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Children's Play in Cross-Cultural Perspective: A New Look at the Six Cultures Study

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A qualitative and quantitative reanalysis of the Six Cultures data on children's play, collected in the 1950s, was performed to revisit worlds of childhood during a time when sample communities were more isolated from mass markets and media than they are today. A count was performed of children aged 3 to 10 in each community sample scored as engaging in creative-constructive play, fantasy play, role play, and games with rules. Children from Nyansongo and Khalapur scored lowest overall, those from Tarong and Juxtlahuaca scored intermediate, and those from Taira and Orchard Town scored highest. Cultural norms and opportunities determined how the kinds of play were stimulated by the physical and social environments (*e.g.*, whether adults encouraged work versus play, whether children had freedom for exploration and motivation to practice adult roles through play, and whether the environment provided easy access to models and materials for creative and constructive play). [†]

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Revisiting images, data, and notes from classic ethnographic and observational projects is worthwhile for several reasons. The first is that these are primary sources with historical and documentary value, providing a window into past times and the lives of individuals and families in cultural context. A second is that early documents, images, data, and findings are collections of systematic information that may continue to yield significant new scientific insights when reexamined in the light of new theories and/or reanalyzed using new variables or techniques. Yet a third reason is simply to increase appreciation of the development of the scientific discipline and the work of its major contributors.

All of these rationales figured into my desire to reexamine the observational notes and data gathered in the 1950s for the Six Cultures (SC) study (B. Whiting, 1963; B. Whiting & Edwards, 1973; B. Whiting & Whiting, 1975) and its sequel, the Children of Different Worlds (CDW) project (B. Whiting & Edwards, 1988). The CDW project involved not only the SC data but also the extensive observational data subsequently collected by Beatrice Whiting in Ngeca, Kenya. As well, it involved a huge body of spot-observation and running-record data collected by several of the Whitings' students and colleagues in the 1960s and 1970s and collaboratively analyzed for the 1988 publication presented by B. Whiting and Edwards (1988) in collaboration with C. R. Ember, G. M. Erchak, S. Harkness, R. L. Munroe, R. H. Munroe, S. Nerlove, S. Seymour, C. M. Super, T. S. Weisner, and M. Wenger. To the CDW project, Ruth and Lee Munroe generously contributed spot-observation data that formed the basis of several other publications with their students and

The Six Cultures observations, as well as Beatrice B. Whiting's Ngeca observations, are now housed at the Human Relations Area Files in New Haven, Connecticut, and are available for interested scholars to examine. I am grateful for the opportunity provided by the conference invitations to revisit these notes and data. Most of all, I thank Beatrice B. Whiting for providing the necessary documents and original analyses, for suggesting directions and interpretations to pursue, and for giving me support and approval to do this work. All errors of interpretation or analysis are my own. The writing of this article was partially supported by the Institute for Agricultural and Natural Resources, University of Nebraska, Lincoln, Journal Series 12927.

colleagues (*e.g.*, Bolton, *et al.*, 1976; Munroe *et al.*, 1983; Nerlove, Munroe, & Munroe, 1971). The SC and CDW data represent the first systematic cross-cultural data sets collected in multiple cultures using standardized methods. Revisiting the SC and CDW data sets represents an appropriate way to recognize and further acknowledge the intellectual debt owed to those who contributed most to the running-record and spot-observational methodologies employed, John and Beatrice Whiting and Ruth and Lee Munroe, as well as to the others who contributed to these data sets and to the stream of comparative child research still very active today.

These data have documentary historical value because they offer a substantial archive of notes and coded data focused on child and family life observed for 20 years between the mid-1950s and mid-1970s in communities that have undergone immense economic, political, and cultural changes during the ensuing decades. In the everyday lives of children, schooling is one obvious source of change. More children have access to more kinds and levels of education and training, and schooling and literacy have become more determining of their future outcomes and life success, especially in the developing world. Furthermore, the educational experience for children has itself undergone dramatic transformations in recent decades with respect to instructional goals, methods, and conditions. The children and families in these communities are also less isolated today. They have greater exposure to more forms of media and mass communication, experience more novelty, and come into daily contact with more products and by-products of the industrial world. Thus, revisiting the SC and CDW data allows a look at the daily lives of children in home and school contexts during time periods very different from the present day. In retrospect, we may understand better what was seen then and also understand better what we see in the contemporary period.

The archives also warrant further study looking at new variables, asking new questions, or using new analytic techniques. Theoretical understandings of child development have changed in recent years. We have more complex theories of social participation and see children as co-constructors and negotiators in their worlds. We have deeper insight into the interaction of biology, culture, history, and psychology in providing contexts for social development. We have more complex theories

of gender development involving differentiated labels and concepts, self-identity and self-perception, preferences, and behavior. All of the domains of children's behavior have received intensive study, especially their play, language, and symbolic behavior.

