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Content

Dinosaurs and Other Dangers: Navigational Play in a World of Trouble

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Abstract: This article presents a case study of a child who attended Projeto Clicar, an extended education program designed for the social and educational development of children living on the streets of São Paulo, Brasil. We discuss how his discovery of the existence of dinosaurs unleashed a sustained artistic output at Projeto Clicar. We document the "third space" of Projeto Clicar, which offered repertoires of practice that represented alternative modes of relation for the children of Projeto Clicar. We discuss how this alternative relational space provided the tools for ecological resilience in a hazardous world, as the child's dinosaur art became both a exploration of inter-relatedness and a means of expressing his own predicament of place, navigating between the open, inclusive world of Projeto Clicar and the closed, exclusive geographies of the city streets outside its reach.

Keywords: social inclusion, third space, relational habitus, participatory appropriation, anticipatory appropriation

Introduction

In this article, we offer a case study of a young person who frequented Projeto Clicar, an extended education program designed to promote the social and cognitive development of children living and working on the streets of São Paulo. For over seventeen years, Projeto Clicar provided informal educational resources and activities at Estação Ciência, a science museum in the low-income district of Lapa in São Paulo, until its closure in 2013. In its informal digital and hands-on activities, Projeto Clicar linked children (aged 5 to 18) to professional educators and older peers (university students from the Universidade de São Paulo).

The children who frequented the program convened from a variety of neighborhoods throughout the expansive Brazilian city. Many of them were not in school, had never been to school, or had only attended school for a year or two. In participating at Projeto Clicar, they voluntarily entered a space where they were able to explore a variety of digital tools and other resources – board games, art activities, picture books, etc. There was little or no formal instruction, yet there were always educators (including both credentialed professionals and trained university students) at hand whom the children could ask for guidance when they were unable to solve a problem

for themselves. The children learned to engage in these varied activities through interaction with each other and with the educators, who often participated with them as more experienced partners in the activities. The team of educators was specifically trained not to "instruct" the children, but to ask them questions and guide them to work together and build on each other's knowledge. The educators who worked at Projeto Clicar, including its directors and the university students they trained to work directly with the children, also provided counseling and assistance in finding adequate food, clothing, and shelter for the night. All these activities took place in a special area set aside for these children within Estacão Ciencia.[1] The young people who attended Projeto Clicar faced a difficult life on the streets, and the program, open every weekday afternoon, represented a haven for them from the hardships of that life.

For those children, Projeto Clicar was a separate "world" of activity, an arena of playful activity, a "third space" that offered a safe refuge outside the constraints of strict institutional surveillance and externally imposed expectations (Gutierrez, 2008). To illustrate the range of activities that the program offered to these young people, we examine the experience of one child, whom we call Tiririca (a pseudonym). Of course, the circumstances of the many young people who frequented Projeto Clicar were highly variable, and the educators accordingly tried to expose them strategically to a variety of engaging activities that helped in the initial assessment of their specific needs, interests, and abilities. These activities ranged from computer games, supervised Internet explorations, art projects in a variety of media, movies (once a week) to which these young people rarely had access, as well as various informal activities to encourage and improve reading and writing among the participants.

In the ethnographic description below, we show how the activities at Projeto Clicar helped Tiririca to develop a fascination with dinosaurs and to cultivate a capacity for producing artwork of increasingly high quality. We suggest how his artwork both enabled him to reflect on his experience and to explore his own path toward an uncertain future. We attempt to show how the scaffolded activities and learning opportunities offered at Projeto Clicar, co-constructed by educators and participants, enabled the children to envision alternative scenarios for navigating the ever-present hazards and violence they faced on the streets, thus providing them with the potential for greater agency and purposeful activity. We examine the program ethnographically, through the perspective of one child, as a framework of integrative activities that helped young people contextualize their experience of social exclusion through a form of navigational play that enabled them to explore alternative paths through their world of trouble.

Review of the Literature

In Tiririca's world, the question of navigating the streets of São Paulo represented a formidable dilemma. It implied crucial choices and the cautious calculation of the many hazards and slim opportunities that lay in his present and future path. In the cognitive ethnography that follows, we investigate how the activities at Projeto Clicar, leading to his discovery of dinosaurs and thus giving him the tools and relationships to encourage and pursue his knowledge and understanding of dinosaurs as symbolic creatures that represented his own self-identification and self-preservation in a hazardous world, supported Tiririca's cognitive process, his reckoning of his own course toward a newly envisioned possible future, or toward envisioning even the possibility of a future.

Drawing on Vygotsky's (1978) concept of the zone of proximal development, which focuses on the process by which individuals are able to learn in collaboration with others what they cannot figure out on their own, and on Lave's (1996) definition of learning as changing participation in sociocultural activities, Rogoff (1995) has viewed learning not as an internalization of values and skills, but as the transformation of engagement in shared socio-cultural activities, such as those deliberately framed by Projeto Clicar's activities, through a process that she calls "participatory appropriation." This concept springs from the Vygotskian and Deweyan view that cognition takes place not simply within the individual brain, but always in the context of socio-cultural activity (Dewey, 1938; Vygotsky, 1978). From this perspective, learning is necessarily "situated" within the social context of a learning community – a community of practice in which cognitive development is not simply the transmission of information from one person to another, but instead involves the interactive co-construction of knowledge through participation in practical activity (Lave and Wenger, 1991). Learning may thus be observed in participants' movement from peripheral to more integral participation in specific activities. The concept of participatory appropriation highlights the change both in the amount or level of participation and in the nature of their participation (Rogoff, 1995). When we view this process in situations like that of Tiririca at Projeto Clicar, we begin to recognize the interactive elements that contribute to individuals' changing participation – the pedagogical guidance of educators through the tasks they set and the agentive reflection by participants concerning the nature of their own participation. When we examine how this participatory transformation takes place over time, we are observing what we call "anticipatory appropriation" – the participants' active dead reckoning, their cognitive anticipation of what they need to do and in what ways, to become more accomplished, decisive, agentive players in the activities and situations in which they find themselves (see Results).

