behavior (Wallen, 2009).

In an earlier article (Friedman & Downey, 1995b), entitled "Biology and The Oedipus Complex," we suggested that a tendency towards RTP in men might be embedded in behavior that was not only sex-stereotypically male-like but also altruistic. Far from being in conflict with society, this type of prototypically masculine behavior may be highly prosocial. We pointed out that dominance hierarchies may exist in complex social units that are based on cooperation.

As practicing psychoanalysts as well as scientists, our interest has consistently been in illustrating how understanding of scientific advances can inform clinical work. Much of our effort has been directed toward providing clinical illustrations of a developmental behavioral model that is influenced by the concept of sexual differentiation of behavior but also by traditional psychoanalytic ideas about psychic trauma, internalization, and self-esteem development. For example, in an extensive discussion of negative internalizations in homosexual and bisexual men and women, we provided clinical illustrations not only of

the ways in which self-esteem may be impaired, but also of the mechanisms involved in the genesis of negative therapeutic reactions in psychotherapeutic and psychoanalytic treatment. We noted that gay affirmative psychotherapies, often useful, were sometimes unsuccessful in individuals with such negative internalizations. In these situations, a more uncovering psychoanalytically-informed therapeutic strategy is indicated. We also reviewed the history and use of the term “internalized homophobia” (Friedman & Downey 2002, 2008b). In this article focusing on RTP and peer behavior, we discuss (below) negative internalizations resulting from bullying behavior by peers. In much of our published work, however, we have reviewed behavioral sequences beginning earlier in life in which negative reactions of adult males, usually fathers, are triggered by the aversion to RTP in their sons. Thus, negative internalizations are often condensations of representations of scenarios involving the behavior of adult males in family settings, followed later in development by scenarios involving the behavior of peers. The final common pathway of both appears to be identification with the aggressor (Friedman, 1988; Friedman & Downey 2002, 2008b). Psychosocial and psychodynamic influences on motivation are crucial. These supplement and modify biological predispositions.

Friedman and Downey (2008a) provided a detailed discussion of the relevance of the sexual differentiation of behavior for psychoanalytic developmental theory and practice. We observed that the effects of prenatal sex steroid hormones may be delayed following birth. The concepts of time delay and of prenatal-postnatal sequence were emphasized. Although sex differences in behavior are, in fact, found during infancy (Hines, Allen, & Gorski, 1992), we did not discuss them extensively. Rather, we pointed out that the influence of androgens on RTP occurs after a time-delay.

We reviewed the asymmetry play patterns of boys and girls and pointed out that one reason that its clinical significance is so substantial is that between ages 6 and 11–12 or so, the 4–6 years prior to puberty, childhood play tends to be gender-segregated. This phenomenon is also seen in non-human primates (Harlow, 1986). Thus, during early childhood, the interpersonal relationships of children tend to be intra-familial. We noted that, once in place, the representations of intrafamilial relationships prepare the child to enter the extrafamilial environment which is likely to be centered on gender-segregated peer activities. The transition may be painful and sometimes frankly traumatic. The reason for this is that boys who are temperamentally timid, who avoid RTP, or have feminine gender role behavior and prefer to play with girls, may be victimized by male peer groups during the latter part of childhood, between ages 6 and 11–12.

In another article (Friedman & Downey, 2008a), we extensively considered Baron-Cohen’s ideas about sex differences in empathizing and systematizing, which he suggested are caused by the effects of prenatal testosterone on brain structure and function.

Thus, the tendency of prenatal testosterone to foster RTP in boys, but also to inhibit a tendency toward care-giving behavior to young, is complemented by its effects on cognition and psychosocial behavior. We emphasized, however, that the effects of childhood experience supplement and modify prenatal influences (Friedman & Downey, 1995a, 2008a).

Additional Clinical Issues

Normal/Abnormal

It is probably normal from a statistical perspective for boys to be drawn towards RTP, although even this must be considered a conjecture since the precise frequency and intensity distributions for RTP within the general population have not been ascertained. We believe that most boys are drawn toward it to some degree.