Children's Play with Toys

An international conference on play with toys provided the particular occasion for this study. The conference was intended to showcase children's creativity in toy making worldwide and provide an interdisciplinary forum for scholarly exploration of the psychological-developmental, historical, economic, cultural, and technological contexts of children's toy making and toy play. As a student and close colleague of Beatrice and John Whiting, I was asked to revisit the SC and CDW data. Child play was an area of child behavior that the Whitings had explored but then did not intensively address in their published writings. Yet, Brian Sutton-Smith, conference chair, had always spoken of the promise of the SC data to shed light on the relationship of normative play patterns to cultural and gender socialization (Sutton-Smith, 1974, 1975, 1997, 1998). He had hoped these data would demonstrate how play and games serve two seemingly contradictory goals: the cultural replication of dominant core values, and its reverse, the acceptable outlet to express and sublimate motivations in conflict with dominant values (Sutton-Smith, 1979; Sutton-Smith & Roberts, 1971).

At the Culture of Toys conference, Sutton-Smith (1997, 1998) took a different tack, a broader and more evolutionary view, and concluded that play has multiple motivations and functions for child and human development. For example, repetitive physical play in infancy improves children's motor skills, whereas exercise play in childhood increases strength and endurance, and rough-and-tumble play serves to develop (especially male) fighting skills and controlled dominance (Pellegrini & Smith, 1998).

Play with toys has a particular role in this picture and is vital for enhancing and fostering symbolic knowledge "in the individual mind . . . to stimulate the child mind to further growth and development" (Sutton-Smith, 1998, p.7). Culture and tradition are critical in determining how

much and in what ways children are allowed and encouraged to undertake such imaginative and cognitively enhancing play. Play with toys is hypothesized to be "mediated through social interactions and social traditions" (Sutton-Smith, 1998, p. 8) in several ways. First, cultural norms determine whether the play will be stimulated or whether it will be neglected (depending on whether adults consider it a good thing or a waste of children's time). Second, norms determine whether parent intervention will serve to conservatively preserve tradition or instead to instigate and foster independence and autonomy in girls and boys. Third, economic and historical conditions are critical resources for both physical and intellectual stimulation for play. Children play more in contexts in which they have models for what they can do, and hence they play more elaborately in complex, densely settled communities with schools and mass media. They also make toys more in contexts in which the economy and material world provide them raw materials in the form of natural materials and, best of all, trash—that is, wastepaper, wire, bottle caps, buttons, scrap lumber, cloth, tires, glass, cans, and so on—that can be fashioned into things to play with. The more plentiful the materials, the more children's imaginations and inventiveness seem to be stimulated. Toy making is part of a dynamic process of culture change (Rossie, 1998) in both industrial and nonindustrial societies. From community to community, and without any adult involvement, news of new playthings can spread from one child to the next, creating fashions, fads, and crazes in the local, regional, and now global cultures of childhood.

These three hypotheses about play with toys seem consistent with Sutton-Smith's early reading of the SC data and his interpretation that play and games in those communities could be predicted by social mediation and cultural tradition because play and games provided appropriate preparation for later childhood learning and adult life. Creative and imaginative play, he further hypothesized, was more relevant and evident in open versus closed societies—more valuable to foragers than to tillers, differently expressed in boys versus girls, and most common of all in those complex societies where children were exposed to more novelty and/or had more leeway to roam about away from home and choose their playmates and companions (Sutton-Smith, 1974, 1975).

This article was intended to examine Sutton-Smith's hypotheses by reviewing the CDW findings and then revisiting the SC data. Beatrice

Whiting provided her files on child play, memories about what the data seemed to show, and cautions about the limitations of the play data due to the observers' focus on social interaction rather than individual behavior.

Samples and Methods: A Brief Review

The cultural communities studied in the SC and DW projects varied greatly in terms of economy, adult work, settlement, and residential patterns. In each case, field researchers attempted to select a "primary sampling unit" of families who shared cultural beliefs, values, and practices and who knew one another's children (Whiting & Edwards, 1988, p. 21).