In this sense, Tiririca's art appeared to represent an attempt to navigate ambiguity and insecurity, to answer the questions that, as Hutchins (1996) suggests, navigational activity tries to address: "Where am I?" and "If we proceed in a certain way for a specified time, where will we be?" (Hutchins, 1996, p. 39) In the world of navigation, this process is called "dead reckoning" – a term that reflects the chilling urgency of the distributed cognitive process. Elsewhere, we have discussed such navigational

play at Projeto Clicar as a form of integrative learning in which children's attention is transformed into agentive capacities of a higher cognitive order (Underwood, Mahmood, Pranzetti & Toloza, 2016). In describing Tiririca' experience below, we link Hutchin's (1996) perspective on distributed cognition as a navigational process with Rogoff's (1995) view of learning as participatory appropriation, to develop the concept of anticipatory appropriation as a tool for understanding learning in the context of time. Through this conceptual lens, we view how Tiririca's dinosaur artwork became a playful exploration of inter-relatedness and a means of expressing his own predicament of place. This navigational play enabled Tiririca, during the period of his participation at Projeto Clicar, to anticipate and plot his way between the open, inclusive community of practice that the program provided and the closed, exclusive geography of the city streets outside its reach.

Methods

We approached this case study as a cognitive ethnography, a methodology that explores the co-construction of meaning among participants in sociocultural activities. Cognitive ethnographies examine distributed cognition within social ecosystems that both constitute and are constituted by individual agents' engagement in activities framed by a particular social setting's relational habitus. Analyzing activity in this way enables us to observe the distributed cognition among participating children through their mutual engagement with program tools and artifacts over time. In this way, we pursue an inductive approach to observation of historically situated social settings and activities. This ethnographic approach calls for observation and description of the specific physical space of activity. It involves examining the physical arrangement of people and objects in that space, appraising the artifacts and tools used, including language use and task-oriented dialogue, and observing participants' interactions in the pragmatic transfer and exchange of information and knowledge (Hollan, Hutchins, & Kirsh, 2000).

Although this case study focuses on an individual, it analyzes that individual's enactment of the activities established among participants in the program's interactive framework, or what we call its "relational habitus" – its particular configuration of tools, tasks, selves, and others (Stone, Underwood & Hotchkiss, 2014; Underwood, Mahmood, Pranzetti & Toloza, 2016). Adapting Bourdieu's conception of habitus, which focused on the psychological dispositions of individuals internalizing social structures, the concept of relational habitus addresses the interactive engagement of selves and others in the intersubjective co-production of communicative processes that are "intersubjectively constructed and sustained over time in formal and informal learning environments" (Stone, Underwood, & Hotchkiss, 2012, p. 66). The concept of relational habitus provides for a pragmatic focus on the observable communicative processes implicit in learning and development (Underwood, Parker & Stone, 2013). As a tool for cognitive ethnography, relational habitus enables us to specify the configuration of interactive elements and their enactment in a particular learning environment, and thus to describe individuals' orientations to their own

participation and trace the transformation of these orientations over time. That is, we can assess the changing participation of children in informal learning activity as their navigational exploration of the possibilities and limits they envision in their social world.

It is thus a study of human cognition in a specific sociocultural context, within which information, meaning and understanding are embodied in the joint activity of participants in the specific sociocultural setting – in this case, Projeto Clicar. From 1996 until 2012, Projeto Clicar, supported by the Universidade de São Paulo, an NGO, and Petrobras, was located at Estação Ciência, an old factory converted into a science museum. Estação Ciência, until its recent closure, offered a wide variety of hands-on and digital activities, exhibits, and demonstrations illustrating scientific knowledge and inquiry. While the museum offered exhibits and activities for school children and their teachers, it also set aside a portion of its space for Projeto Clicar. As part of the museum, Projeto Clicar operated Monday-Friday from about 12pm–6pm throughout the year and offered young people who faced severe conditions of social exclusion new learning tools and activities within this inclusive world inside the museum (Underwood, Pranzetti, & Toloza, 2014).

It is important to note that the research reported here was always carried out as a secondary activity. The primary focus of our work at Projeto Clicar was to support the social and cognitive development of the young people who took part in its activities. We undertook our research largely to gain insight into the participants' lives, needs, and interests, so that Projeto Clicar's activities could be more suitably adjusted and adapted to build on the particular needs and interests of those young people. As a result, in our cognitive ethnography of the relational habitus established and continually developed at Projeto Clicar, we observed interactions in a variety of tasks and activities. We often selected particular tasks or activities – such as computer games, writing exercises, or art projects – for special observation, and we observed the children while maintaining our pedagogical engagement with the children in those activities. Together and separately, the authors pursued this work as participant-observers, making observations while we engaged in the activities with the children, and cross-checked our various observations and interpretations with each other.