This should not, however, be equated within a health-illness framework. There is no inherent connotation of “pathology” or “illness” or “disorder” stemming from a person’s innate motivation to participate in RTP. It is neither mentally healthy nor unhealthy for boys to have little or no motivation to engage in RTP or for girls to be drawn to it. On the other hand, as a result of a tendency toward late childhood gender-segregated play and bullying behavior among boys, an interest and ability to engage in RTP may buffer a child against the likelihood of certain types of traumatic interactions.

RTP and Gender-Segregated Play

During the first half of childhood, from birth until about ages 5–7 or so, although gender-specific interests in toys and play styles might be present, gender-segregated peer play is just beginning to develop and it has yet to emerge behaviorally in full form. During the first part of childhood, from birth until about age 3 or so, although gender-specific interests in toys and play styles might be present, gender-segregated play has not yet developed in full form. Thus, RTP follows the onset of language and the beginning of the capacity to construct narratives. Once gender-segregated groups are formed around age 6 or so, RTP and associated sex-stereotyped masculine gender role behavior may influence the status of boys, especially within all male groups. This in turn may influence the child’s sense of security and masculine adequacy. Because these groups are often walled off from the adult world, the conduct of boys within these groups may be unknown to their parents, particularly their mothers, who tend to be the primary on-site caregivers (MacCoby, 1998).

Attitudes of Boys and Girls Toward Sissies and Tomboys

Boys between the ages of 6 and 11–12 may be thought of as constituting a sub-society of males who are often extremely

sexist in their values and attitudes. We speculate that this may be an enactment of negative feelings towards female authority figures. Of course, it probably also represents a defensive stance taken in response to internally experienced conflicts about the child's developing sense of masculinity. The tolerance of older boys for gender-deviant behavior may be low. At this age, the terms "fag" and "sissy" as stigmatizing labels begin to be used (Fine, 1987; Friedman & Downey, 2008a). To the best of our knowledge, detailed population-based studies of this phenomenon have not been carried out. Our knowledge of this behavior (e.g., the use of the term "fag" or "sissy" in bullying, for example, comes from clinical research and clinical case reports (Friedman, 1988).

In contrast, the term "tomboy" is usually not a stigmatizing signifier. Girls between the ages of 6 and 12, for example, who enjoy RTP (to some degree) and are drawn to body-contact sports, usually do not pay a penalty in the way others view them or in the way that they view themselves. There is no evidence, for example, that they feel unfeminine unless their masculine gender role behavior is extreme (Diamond, 1997; Friedman & Downey, 2000).

A source of data that we have not previously emphasized, however, comes from psychoanalytically-informed case studies, research reports, and descriptive psychiatric research on the development of homosexual and heterosexual men (Friedman, 1988). Friedman compared the development of 17 lifelong exclusively homosexual non-patient men to 17 lifelong exclusively heterosexual non-patient men: "Thirteen of the seventeen homosexual subjects (76 %) reported chronic, persistent terror of fighting with other boys during boyhood and early adolescence. These men never recalled responding to challenge from a boyhood peer with counter-challenge, threat or attack." These boys reported that they never felt drawn to participate in RTP. They never experienced a sense of conflict about this; their interests were elsewhere. As they got older, however, they also became terrified of same-sex peer aggression. The behavior of most of these boys was not feminized. Only three formed close friendships with girls, for example, and enjoyed stereotypically female activities, such as doll play and hopscotch. Yet, they were all labeled sissies by male peers during the latter years of childhood. "They grew up in environments characterized by well-stratified male peers groups in which status was based on athletic ability, particularly RTP. These subjects recalled that they had the lowest possible peer status.... Alternatively ostracized and scapegoated, they were exposed to continual humiliation" (Friedman, 1988). In this study, two heterosexual boys experienced exactly the same peer group profile. These data were compatible with clinical studies (Bieber et al., 1962) and nonclinical research as well (Saghir & Robins, 1973).