The SC data were collected on children aged 3 to 10 years in six samples studied by field teams between 1954 and 1956 under the overall direction of John and Beatrice Whiting (see Table 1). These communities were located in Kenya, Mexico, Philippines, Okinawa, India, and the United States. All but the U.S. community were at the time of study still primarily subsistence agriculture with some contact with the cash or wage national economy, and farmers sold some of their produce to purchase goods, pay school fees, or pay taxes. In three of the communities, families functioned as part of economically complex societies with class structures and an occupational division of labor. Women's workloads were physically heaviest in the Kenyan communities and lightest in the economically complex communities in North India and the United States. Settlement pattern also varied. In Nyansongo, Kenya, families lived on the largest, most isolated farms; in other communities, homes were clustered into hamlets, villages, or towns. Household size and availability of kinfolk varied from the polygynous Kenyan households, with as many as eight separate dwelling units, to the small, nuclear households of New England. Kinfolk in most samples lived on contiguous land. The New Englanders were most isolated from relatives and also had the fewest children per family (average 3 vs. 7 to 10 in North India and Kenya).

Subsequent to the SC study, running-record observations were collected on children aged 0 to 10 years in six samples (Whiting & Edwards, 1988, Appendix A). Gerald Erchak in 1970 and 1971 collected data on 20 children aged 1 to 6 years from 15 farming households in

Kientaa, Kpelleland, Liberia. Sara Harkness and Charles Super in 1972 to 1975 observed 64 Kipsigis-speaking children aged 3 to 10 years in Kokwet in the Western Province of Kenya. Thomas Weisner in 1970 to 1972 observed 68 Luhyia-speaking children aged 2 to 8 years living in 24 urban households in Kariobangi, an urban housing project in Nairobi, and 24 rural counterparts in Kisa location in the Western Province of Kenya. Beatrice Whiting in 1968 to 1970 and 1973 collected data on 104 Kikuyu-speaking children aged 2 to 10 years from 42 farming and wage-working or entrepreneurial households in Ngeca, a sublocation in Central Province about 20 miles north of Nairobi, Kenya. Susan Seymour in 1965 to 1967 observed 103 children aged 0 to 10 years from 24 lower-, middle-, and upper-caste households in or nearby the Hindu town of Bhubaneswar in the state of Orissa in North India.

In all of these communities, a sample of children was selected for timed observations. The SC methodology was developed collaboratively by the senior investigators, the field teams, and the staff of the Laboratory of Human Development in the Harvard Graduate School of Education. It was published in the Field Guide for a Study of Socialization by John Whiting, *et al.* in volume 1 of the SC series, in 1966. This methodology was modified by Beatrice Whiting for work with the colleagues who contributed to the CDW project (Whiting & Edwards, 1988). Behavior was recorded by trained members of the children's culture who had thus grown up with the same system of verbal and nonverbal communication norms. In recording the focal child's social acts (event sampling), the observer followed the eyes of the focal child, identifying whenever possible not only the child's social interactions, but also the events that invoked them and any response by a social partner. The records were taken in consecutive English sentences for later coding. Behavior coding involved judgment of the apparent intention that often could be made only when the entire sequence of events was known. Before an observation was started, the date, time of day, exact location, people present, and activities in progress were recorded. Time records were maintained along the left-hand margin of the paper, with

Table 1
Characteristics of the Six Cultures Samples

Community and Location	*Linguistic Affiliation*	*Researchers, 1954-1956*	*Type of Settlement*	*Sample (children aged 3 to 10 years)*
Nyansongo, Western Province, Kenya	Gusii, Bantu	Robert LeVine, Barbara LeVine Lloyd	Farm homesteads, population 208	18 homesteads, 16 children, 75 minutes observation/child
Juxtlahuaca, Oaxaca, Mexico	Mixtecan	A. K. Romney, Romaine Romney	Barrio, Indian section of a town, population 600	22 households, 22 children, 79 minutes observation/child
Tarong, Luzon, Philippines	Iloco	William Nydegger, Corinne Nydegger	Scattered hamlets, population 259	24 households, 24 children, 135 minutes observation/child
Taira, Okinawa	Hokan and Japanese	Thomas Maretzki, Hatsumi Maretzki	Village, population 700	24 households, 24 children, 74 minutes observation/child
Khalapur, Uttar Pradesh, India	Hindu	Leigh Minturn	Town, clustered, population 5,000	24 households, 24 children, 95 minutes observation/child
Orchard Town, New England, United States	English	John Fisher, Ann Fisher	Part of town, population 5,000	24 households, 24 children, 82 minutes observation/child

Source: Condensed from B. Whiting and Edwards (1988, Tables 2.1 and 2.2).

notes as to when people entered or left the interactional space. With the exception of Bhubaneswar, India, observations were limited to the daylight hours and were distributed over four or five periods of the day. In the SC study, each record was 5 minutes in length; in the later samples, each was 15 minutes to 1 hour in length, depending on the community. Methods of training observers and achieving interobserver reliability were roughly the same across communities.