By describing the subjects' response to the informal learning activities at Projeto Clicar, we attempt here to show how program activities mediated his development over time. As noted, we engaged directly in the everyday activities and interactions with the young people of Projeto Clicar to learn explicit and implicit aspects of their social world (Dewalt & Dewalt, 2010). Our research strategy included face-to-face observations of activities, the study of appropriate conversational pragmatics among the site's participants, and documentation of informal conversations and interviews, among other research methods (Briggs, 1986; Pelto, 2013). Because of the specific character of the social setting and our particular roles in that setting of collaborating closely with the program's directors in supporting program activities, we focused on working directly with the children as they engaged in program activities, primarily as a pragmatic strategy for improving and documenting the program. As Directors of Projeto Clicar, Dirce Pranzetti and Cecilia Toloza were professionally responsible for the site's organizational and pedagogical activities almost daily over a period of

seventeen years, while co-authors Underwood and Mahmood took part in successive ethnographic visits to the site, both together and separately. In carrying out our respective professional responsibilities, we collaboratively maintained a persistent, almost daily observation, kept detailed field notes, and held many discussions, over a period of more than fifteen years, about the learning processes among the children with whom we were participating and observing. This strategy enabled us to confront ethical dilemmas of qualitative research as we actively pursued Packer's (2011) methodological call for qualitative research to examine and explore alternative, inclusionary modes of relation in the co-construction of social activity.

We carried out this approach in response to ethical and methodological concerns about working in an educational setting which precluded clinical or experimental research design, and which was designed directly to advocate for, rather than conduct research on, the young people participating in the site's activities. In this sense, our research was formative, seeking to find ways to modify and improve the learning activities at Projeto Clicar. We view our approach as a form of design-based ethnographic research, examining learning processes and interventions in those processes, with the objective of generating innovation in educational activity (Brown, 1992; Drotner, 2013). In writing up our findings, we have drawn on Luria's narrative approach to presenting scientific findings – an approach that attempts "to preserve the wealth of living reality" (Luria, 1979, in Sacks, 1990, p. 183). Luria's approach emphasized the importance of grounding the scientific study of human beings in their concrete existence, in order to elucidate "the role of the historical, the cultural, the interactive, not merely in modifying, but in actually making higher nervous functions possible" (Sacks, 1990, p. 187). Based on this observational and analytical focus on specific activities over six years (the period during which Tiririca attended Projeto Clicar), this article presents an ethnographic case study of one child's interaction both with other children and with the Projeto Clicar educators in the relational habitus established by the program.

Results

For a number of years, Tiririca was a central figure among the children at Projeto Clicar. Of course, Tiririca was not his real name. He was nicknamed by the other children after a famous Brazilian clown, a character who, like his namesake, had a rough, expressive face that often broke into a wide, winning smile. It was no accident that the other children at Projeto Clicar gave this child that special name. Little Tiririca looked the part with every word and gesture, although it was no act on his part. He loved to laugh and make others laugh.

In his initial appearances at Projeto Clicar, Tiririca was skinny and small for his age – so much so that at first he was always called by a diminutive of his actual name. There was at that time no mention of the nickname he later came to acquire. The famous clown was not yet known to the children; in any case, the nickname was not yet known to Projeto Clicar educators, since no one yet called him that when he first arrived at Projeto Clicar.

One educator later noted,

> I cannot remember when he told us about the nickname or when the nickname began to be
> more apropos than his own name. Looking at the notes and seeing his work, I think that he was
> a boy with some schooling and that he had once had a family, because he knew how to write
> words and phrases that most children living on the streets at that time did not know. Also he
> told us the date of his birth, a relatively rare piece of information among the children at Clicar.
> Many children did not associate their date of birth to their birthday!

If the birth date he claimed was correct, he was older when he began to attend Projeto
Clicar than most of the other children who frequented the program. According to
program data, he first appeared in 1996. Tiririca's initial arrival at Projeto Clicar was
noticed by everyone around him. One educator described him as "pint-sized, [with
a] scrawny, small body, a body of a boy with a man's face. He was not cute, much
less charming, [he was] strong and muscular like many boys who live on the streets."
Even at that time, at the age of about thirteen, Tiririca had the face of a mature
man, characteristic among many children who suffer persistent nutritional problems.
For a young adolescent, it was an unusually aged face, lined and world-weary, and
yet frequently smiling. The photographs and comments of educators from that time
show the prevalence and readiness of his smile. As one of them said, "He always
impressed me by his gaze. His eyes were small, like two small jabuticabas [the fruit
of the Brazilian grape tree] and black, and he had a very wide, infectious smile."

The Relational Habitus: Projeto Clicar as a Third Space

He first arrived at Projeto Clicar along with Jorge (a pseudonym), who was then
known among the children as Tiririca's protector. They both came from Jandira (a
city that is part of greater São Paulo), where they lived most of the time. Sometimes
they came to Lapa (the district in São Paulo where Estação Ciência was located) and
strolled around, and finally, one day, they discovered Projeto Clicar. At first, Tiririca
was not very regular in attendance, but in a short time, Lapa became his primary
space for living and surviving. Every morning, he earned spare change by helping
out the street vendors on the square in front of Estação Ciência, and in the afternoon,
he would enter the museum and spend a few hours at Projeto Clicar. As one educator
noted,

> Tiririca always arrived with a huge, bursting smile, his extremely personal trademark, al-
> ways smiling and with incredible good humor. Over a few years he developed in the same
> way, a boy-man, puny, friendly, agreeable, unique, and captivating. With difficulty, he usually
> walked the streets alone, but he was often accompanied by 'good protectors,' true friends [like
> Jorge], but as nothing is perfect, and even less on the streets' ambience of abandonment, he
> was also surrounded by 'false friends' and others not so friendly.