In looking back at these data from the vantage point of the many progressive political-social changes that subsequently occurred with respect to gay rights and increased awareness of

destructive effects of bullying and gender equity, a few points seem worthy of emphasis:

- (1) Although avoidance of RTP was more likely among boys on a gay developmental track, it was also present among some boys on an exclusively heterosexual track.
- (2) In light of society's increasing awareness of the dangers of violent behavior, a central question unanswered then and today as well is why a low desire to engage in RTP seemed to provoke aggressive attacks from boys during the latter years of childhood. The question is allied to but also different from the often-reported observation that overt feminization of behavior by males will sometimes provoke violent attack by other males. Aversion to RTP is not an example of feminized behavior.
- (3) The gay rights movement and other human rights movements have transformed the political-economic landscape in many ways. Might not the negative responses of older children to RTP avoidance have diminished in recent years? The answer to this concerns the age specificity of the responses described more than 25 years ago. We can find no evidence that ostracism and scapegoating of boys who avoid RTP has diminished during the particular phase of life when gender-segregated play is most likely. Nor have we found evidence that boys in hierarchically organized all-male peer groups between ages 6 and 11 or 12 have become less sexist in recent years. Bullies frequently label victims "homosexual," "fags," or "gay" as a term of devaluation. Although children on a gay developmental track are often bullied by peers, others who are not gay may also be so labeled and victimized (Fine, 1987; Friedman, 1988). The fact that this often occurs during mid-childhood has reached the awareness of the general public to the extent of being reported in local newspapers. For example, the *New York Times* columnist, Charles M. Blow, in a poignant article entitled "The Bleakness of the Bullied," cited a recent incident in which two 11-year-old boys killed themselves after years of homophobic taunting by male peers. In that article, he discussed his own suicidal impulses in response to bullying at the age of 8 (Blow, 2011). Often, bullying like this continues. Blow discussed the fact that a considerable minority of 13–18 year-old high school students, in some studies as many as one quarter to one-third, reported having been bullied because they were labeled gay, lesbian, or bisexual or they were perceived as not adequately masculine or feminine.

We do recognize that the attitudes and values of groups of boys of that age are actually diverse. Many are welcoming and supportive. Although it may seem counter-intuitive to some, our clinical impression regarding the past experiences of boys—across the spectrum of sexual orientations—is that their

exposure to bullying and sex-role stereotyping by other boys during late childhood is a matter of happenstance. If boys happen to live in areas where there are male peer groups organized around sexist-homophobic values, they may be abused. If boys happen to live in areas where the local groups of children are tolerant, friendly, and affiliative, including groups of males, they may be fully accepted.

Leadership and Status: An Additional Developmental Issue

Prior to the latter part of childhood (ages 6–11 or 12), boys generally do not assume the role of leader in a group. Relationships of younger children are primarily intrafamilial and across different types of family structures the leaders of family groups tend to be adults. In peer groups of late childhood, however, boys are offered the opportunity to become leaders or at least to join a group in which they have higher status and potential power than in their family groupings. Although the relationship between RTP capacity and peer-group status has not been definitively studied to the best of our knowledge, there has been speculation that boys who freely and fluently express RTP may be especially likely to have high peer-group status.

Sexual Differentiation of Behavior: The Case of Girls

Thus far, we have discussed only a delimited area of behavior centering on the origins and significance of RTP in the psychological development of boys. Prenatal androgen (or its absence) has profound effects on sex differences in other behavioral areas as well. Baron-Cohen, Knickmeyer, and Belmonte (2005) have related these differences to structural brain differences resulting from prenatal androgen's effects. In girls, affective cognitive and social development is organized, not primarily by awareness of the genital difference as Freud (1931/1961b, 1933/1964a) suggested, but rather by the emotional experiences associated with attachment, communication, and mutually nurturing interpersonal relationships (Baron-Cohen et al., 2005; Gilligan, 1982; Gilligan, Lyons, & Hammer, 1990; Hines, 2004a; Hrdy, 1999, 2009). These are associated with fantasies which, for want of a better term, Downey and Friedman (2008) have called maternalism. Nurturing maternal motives of girls are expressed in their play behavior beginning with toddlerhood or even earlier. The psychological development of girls and women is characterized by innate tendencies towards attachment, empathic interpersonal connection, communication, and emotional fluency. These predilections, coupled with much less of a predisposition towards violence than found among males, suggest that female development differs from male development in many ways from early infancy (Baron-Cohen et al., 2005; Friedman et al., 1974; Hrdy, 1999, 2009).