Spot-observation data were collected on children aged 5 to 7 years under the direction of Ruth and Robert Munroe and their collaborators between 1967 and 1975. On designated days and at set time periods during the day, the observer visited all of the sample homesteads in turn and scored one set of records per participant child: proximity to home; predominant activity; gender, age, relatedness, proximity, and activity of all persons present in the child's interactional space; persons' social engagement with the participant; and whether the participant was being supervised by an authority figure. By this method of instantaneous sampling, 140 children were observed between 8 and 20 times each in six sample communities located in Kenya, Guatemala, Peru, and the United States. Ruth and Robert Munroe collected data in Vihiga in Western Province, Kenya. Sara Nerlove collected data in Nyansongo, Kenya, and two Spanish-speaking Ladino farming villages in Guatemala called Conacoste and Santo Domingo. Charlene Bolton, Ralph Bolton, and Carol Michelson collected data in Santa Barbara, Peru, a Quechua-speaking town with a mixed horticultural and herding economy. Finally, Amy Kohl observed children in Claremont, California, a primarily upper-middle-class, English-speaking suburban community.

Previous Findings: A Review

An overarching conclusion of B. Whiting and Edwards (1988) was that it is far easier to describe gender, age, and cultural differences in children's typical companions and activities than to find differences in their social behavior (relative proportions of nurturance, dominance, dependence, and sociability) after controlling for companions and activities. There were four strong findings that were consistent across cultures

and upheld by both running-record and spot-observation data, and all are relevant to cultural and gender differences in children's play.

First, girls spent more of their day doing responsible or productive work, such as child care, housework, and gardening, whereas boys spent relatively more of their time playing. These gender differences are seen from age 3 and older. For example, in all six samples of the SC study, boys aged 4 to 5 years had a higher percentage of observations in which they were seen playing than did girls (see Table 2). Girls aged 4 to 5 scored higher in working than boys in five samples, except in Orchard Town where both boys and girls had zero observations scored at work, and girls aged 6 to 10 scored higher than boys in working in four of six samples (B. Whiting & Edwards, 1988, Table 2.11). The spot-observation findings on children aged 5 to 7 showed boys higher in playing in five of six samples and girls higher in working in four of six samples (B. Whiting & Edwards, 1988, Table 6.2). Children in the Kenyan communities, whose mothers had heavy responsibilities in subsistence agriculture, least help from husbands, and large family size, scored particularly high in working (animal care, child nursing, housework, and agricultural tasks).

Second, gender segregation was the grand rule of social interaction during middle childhood (ages 6 to 10). Boys and girls segregated into same-gender peer groups whenever there were enough children available and especially did so when they had already divided themselves into age-homogeneous groupings. After age 6, schooling was a factor that allowed boys and girls in most communities access to peers. For children younger than age 6, settlement pattern made a big difference. For example, in the SC data, an average of 66% of the interaction of 4-to 5-year-olds with children was with same-gender children aged 3 to 10 (B. Whiting & Edwards, 1988, p. 231). Because the majority of children this age were not allowed to range far from home, they were limited to who was available in their choice of playmates. The three SC communities with the highest percentages of same-gender interaction were Taira and Juxtlahuaca, where children played in public areas and the streets, and Nyansongo, where boys went off together to herd cattle (combining work with play) in the fields.

Third, during middle childhood, boys reduced contact and interaction with their mothers and other adult females and were observed at greater distances from home than were girls. The highest levels of distant-from-

home observations in the SC study were found in the 6-to 10-year-olds from the denser settlements of Orchard Town, Taira, and Khalapur, where school-aged children (only the boys in Khalapur) had freedom to wander to play (B. Whiting & Edwards, 1988, chap. 2). The spot-observation findings clearly corroborated that boys aged 5 to 7 had more autonomy and freedom to wander and play. Boys were observed more often than girls in "undirected activities" (*e.g.*, play) in five of the six samples (all but Claremont) and at higher average distances in feet from home than were girls during undirected activities in those same five samples (B. Whiting & Edwards, 1988, Table 2.6).

Fourth, girls, especially during middle childhood, had more contact, interaction with, and responsibility for infants than did boys. For example, in the spot observation findings, 5-to7-year-old girls were observed holding an infant more often than boys in all samples except Claremont and engaged in child care in all six. The Nyansongo children scored highest with 14% of girls' spot observations scored as holding an infant and 21% as doing child care (B. Whiting & Edwards, 1988, Table 2.12).

Revisiting Childhood Play in the SC Data

These findings suggest that girls and boys in different communities have different opportunities for play, but they do not provide much detail. More can be learned from the SC observations because observations were coded for different types of play, and the data deserve a second look. Both the coded scores and original field notes were reviewed for the following analysis.