Tiririca and Jorge soon became more regular at Projeto Clicar, and like other chil-
dren began trying out different activities. Jorge gravitated toward the computers,
playing games and figuring out the mouse and keyboard, while Tiririca was more
exploratory, trying out computer games and searching through books and magazines,
and finally focusing more and more on artistic activities.

Tiririca, like the vast majority of children attending Projeto Clicar, did not easily talk about his day-to-day difficulties in living on the streets. These hardships included issues such as finding food to eat, washing, going to the bathroom, finding transportation and securing shelter from rain and the perils of the night. Talking about these subjects usually occurred in private, with some educator whom the child especially liked, and took place only in times of great difficulty for the child, or when the child came to Clicar and the educators immediately noticed their general condition. Noticeable fatigue and clothes that were more filthy and ragged than usual, irritability and sleepiness – these indicated that a child's situation on the streets had worsened. For this reason, the educators approached the subject with the children only at the reception desk – the table at the entryway to Projeto Clicar where attendance was taken and the children created their own identification badges and where their notebooks were kept – or when they were alone, drawing or engaged in a solitary activity. At such moments, the educators would inquire about the child's circumstance and try to ascertain if there might be a solution to their immediate predicament.

For both Tiririca and Jorge, Projeto Clicar offered an inclusive third space – a safe place to be and a locus providing access to new learning tools and activities while offering an alternative interactional dynamic, replacing the hard, challenging world of the streets with an easy-going setting of open conversation and exploration. One of the program directors remembered Tiririca's early presence at Projeto Clicar.

> Super friendly, a nice guy, but also a very introspective person when he began to make sculptures with plastic modeling dough, to draw, paint, search for and look at images in books or on the computer screen. He was a quiet kid and calmly related to the smaller children and also with the older boys.

He was well liked by the other children at Projeto Clicar and admired for his amazing skill and ability to turn a mound of clay into a three dimensional dinosaur. For most of the children, who could not make standing forms made of clay, he was held in awe as a source of inspiration. Of course many children made fun of him, because he was so kind and naive and he often seemed not to understand the cutting jokes they made about him, especially after he became known by his nickname. "I never remember him fighting or using aggressive words or even using physical violence to other children. He really was a sane and very calm guy."

Tiririca was a great storyteller. Whenever he came to Projeto Clicar, he had something to talk about, and he talked a lot. Yet it was often difficult to differentiate the real from the imaginary, first-hand experiences from drug-induced exaggerations. In the words of one educator, "Tiririca presented himself to us educators as a sweet boy, gentle, intelligent, friendly and humorous, but in his heart he was very insecure and did not believe in his own personal qualities and potential. He always lived in the shadow of a street companion, who was often essential to his survival." His companions told a variety of stories about him, either joking about him in his absence or teasing him in his presence. But in the activities framed at Projeto Clicar, Tiririca himself told many stories as well, filled with many wild characters. His stories evoked the many hazards that he encountered with the "friends" he associated with on the streets. Jorge and he wrote down some of these stories. During that period at Projeto Clicar, Jorge wrote the following account, which is typical of these stories describing the world they inhabited outside the program.

The Adventures of Stubborn and Stubby[2]

> Me and Tiririca, we were in Amador Bueno [a district in the city of Itapevi, in greater São Pau-lo] sleeping at my buddy's house, when it was morning we went to ask for food at the COHAB [Companhia Metropolitana de Habitação de Sao Paulo, a housing project] in Itapevi, then we went back to my buddy's house. We thought about going to travel to Sorocaba [a city about 50 miles fromSão Paulo]. Once we got there we asked for food and a man invited us to sleep in his house. Me and Tiririca refused and that same night we went to Araçariguama [another city close to Sorocaba] once we got there we slept in the door of a bar. Then we asked for coffee at the bar and then stayed there until sunset. Then we were playing and cracking jokes, and a joke came up about Stubborn and Stubby and we began to yell at an old man, because he had called out to us, "Sleep dirty and wake up clean." Then Tiririca wanted to insult the old man with an ugly curse word and I grabbed him and said "Tiririca doesn't do that." Then two police vans went by, running, and that crazy guy here, Stubborn, wanted to cross the huge avenue and said "Okay, let's go back to Itapevi." Once we got there we asked for food at the COHAB and returned to Engenheiro Cardoso [the Itapevi train station] and so ended the story of Stubborn and Stubby.

The adventures of Stubborn and Stubby demonstrate the daily hazards that children like Tiririca and Jorge had to navigate on the street. It also demonstrates their ingenuity and inventiveness in negotiating transport to and from various nearby cities and adapting to the hazards of their varied urban environments. The grip of this precarious external universe was temporarily broken upon entering the space of Projeto Clicar. It was a place where children, within the inclusive context of the program's activities, became the masters of their own desires and inclinations. That is, they could choose which of the activities they wanted to pursue, change their minds and try out other activities, ally with friends or go off on their own. In fact, what generally happened at Projeto Clicar was that children (many of whom were not in school, had never been to school, or had only attended school for a year or two) entered a space where they were able to explore a variety of digital tools and other resources – board games, art activities, picture books, etc. Their participation in these activities was wholly voluntary. There was little or no formal instruction, in the traditional classroom sense, although there were always a number of educators at hand (including both certified professionals and trained university students) to offer guidance whenever they struggled with the digital or hands-on activities they were exploring or to help them learn to read or even to do simple physics exercises demonstrating concepts like momentum or inertia. For the most part, the children learned through interaction with each other and with the educators, who often participated with them as partners in the activities of their choice. The team of educators was specifically trained not to "teach" the children, but to pursue a pedagogy based on the works of Freire (1970), Vygotsky (1978), and Freinet (1990) – to ask questions, to guide them gently, to support their explorations and build on what they already knew.