The maternal doll play of girls is roughly analogous to the innate tendency toward RTP of boys. One might imagine a direct line from maternal doll play present in a child's life more or less continually from childhood to a mother's involvement with her newborn baby or adopted baby or even the babies of others. The play behavior may be seen, from an evolutionary perspective, as rehearsal for later occurring activity. This does not mean that men cannot become caretakers of newborns, of course. It simply means that women are more likely to be drawn toward relating to infants than are men (Hrdy, 1999, 2009). The innate motivation to care for newborns and infants is almost certainly subject to prenatal hormonal influence (Numan & Insel, 2003; Wallen & Schenider, 2000).

How is this line of reasoning relevant to psychoanalysis? First, it suggests that prenatal biological influences on behavioral motives differ between the two sexes by the time of birth, independently of children's later reactions to their genitalia. This fact, grounded in psychobiology, is incompatible with commonly accepted psychoanalytic beliefs about psychosexual development.

Secondly, a pioneering psychoanalytic clinician and investigator, long before the elucidation of the sexual differentiation of brain and behavior, presented important research indicating that the sexual fantasies and associations of women in psychoanalysis differed from those of men in certain ways that might be predicted from sexual differentiation theory.

Benedek's pioneering research indicated that the sexual fantasies of women and men were innately different in ways that involved, in part, maternal motives. Women's sexual fantasies were found to be cyclical and associated with the physiological changes of the menstrual cycle. Maternal themes were part of sexual fantasies, especially during the latter part of the menstrual cycle following ovulation (Benedek, 1952; Benedek & Rubenstein, 1939a, 1939b, 1942; Severino & Moline, 1989; Thornhill & Gangstead, 2008). There has never been an attempt to replicate this research from within the psychoanalytic community. The cyclical nature of female sexuality has, however, been observed in extra-psychoanalytic research (LeVay & Valente, 2006; Thornhill & Gangstead, 2008).

We have earlier emphasized that during the organizational phase of prenatal hormonal influence, RTP behavior is "hard-wired" into the male fetus and will be expressed later. We speculate that, in girls, maternal doll play and interest of girls in newborn babies is also an expression of the organizational effects of prenatal hormones (the absence of inhibition by prenatal androgen). The bridge integrating this type of maternal interest and fantasies of being a mother with the erotic experience of adult women has not yet been made in the clinical or behavioral sciences, including psychoanalysis. In our view, both child and adult psychoanalysts can contribute to constructing this integration, but collaboration with developmental and cognitive psychologists will be necessary as well.

We have speculated above about a possible adult role for childhood maternal-doll play suggesting a rehearsal function of

the childhood behavior. For what adult role does RTP prepare a child?

Rough-and-Tumble Play: An Evolutionary Psychoanalytic Perspective

We believe that capacity for and interest in RTP and team sports prepares boys for later participation in hierarchical, competitive organizations such as the military. Others have also speculated that RTP itself might provide skills that prepare males for becoming hunters later in life (Bekoff & Byers, 1998; Burghardt, 2005; Friedman & Downey, 2008a).

Functioning armies require and have always required meticulous social engineering. They have been the provenance of men for thousands of years. Men in armies are, of course, quite different from children at play. Yet, the bodily contact aspect of RTP taken in conjunction with what appears to be an innately derived interest of boys in weapons and in throwing objects and with their tendency to form all-male hierarchically organized peer groups prior to adolescence suggests that there well may be a connection. One can easily imagine both types of activities (teams, armies) emerging from common roots in RTP.