Four major play categories had been used in the SC codes to score children's observation protocols: creative play, fantasy play, role play, and games with rules. Each 5-minute protocol could be scored for one type of play (creative, fantasy, or role play); if more than one of these three types of play occurred in a protocol, the dominant type only was considered. However, it was possible for a protocol to contain both one type of play (*e.g.*, creative) and also be coded as a game with rules. Creative play was defined as play involving manual dexterity and will be referred to in this article as creative-constructive. Examples included drawing in sand, constructing an object such as a slide or swing, whittling or carving, making a structure of sand or mud, knitting or spinning for pleasure, or playing with a store-bought toy creatively. Fantasy play was defined as playing a fantastic person or animal or pretending an imagined character. Role play was defined as acting out an adult role that the parents might actually perform (such as smoking, cooking, cleaning, shopping, parenting a doll, dressing up, etc.). Bloch and Adler (1994) called this role play "play-work" in their excellent analysis of Senegalese children's activity; the young children displayed many instances of imitative playing at work that gradually and imperceptibly slid into serious work as they grew older. Games with rules included games of physical skill, chance, or strategy, such as hide-and-seek, marbles, tag, fencing, jump rope, checkers, card games, and so on.

Because Beatrice Whiting had less confidence in these codes than in the social interaction codes, a conservative and basic method of analysis seems most appropriate. Thus, a count has been performed of boys and girls in each community sample ever scored as engaging in each kind of play, without taking account of how many instances were scored (usually one to three per child). Such a procedure tends to flatten rather than inflate group differences; and so, those that are found, it may be assumed, were probably there in the data, not a statistical artifact. The findings are presented in Table 2, columns 2 to 5. These columns show percentages of girls, boys, and all children in each sample combined, observed as engaged in creative-constructive play, fantasy play, role play, and games with rules.

The findings in Table 2 suggest that Nyansongo and Khalapur children scored lowest in play, Juxtlahuaca and Tarong children scored in the middle, and Taira and Orchard Town children scored highest across the four categories. The findings will be discussed culture by culture to explore how play was encouraged or neglected in each of the communities for both boys and girls.

Nyansongo, Kenya

This community evidences the least play among the SC samples. Children were absorbed into the work of their mothers, and they helped with agricultural work, animal care, and child care, and were discouraged from leaving their homesteads in order to minimize aggression with neighbors. Neither their mothers nor fathers stimulated their play by

joining in, making suggestions, or providing help or materials. However, the children played with their kin in mixed-age groups and often combined play into their work, which was usually not arduous. For example, much of their interactions with infants and toddlers involved imitation, laughter, and playful touching and teasing. In one observation, a girl aged 7 was home with the baby (no adult present), and she entertained the baby by pretending to make a cigarette out of a corn husk. When boys were herding cattle and goats in the lineage pastures, likewise, they played in ways that could be interrupted if the animals wandered or needed attention. For example, they made plows and hurdles out of sticks. The mixed-age play of Nyansongo children was not conducive to competitive games with rules, however, and only tag and dirt-throwing contests were seen (for an example of girls playing tag, see B. Whiting & Edwards, 1988, pp. 207-208). The children had only a few simple, homemade toys, such as slingshots, and perhaps because they had real babies to play with and real adult work to do from early ages, they did little roleplay. Their highest play scores were in the creative-constructive area, especially for boys. For example, in observations on adjacent days, boys in groups of four, aged 4 to 11 years old, played in a stream and waterhole where their cattle were watered, and built themselves a dam. The dam building required some cooperation and led to joyful swimming and shouting. One boy, age 6, was at first hesitant to help because he thought there might be snakes in the water, but then, reassured by an older boy, became so engrossed he would not stop digging even though the others shouted at him repeatedly that his cattle were getting away.

Khalapur, India

Khalapur was a community high in complexity and relatively low in play. The children, when at home, engaged in much idle sociability and standing about, because the courtyards were crowded and they were discouraged from rowdy play. Their mothers often interacted with them in a somewhat scolding or reprimanding style and did not seem to encourage their play. However, children had considerable leisure, as