In this sense, as previously noted, Projeto Clicar represented a "third space" (Gutierrez, 2008). Importantly for the young people of Clicar, they saw the space as their own. It was a time and place that was designed and designated specifically for them, where the social exclusion they encountered daily were temporarily suspended. It was a space where the children were free to set aside the masks of quasi-adult street toughness they usually maintained and, for a few hours each day, simply act like children (Underwood et al., 2003). In some ways, the concept of the "third space" is inadequate to encompass the experience of children like Tiririca and Jorge,

in that the concept presumes in the first place a "home world" (the world of parents, shelter, and food) and a secondary "institutional world" (the prescriptive world of school and other institutions of both social assistance and control). For children like Tiririca and Jorge, that first space did not exist, or was constructed situationally from day to day, and the second space was generally outside their reach, with the exception of local shelters where they could ask for food or a place to spend the night.

As Jorge's story chronicles, Tiririca and Jorge were negotiating their way through remarkably extensive geographies as they navigated among the barriers, hazards, and sparse resources of their world outside Projeto Clicar. As they endeavored, both together and separately, to navigate this world, they did so at times as solitary individuals, and at times, as a small group or team of collaborating partners, pooling information and resources in a distributed system of cognition, similar to what Hutchins (1996) has described in the professional world of pilots and navigators. The world described by Jorge can be understood as a study in navigation. Again, as Hutchins notes, "The central computations in navigation answer the questions, Where are we? And if we proceed in a certain way for a specified time, where will we be?" (1996, 39). These two questions are matters of concern, especially given the hazards of trafficking in any environment.

In a relatively short period of time, Jorge and Tiririca, drawing on their combined experience and background knowledge, navigated a considerable distance, from the Itapevi section of São Paulo to two other smaller cities and back by hopping trains, begging in strategic locations, and evading potentially abusive and intrusive situations – all the time, negotiating between themselves a habitus of understanding and mutual association – an implicit code of stubborn affiliation, of fictive relatedness through mutual identification. Set apart from their usual world, Projeto Clicar represented an alternative social space – an alternative relational habitus, a new configuration of associations linking the self, tools, tasks, and others (Stone, Underwood & Hotchkiss, 2012) in collaborative exploration. It replaced Tiririca and Jorge's world of intense and ever-present dangers, for a few hours a day, with a world of heartening possibilities.

Dinosaurs and Participatory Appropriation

At the beginning of Projeto Clicar, especially during the time that Tiririca began to attend, the program's objectives had yet to be defined specifically with respect to the work with individual children. The initial objective had simply been to provide a welcoming space where the children might feel free to come in off the streets and find something engaging, at least temporarily separated from the world of gangs and drugs and potential abuse. Soon after Projeto Clicar opened, Tiririca became a regular visitor. His time there offers an interesting example of the strategic way in which the educators at Projeto Clicar worked with individual children.

> At first we thought he was there more for a lark or following friends and to have a shelter from the streets for a part of the day, and perhaps to be able to 'small talk' and be heard by persons, aside from his usual circle on the street. He was always very dirty and it was difficult, at first, to have a focused discussion. He was evasive in his answers to questions about the street and his life. In fact, I thought he had some sort of cognitive deficit.

He liked to draw and most of the time used only black pencil without coloring the drawings. When he switched to the computer, it was more to keep up with the others, because he could read and could help others read the rules and words on the screen. In the beginning were the games, but in time he realized that he could use the computers also to observe and study pictures of animals, and especially dinosaurs, which were what most interested him. He first began this study of dinosaurs by using encyclopedia programs on the computer, because at that time the internet access at Projeto Clicar was still precarious.

But he really liked to leaf through books, which at that time (at the beginning of Projeto Clicar) were few, purchased by the educators or gathered from their homes. They also began to borrow books from the small bookstore at Estação Ciência and one day, they received a considerable donation of new books, arranged in a large chest that was placed in a corner of the program's space. They called it "the reading corner." This trunk had been made by officials of Estação Ciência and despite its being a good and generous idea, it presented a problem in that it made it difficult to search for books. It was a deep box and the children found it difficult to search for the books that were in the back or at the bottom. Also, over time the trunk became too small as more and more books were acquired. As one educator noted, "So it became a common practice for us to leave exposed, at an appropriate height for the children, some books that we perceived to be the children's favorites. Among them were some encyclopedias with volumes separated by themes such as animals, plants, birds and dinosaurs."

Tiririca soon became interested in the book about dinosaurs. He studied the pictures of various dinosaurs and soon began to draw them. He began by using the images in the book as models. The educators set up a drawing table, where the children sat and did their drawings or modeled small sculptures while sharing their stories of the street. There, the educators placed all kinds of papers (usually recycled paper, which had been already been used on one side), black and colored pencils and colored pens at the disposal of children. Once a week, they offered modeling clay for the children. Despite being an activity that quickly brought the children together in excitement, it usually lasted only for a short time, because most of them had great difficulty in creating objects. The figures they made were generally the same creations: protruded figures that would fall in a lump on the table without remaining standing even for a few seconds, and a few small baskets containing clay balls.