Conclusion

RTP, while undoubtedly also influenced by experiences in the child's environment, is also a powerful example of the effects of prenatal hormonal organization of behavior. This organization influences psychosexual development over many years. In addition to childhood play, other behavioral areas are influenced by prenatal hormones as well, including cognition (Baron-Cohen et al., 2005; Kimura, 1999), verbal style (Tannen, 2001, 2006), interest in babies and small children (Friedman & Downey, 2008a, 2008b), sexual and reproductive behavior (Benedek & Rubenstein, 1939a, 1939b, 1942; Pfaff, 1999, 2011; Thornhill & Gangstead, 2008) and differential proclivities of men and women toward different physical and psychological disorders, such as autism (Baron-Cohen et al., 2005; Friedman, 2001a, 2001b; Geschwind & Behan, 1984).

No psychoanalytic scholar, including Freud himself, anticipated the basic behavioral issues that we have outlined in this article. Except for our own reports, to the best of our knowledge, no other psychoanalysts have considered the significance of sexual differentiation of behavior for psychoanalytically informed paradigms of psychosexuality or personality functioning (Friedman 1988; Friedman & Downey, 1993a, 1993b, 1995a, 1995b, 2000, 2002, 2008a, 2008b).

Even though the organizational-activational model is theoretical in certain respects, and many brain structure–function relationships remain to be described, empirical support for it is quite substantial (Berenbaum & Beltz, 2011; Collaer & Hines,

1995; Ellison & Gray, 2009; Gorski, 1991; McEwen, 1983, 1988; Money & Ehrhardt, 1972; Wallen, 2009).

Not only is sexual differentiation theory virtually absent from the psychoanalytic literature, but we believe that the material that we have presented in this article is outside the curricula and the culture of most psychoanalytic institutes. In the United States, this may be partially due to the fact that psychoanalysis has become isolated from academic psychology and psychiatry. Our experience as educators leads us to be concerned that many psychoanalytic candidates learn to privilege psychoanalytic models of psychosexual development which may be out of date. Psychoanalytic psychology, despite its myriad problems, still provides the foundation for psychoanalytically-oriented psychotherapy everywhere in the world. Addressing complex issues across disciplines, therefore, is a matter of clinical urgency, not just scientific importance.

Although aspects of the psychosexual developmental theories advanced by Freud (1905/1953) in *The Three Essays* and later in his career remain useful, many of his ideas have been contradicted by sexual differentiation research. For psychoanalysis to be credible as a theory of the mind, we believe that the core ideas of the psychoanalytic community about psychosexual development and functioning must be held to the same standards of validity as research and theories produced by the general scientific community.

Although the challenge posed by modifying commonly accepted psychoanalytic ideas about psychosexual development is substantial, the opportunities for whole new areas of psychoanalytic theory to emerge are notable. For example, the relationship between childhood play, including RTP and maternal doll play, and the development of erotic and romantic behavior, is but one of many areas that can be informed by a perspective that integrates the sexual differentiation of behavior with traditional psychoanalytic theories. The same is true about the relationship between RTP, childhood attachments, and the experience and expression of aggression later in life.

Although we have emphasized the need for psychoanalytic psychology to change its ideas about psychosexuality in light of extra-psychoanalytic knowledge, we also stress the fact that psychoanalysts are privy to important clinical and scientific information. Of all mental health professionals and researchers, psychoanalysts have unique access to the genesis of motivational fantasies and narratives over time. Psychoanalytic work is carried out at the boundary between conscious and unconscious mental functioning, and knowledge of this area allows psychoanalysts powerfully to illuminate human motivation.

In order for modern psychoanalysis to make its voice heard at the larger conference table of those who study human psychology, we must be open to receiving and contributing knowledge across disciplines. In order for sexual differentiation theory, for example, to be integrated with presently emphasized psychoanalytic ideas about human sexuality, interdisciplinary conferences and curricula would have to be created. The child

psychoanalytic community, in particular, could develop new ways of contributing information to the general discussion. A welcoming attitude toward dispassionate critical analysis of ideas could be fostered. This critical assessment would have to be carried out irrespective of belief systems cherished at local institutes. The challenges posed by these issues are significant, but so are the opportunities for the continued growth and development of psychoanalytic theory and practice.

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