Table 2
Children's Play for the Six Cultures Samples

Community Location	*Percentage of Observations Coded Play for 4- to 5-Year-Olds*	*Percentage of Sample 3- to 10-Year-Olds Ever Observed in Creative-Constructive Play*	*Percentage of Sample 3- to 10-Year-Olds Ever Observed in Fantasy Play*	*Percentage of Sample 3- to 10-Year-Olds Ever Observed in Role Play*	*Percentage of Sample 3- to 10-Year-Olds Ever Observed Playing Games With Rules*
Nyansongo, Kenya	Girls 17	Girls 37.5	Girls 0	Girls 12.5	Girls 12.5
	Boys 20 B+	Boys 62.5 B+	Boys 25 B+	Boys 12.5 B=G	Boys 12.5 B=G
		Total 50	Total 12.5	Total 12.5	Total 12.5
Juxtlahuaca, Mexico	Girls 42	Girls 45.5	Girls 0	Girls 31.8	Girls 18.2
	Boys 59 B+	Boys 18.2 G+	Boys 0 B=G	Boys 9.1 G+	Boys 9.1 G+
		Total 31.8	Total 0	Total 36.4	Total 13.6
Tarong, Philippines	Girls 43	Girls 33	Girls 25	Girls 41.7	Girls 58.3
	Boys 55 B+	Boys 41.7 B+	Boys 75 B+	Boys 83.3 B+	Boys 66.7 B+
		Total 37.5	Total 50	Total 62.5	Total 62.5
Taira, Okinawa	Girls 79	Girls 58.3	Girls 33	Girls 83	Girls 75
	Boys 92 B+	Boys 58.3 B=G	Boys 33 B=G	Boys 25 G+	Boys 75 B=G
		Total 58.3	Total 33	Total 54.2	Total 75
Khalapur, India	Girls 18	Girls 41.7	Girls 16.7	Girls 16.7	Girls 8.3
	Boys 34 B+	Boys 16.7 G+	Boys 25 B+	Boys 25 B+	Boys 33 B+
		Total 29.2	Total 20.8	Total 20.8	Total 20.8
Orchard Town, United States	Girls 43	Girls 58.3	Girls 41.7	Girls 33	Girls 75
	Boys 55 B+	Boys 66.7 B+	Boys 25 G+	Boys 8.3 G+	Boys 50 G+
		Total 62.5	Total 37.5	Total 41.7	Total 62.5

Note: B+ = boys > girls; B=G = boys = girls; G+ = girls > boys. Column 1 is drawn from Whiting and Edwards (1988), Table 6.2, p. 205. Columns 2 to 5 are based on the present analysis.

boys were not expected to take care of cattle before age 6 and younger girls did only light household work. Both girls and boys did watch the infants and toddlers while their mothers cooked. Boys had much more freedom to roam, and the older boys, watched by the younger ones, played in the pastures different games with rules, such as jacks and forms of hockey. Children had few toys but often played with sticks or bits of paper or cloth. In one observation, an older boy chopped branches off a stick to make a hockey stick; he had considerable difficulty cutting the stick but moved it from one stone to another, still working at the end of the 5-minute observation. His mother, sister, and a visiting girl were nearby, but no one interacted with him except his sister, who scolded him (which he ignored). In another observation, a 6-year-old girl was trying to embroider a little piece of cloth. Her aunt and grandmother were nearby but did not help her. She threaded the needle after many tries and then followed the lines of a design, carefully counting the stitches and correcting her mistakes. After the 5 minutes, her aunt and grandmother inspected her work and told her to take it all out because she was ruining the cloth. The observer commented in her notes that "actually she had done quite well for a first try." The girl continued to work and try to correct her mistakes.

Juxtlahuaca, Mexico

Juxtlahuaca was a community with intermediate play and work scores. Older girls were the group most involved in responsible work (such as child care). Younger children were kept inside their courtyards where there was usually a supervising adult present. These adults did not stimulate or encourage play, but they were tolerant and noncritical. Children ran errands for adults when asked and, in between, engaged in much unstructured play. Children in the courtyards were observed trying to play a few simple games with rules, such as tag and ball, and they loved playing with the dolls and other toys introduced by the field observers, the Romneys, who had their own children (Beatrice Whiting, personal communication, 1998). What the children were high in was role play and creative-constructive play, especially the girls. They made houses, and pretended to sew and to make tortillas. They dug in the sand with various implements, braided and played with pieces of palm and cloth, pounded

bottle caps, built tents out of shawls, played lariat with rope, and used old bricks in numerous ways. The boys held top-spinning contests and played with toy cars, and made roads and vehicles out of mud. Fantasy play was not seen, however.

Tarong, Philippines

Tarong was another community with intermediate play and work scores. The busy mothers used work as a way of keeping their children busy but also depended on organized group games. Adults were almost always nearby and could oversee their children without being obtrusive. Older children went off to school but after school were given younger siblings to supervise. The field observers, the Nydeggers, noticed how the older children took great care to teach the younger ones how to play a variety of games with rules, including hide-and-seek, tag, drop the handkerchief, and other games they learned in school, "junior versions of school games—fantastic games labeled basketball or baseball, but bearing little resemblance to the originals. As many as 20 children, ranging in age from toddlers to 10 years, were observed in such riotous games" (Nydegger & Nydegger, 1963, cited in B. Whiting, 1963, p. 834).