Into this makeshift setting, Tiririca brought in his personal project of molding dinosaurs and other three-dimensional creatures, and in a short time he created a new paradigm for the arts table. Drawing on Tiririca's example, other children found that they could create viable figures themselves. The other children were delighted with their own newfound performance but still had a lot to learn. They usually gathered the different mass of colors and molded them together into large gray balls of dough. Tiririca, on the other hand, took care to work separately with different colors – for instance, he would select different colors for each of its creatures. He also used the gray dough in particular ways by using it to highlight especially minute details, and he once used a dog's tooth he had found to enhance the realism of one of his more elaborate dinosaurs. He brought a new way of working the dough to Projeto Clicar, and to encourage the other children further, he tried out both other materials and oth-

er ways of constructing three-dimensional objects with clay and papier mache and showed them to the other children. He always showed particular interest in knowing about the materials that were available and finding new ways to use them, unlike most of the children who, once they encountered difficulties with the different materials, would quickly abandon the art table. Tiririca took on the difficulties and resistances of new materials as a personal challenge and was very diligent in his attempts to figure out the best possible way to use the new materials presented to him, as a way to find new ways to work on his creations. He became a prolific artist, drawing and sculpting and experimenting with new media, every day. As a result, his art work began to accumulate.

> I started to organize a folder so that there were always materials for his research, so that when he came to Projeto Clicar, we would not lose time gathering the pictures and books of interest. Also I started to gather his drawings and his sculptures in a more secure place, so that at the same time it could be seen by all, without being destroyed by the other children. I explained that the dough is a very perishable material and so the sculptures were ephemeral. To preserve them for longer, we recycled glass boxes that had been discarded by the museum and we used them to create small exhibit windows, where they were displayed. Sometimes Tiririca would ask us to take one of them out of the display case, and he would remake or re-shape them.

When he was engaged in activities at the art table, many children liked to hang around, watching him work and trying to imitate him. But he worked at a rapid pace. When encouraged to teach other children how to make dinosaur sculptures, he was very quick in his work and had trouble explaining the process of kneading and molding the play dough or clay into well-formed sculptures and how to look at and make use of pictures in books that he brought to the table. Sometimes he was very self-absorbed in his own work. He focused on his work and ignored everyone around him. At other times, he was very affectionate, and was always hugging the educators.

He was especially close to one of the directors, who always challenged him or proposed activities with special results. Within this closeness and in their long daily dialogues, the theme of "dinosaurs" often emerged. "I cannot precisely remember when he started to have interest in dinosaurs, perhaps always," one educator noted. In his first years at Projeto Clicar, his artwork was highly varied. "He drew little houses, helicopters and cars, streets and train stations and even strollers. Humorous, magical and skillful, he began to want to know more, to look at figures, to collect papers and books, to draw and play games about dinosaurs." Yet among all the creatures he envisioned and captured in images, it was the depiction of dinosaurs that increasingly took hold and became more and more prevalent and pervasive in his drawings and his life.

> In those days, he always drew the same picture, again and again, varying only with the type of paper he used or the amount of support we gave him. I decided to challenge him to draw an entire dinosaur. He told me that there was no paper the size of a dinosaur. I told him that maybe we had paper the size of a baby dinosaur. I looked for a roll of craft paper, unrolled a few meters of paper on the floor in an area close to where we were, and asked if the size was good for him. He quickly lay on the floor and using only a black pencil he began a large drawing of a dinosaur skeleton. Capriciously, he drew all the bones, starting at the head and ending with the tiny bones in the tail. When he finished, I gave him a black felt-tip pen and proposed that he trace over the lines of the drawing, because I feared that the lines he had drawn might have gone off in some parts of the paper and were very thin and tenuous. He drew without a model,

> from memory, and very quickly. It was amazing! The drawing of the skeleton was perfect. I sat on the floor with him, admiring his creative ability and his newest work of art, and asking myself why an incredible kid like that lived a miserable life on the streets. He seemed to be very pleased with the result of his work.

When Projeto Clicar's new space was opened, this drawing was posted on one of the walls for a long time. Later, it was photographed and scanned, and it became part of an exhibition in honor of Tiririca. In fact, Tiririca's interest in dinosaurs was so great that it inspired the educators to obtain related books, software, and games. In the words of one educator, "Tiririca and his dinosaurs seemed to have lived together throughout prehistory and the Jurassic Era, such was his intimacy with the theme and his manual art." He was, everyone agreed, a genius at transferring a represented image seen on the page of a book into a three-dimensional figure, made with play dough. It conveyed details of the muscles, skeleton and limbs with such perfection that it made them seem almost real. In creating these figures, Tiririca learned to use multiple media.

On a number of occasions, the educators watched as he set up a large book about dinosaurs on the desk next to his computer. He opened the book to a certain page that he had marked, with an image he had previously found, representing the lateral view of a Stegosaurus. Then he searched the Internet for other images of the Stegosaurus – frontal views, views from various angles, images of the dorsal fin plates and other anatomical features. He sat and examined the Stegosaurus from various vantage points and began working the clay with his hands. His gaze would pass from the mass of clay to one of the pictures. He would glance up at one image in the book, then another on the computer screen, and then looked down at the clay, working the clay all the time. Then he would glance up at another image of the dinosaur.