Table 2 shows the children of Tarong, especially the boys, as being high in all four categories of play. Examples of role play included playing "smoking," planting and harvesting, cooking and eating, haircutting, ironing, pounding rice, and having sex. Examples of fantasy play included playing ghost, jeep, train, horse, sword fight, bicycle riding (on a drum), card playing (with leaves), and performing music (marching, singing, playing "guitar"). For creative-constructive play, they were resourceful in using natural and found materials. For instance, they made mud pies, constructed miniature seesaws out of sticks, drew in the dirt, constructed houses of branches, made toy cars of cups and cans, made guns out of bamboo, and made whistles out of banana stalks. The observations are notable for displaying young children engaging in long, sociable, harmonious, and constructive episodes of cooperative play. In one, two younger boys went under the porch, where adults could not see them, to build a playhouse. They sat about a foot apart, facing each other, using various branches, sticks, and other materials lying around to build with. They chopped sticks, then pounded them into the ground and built a platform. Humming, chatting, and singing together, they proceeded to

carefully and laboriously balance sticks across their uprights, mutually making adjustments and building and rebuilding their platform, for the length of their observation period.

Orchard Town, New England

The children of Orchard Town scored lowest in responsible work and highest in access to toys and manufactured games and store-bought play materials. Both boys and girls had high play scores, with girls notably high in games with rules. Because they lived in small families with few adults and children, and did not have freedom to wander their neighborhoods, they spent many hours indoors. There, their parents (both mothers and fathers) encouraged them to entertain themselves by playing alone or together, and the adults sometimes joined in, answered questions, and offered information, or mediated disputes as needed.

Table 2 shows that children evidenced all four categories of play. For role play, they played birthday party, cooking, making beds, having baths, shopping with money, and dressing and taking care of baby dolls. Their fantasy play was imaginative and included playing sheriff and deputies, riding horses (using a ruler), telephone calling, magic carpet (with a tiny rug), radar (a dog serving as the airplane, and a wire stuck into the wood as the radar receiver), and people (using marbles). For creative-constructive play, they played follow the dots, coloring, cutouts, drawing, cutting venetian blinds out of paper, building with blocks, cutting up magazines, making paper chairs, sculpting with clay, making sand pies, and playing with a dollhouse. They also had books and television to fill their time, and many board games and card games.

Taira, Okinawa

The children of Taira had the highest play scores of the SC study, and the girls had notably high scores, especially in comparison with girls from other communities besides Orchard Town. Their mothers and fathers were heavily involved in physical work, but the children had much freedom to wander and play in the open, friendly courtyards. Children younger than age 5 were seldom given chores, and they attended a community nursery school in the morning. There, the teacher taught

them turn-taking and other skills conducive to playing games with rules. After school, the older children supervised the young ones, all playing together in large play groups.

Most of the children were seen engaging in all four categories of play. Like the children of Tarong, they were resourceful in using natural materials for creative-constructive play: they drew figures and house plans in the sand, built slides out of pieces of tile, made mud-pie trucks, wrote with chalk on the wall, dug gravel pits, and made houses of bamboo sticks. For fantasy play, they imitated a track meet, acted out a sword fight, played house (with a robber) and telephone calling, played vehicle games with all sorts of blocks and bits of wood, used gravel to make rain, and played ghost. Their role play included playing house, store, and animal care. For games, they played marbles and pitched rubber bands, wrestled, and chased one another.

Summary and Conclusions

This article has involved a qualitative and quantitative reanalysis of the data on children's play from the SC study. The data, collected in the 1950s using a running-record procedure, offer a picture of worlds of childhood at a time when communities were more isolated and less involved in markets and modern technology than they are today. Children in many communities participated in subsistence activities and child care in ways that promoted their responsibility and nurturance but still allowed time for play with peers and siblings (often, they combined moments and episodes of fun, entertainment, and constructive problem solving into their work). Children also had less exposure to novelty and stimulation coming from media and recreational and educational institutions than today and less access to the products, by-products, and waste products of the industrial world. Only in Orchard Town, New England, did children in the 1950s already have a plethora of games, art materials, and toys, as well as tools, scraps, and trash so useful to use and combine with natural materials in constructing toys and creating imaginative narratives. As a result of these contextual factors, children's play showed much variability across the sample communities. Games with rules, for example, were more prevalent in the three complex communities where

parents were part of classed societies with economic role specialization and hierarchy (Orchard Town, Khalapur, and Taira) and in Tarong, with its nucleated living arrangements, as Sutton-Smith and Roberts (1971) concluded. Because competitive games thrive best with peer groups rather than mixed ages, they were most often seen on the school playgrounds rather than backyards.

Role play was quite common in most communities and higher for girls than for boys in four samples (equal in a fifth). These findings agree with Sutton-Smith's (1974) hypothesis that role play allows children, especially girls, to prepare for customary adult roles that they are expected to assume, by imitating the easily observed activities of the people around them. In many of the SC communities in the 1950s, there was little emphasis on material possessions, and children were more interested in interacting with one another and participating in the life around them than in the physical culture. They used mud, sticks, stones, and other natural materials to imitate adult roles of cooking, grinding, and plowing, and tied rocks and rags to their backs as pretend babies. They also used knives, pangas, and axes to imitate adult work and food preparation, as early as ages 2 and 3. Smoking and telephoning seemed to be two adult pleasures that children avidly imitated. Small children also liked to play school in imitation of their older brothers and sisters. Privilege in the communities was seen as going with age, and adults controlled the environment through work activities, much of it visible to children.

It is interesting to note that role play was particularly low in Nyansongo, probably because children there participated earliest and most heavily in real adult work and therefore did not need to practice through acting out. The line between the categories of work and role play can be blurry for such children anyhow. Children growing up in subsistence communities are observed from toddlerhood onward to engage in a kind of "playing at work" or "work-play" (imitation immediate or deferred) that allows children to ease themselves from a playful trying out, to serious effort, to full responsibility, in a gradual, self-motivated way as they master the required skills and contribute ever more to the household economy (Bloch & Adler, 1994). Indeed, in all the samples, what was coded as role play seemed to drop off at the age that children were required to play a significant role in the household. Among the older

children, role play was most commonly seen in the children of Taira, where children were not expected to engage in work.

Fantasy play was most prevalent in Tarong and Orchard Town, followed by Taira, but was observed among fewer than half the children in the other three communities. These findings would seem to support Sutton-Smith's conjecture that imaginative play is more relevant and evident in open societies where children are exposed to more novelty and stimulation and/or have more leeway to wander and play without close adult supervision or control and where they can choose their playmates and companions (Sutton-Smith, 1974, 1975). Imaginative play included the most fantastic scenarios (*e.g.*, magic carpet and radar) in Orchard Town. Today, I believe, fantasy play would be more frequent and elaborated in all of the communities. Beatrice Whiting (personal communication, 1998) observed that the Juxtlahuaca children loved the toys brought by the Romney children, and children in all the samples immediately liked the pipe-cleaner dolls when used by the field teams for the Thematic Apperception Test.

Creative-constructive play, finally, was evident in all six of the communities. Children seemed to have a developmental need to make and combine things, to make marks and draw, and to handle and reshape materials that could not be subdued. Indeed, in observations described above from Nyansongo and Khalapur, children continued in their self-directed, constructive activities with mud and cloth even when criticized or told to stop—they were simply too absorbed and interested to heed others' interventions. Although the SC observations did not offer examples of children making complex toys, such as dolls with costumes, bottle-cap figures, or wire cars, nevertheless, the children were seen building houses, dams, and cars and roadways, and drawing in and on all kinds of surfaces. Probably, as they engaged in these creative-constructive stories, their minds were actively constructing stories or event scenarios for themselves; and thus, either role play or fantasy play was taking place implicitly. In recent decades, as children have gained exposure to more models of other children's play as well as more access to materials and resources for play, their variety and complexity of creative-constructive play can be predicted to have increased in the communities. One corroborating anecdote is the craze for wire cars that the boys of Ngeca, Kenya, were seen making in the 1970s (see Frances Cox's photo of a male child nurse carrying his infant charge on his back while racing

his wire car down the dirt road; B. Whiting & Edwards, 1988, p. 169). Field observer Carol Worthman introduced the wire-car safari to the Ngeca children, and boys of all ages, from 8 into the teens, were seen to take part (B. Whiting, personal communication, 1998).

Children in all communities, this review suggests, seemed to have an appetite for self-expression, peer collaboration, exploration, rehearsal, imagination, and problem solving. Their outlets were socially mediated and took many varieties of play and work, with not necessarily clear boundary lines dividing them. Both play and work allowed children to build their repertoires of skills and schemes and to exercise and extend their knowledge and control over their environments. Cultural norms and opportunities determined the degree to which play was stimulated by the physical and social environments. Key factors included whether adults considered play a good use of children's time or just an annoyance, whether adults preferred to conservatively preserve tradition or instead to instigate innovation, and whether the environment provided easy access to models and materials for creative and constructive play. Nevertheless, play of several kinds was observed in each community and depended on the environment only for reinforcement, not for instigation.

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