Carefully, minute by minute, he manipulated the clay quickly, his hands working at a rapid pace until he had the consistency and general shape he wanted. Then he began to work on the details, his fingers working the clay quickly, his eyes occasionally glancing up at first one image, then another. Sometimes he would pause, and leaf through the book and open it to another page, and then search for another website with a better image, a new view of the dinosaur.

With his growing collection of drawings and sculptures of dinosaurs, he was gradually gaining more and more respect from Projeto Clicar's boys and girls, who were constantly asking him to teach them how to work with clay. One educator observed, "It made him feel important, and he developed quite a knack for doing that." He became increasingly supportive in helping the educators in everyday tasks and especially with the smaller children. He was also becoming more widely known to visitors from outside Projeto Clicar. At the request of various local schools and agencies, the Projeto Clicar educators occasionally hosted visit from groups of students and offered demonstrations or displays of the best of Projeto Clicar children's products. They filled a prominent area of Estacao Ciencia with varied drawings and products, and of course included Tiririca's dinosaur drawings, which he often made especially for the occasion. These exhibits and its creator of dinosaurs always made a dramatic impression on visitors. In this way, Tiririca's artwork came to be seen as an exemplar of the work of Projeto Clicar.

Yet while Tiririca appeared to become more confident as a result of his accomplishment and recognition, his imaginative artwork, focused on dinosaurs, which occupied most of his time at Projeto Clicar, did not, of course, eliminate or resolve the pressures he faced in his life on the streets. Projeto Clicar was open only six hours each day, six days a week. The educators would try to find shelter for young people like Tiririca, but it was not always possible. One day, when asked where he was spending the night, he answered, "In the cemetery." When asked where in the cemetery, he explained that every night he would find a sepulcher or one of the prominent family monuments that held several graves inside. He would find a dark place and squeeze inside. "Isn't that kind of scary?" one of the educators asked? Tiririca shrugged. "It's the safest place around." he said.

During the hours he was out on the street, as a relatively small person, even when he was among friends and "protectors," he was vulnerable to many kinds of dangers – bullies, gangs, drug dealers, predatory adults, hard-nosed policemen. As previously mentioned, Tiririca rarely commented on his life outside Projeto Clicar. The hazardous character of his life on the street was an obvious concern for the program's educators, but Tiririca usually kept silent about that world. One day, he sat at a table with art supplies and hunched over a drawing. He worked on the drawing by himself for a long time. This was not unusual for him, but he seemed especially quiet that day. The educators sat down at the table with him, watched as he drew, and asked him questions, trying to engage him in conversation, but he merely shrugged and kept drawing. They encouraged him to talk about what he was drawing. He pushed the drawing across the table to the educators, so that they could see it better. It depicted an endless city of tall buildings with tiny cars on the streets and tinier people on the sidewalks. Walking toward them, almost oblivious of their presence, as if unconcerned by such small creatures, walked a large urban Tyrannosaurus.

> "Is that Godzilla?" one of the educators asked.
> Tiririca shook his head. Then he glanced at them and pulled his drawing back and began to draw again. After a moment he glanced up with a wry smile.
> "That's me," he said.
> The educators questioned him further about what he meant. Did the drawing depict him as he thought he was or as he would like to become?
> He shrugged and then answered, "How I want to be, I guess." They looked over the drawing with him, and asked about different parts of it. Did the dinosaur have a home?
> "Anywhere," he answered. "Wherever it wants to."
> "Is the Tyrannosaurus dangerous?"
> "It can be. If someone attacks or threatens. For his own protection."

As the above interaction suggests, Tiririca's engagement with dinosaurs illustrates how he came to appropriate the informal learning activities of Project Clicar as his own personal agenda and thus transform the nature of his own participation in the program.

Dinosaurs and Anticipatory Appropriation

While the concept of participatory appropriation accounts for *what* is happening with children like Tiririca in informal learning programs like Projeto Clicar, we turn to

the concept of anticipatory appropriation to demonstrate *how* this transformation occurs over time. When Tiririca was in his late teens, Petrobras sponsored the creation and construction at Estação Ciência of a large exhibit about oil extraction in Brazil. The Petrobras workers built up a large diorama depicting Brazil's varied geography, including mountains, hills, plains, and various coastal and marine ecologies. They then began to build miniaturized features representing the varied technologies used to extract oil from the earth and refine and deliver it for productive use. The exhibit slowly emerged from its wooden structural frame and paper maché and glass cover, as the workers refined the structure and carved and painted the surface into diverse geographical formations. Tiririca became increasingly fascinated by the process of building the exhibit and rendering its subject matter realistically. He kept wandering from the space of Projeto Clicar and he began to hover around the workers building the diorama. He regarded their work with a critical eye.

The Projeto Clicar educators encouraged him to interact with the Petrobras workers and smoothed Tiririca's relationship with the workers, who soon became very open to his observations and remarks. He pointed out flaws in their work and questioned the realism of certain sections of the diorama. The workers were intrigued by this small figure, very much a boy yet clearly strong and smart, with a hint of emerging manhood. They welcomed his critical comments with good humor and asked him if he could do any better. "Let me try," he said. The workers laughed but allowed Tiririca to continue to stand close to them and watch while they worked. He observed them and listened to their banter for long periods of time. Increasingly, Tiririca was able to talk shop with them and to critique their work in the language of their own craft. He began to point to specific parts of the exhibit and confidently assert that he could do as well or better by using particular tools and techniques in different ways. Commendably, the workers eventually invited him to step in and show what he could do.

In that moment, Tiririca's beaming smile masked his lifelong history of struggle and inner turmoil. The Petrobras workers encouraged him and said they wanted to hire him to contribute to the diorama. Tiririca seemed happy with the possibility. Unfortunately, on the scheduled date for him to start work, he did not appear. In fact, he disappeared from Projeto Clicar entirely for a period of time. The educators at Projeto Clicar were saddened but not surprised. It was a situation that frequently happened with many of the children who attended Projeto Clicar. They often did not meet scheduled appointments, and many of them, when asked, did not know what hour, day, month or year it was. Tiririca himself had appeared very interested in the diorama activity, but in returning to the streets, he may have become entangled in other activities or circumstances. Something may have happened to him in the streets at that time. He may have had trouble getting back to Estação Ciência, or he may have been inhibited by other difficulties. Perhaps he was diverted by his own fear or reluctance to become more deeply involved in something that would have been such a major change in his life. In any case, his ability to have been an everyday worker, appearing at regular times on a day to day basis would have been severely challenged by his life on the streets and the absence of a predictable place to live and sleep.

In other words, Tiririca at this time was on the verge of anticipating a future he had never imagined before, and his work with the Petrobras exhibit would have

represented a profound transformation of his participation in and beyond the world of Projeto Clicar. It would have represented a radical change away from everything that had been familiar to him. We can say that Tiririca, in navigating this possible transformation, was intensely involved in the act of dead reckoning, mapping out a possible cognitive and social trajectory for himself. Increasingly during that time Tiririca appeared to be trying to negotiate between his life on the street and his life at Projeto Clicar. The influences from those two worlds were often at cross purposes, yet blended into a broader relational habitus that took on some of the features of Projeto Clicar and extended them into a larger, not always so supportive context.

Tiririca changed over time. Little by little, his smile began to fade, his humor sometimes flared into anger, with little tolerance for the computer games, art projects, and even the interaction with other children. He began to show a growing resistance to the minimal limitations required of participating children in the project's space and an increasing uneasiness in relationships with friends and teachers. Spending time among drug users and consuming drugs himself were occupying more of his time, outside of Projeto Clicar, and gradually corroding that skilled, friendly genius for creating and relating. Once a boy-man, he was becoming a man-boy. During the periods when he was using marijuana and solvents (contact glue, acetone. etc.), very often he grew angry while at Projeto Clicar and would only with difficulty become interested in participating in some activity, alone or with other children. Over time, this pattern erupted more and more often. The excess of drugs and the withdrawal from drugs made him aggressive and aloof, and several times he arrived at Estação Ciência and suddenly attacked the security guards, who until then had always been his friends and allies, joking with him inside the museum and watching out for him in the vicinity around the museum. Sometimes he insulted the teachers and would break or damage the museum's equipment and Projeto Clicar's limited space, resources, and materials. His skill with clay began to disappear. He could not manage to mold the three-dimensional shapes, much less the precise characteristics of his specific creations. The pencil became an unfamiliar material in his hand, and hunched over a piece of paper, he could not manage to get out the initial features of his intended subject. Finally, Tiririca disappeared. There were many rumors about his return to social isolation, his escape from drug dealers to another city, and his death. But no one knew what had actually happened to him.

A few months after the definitive disappearance of Tiririca, Estação Ciência's visionary founding Director, Professor Ernst Hamburger, retired, and the museum was placed under new leadership. The new director, a geologist, brought to the museum's permanent exhibition two life-size replicas of two dinosaurs, *Allossaurus Fragilis* and *Anhanguera Piscator*. As one educator commented,

> This saddened me, because Tiririca would have gone crazy with happiness to see them, but at the same time it prompted me to propose an exhibition of his artwork that would dialogue with the replicas. I thought of an exhibition to present to visitors at Estação Ciência, the re-creation by Tiririca of a *Tyrannosaurus Rex* and of course [including] his life story and his art. Therefore, in addition to convincing the director, I convinced some people of the staff to help put together the exhibition.

One volunteered to take many photographs of Tiririca's artwork, and his huge drawing of the skeletal system of a *Tyrannosaurus Rex* was scanned and set up as a large

panel, placed on the floor in the area next to Projeto Clicar, in a position where it would be seen along with the dinosaurs that were on display in the museum's main hall. Also, with the support of the maintenance staff, the educators and staff built a rustic box with wooden fruit crates to serve as a frame for illuminating one of Tiririca's dinosaur heads. they also made buttons of the dinosaur head to be worn by the educators, the monitors at Estação Ciência, and others working in collaboration with Projeto Clicar. The staff of Projeto Clicar also made panels that told Tiririca's story and created facsimiles of other drawings, digital photo, and sculptures. As an educator remarked,

> My dream was [to create] a big panel on the facade of the museum building, with Tiririca's *Tyrannosaurus Rex*. I had a fantasy and felt almost certain that Tiririca would somehow be aware of the presence of dinosaurs at Estação Ciência, and would himself appear. Then he would have a big surprise. But he never came.

Tiririca's exhibition was open to everyone visiting Estação Ciência, and this audience was estimated at around 5000–6000 people per day. The exhibition ran for over six months. Since the huge *Tyrannosaurus Rex* was displayed in a panel on the floor in the area next to Projeto Clicar, it was common to see children lying on the floor, examining it, and people passing by carefully, in order not to step on the drawing. One of the educators noticed an increasing number of scuffs and scratches on the floor panel and tried for a while to protect it. She and one of the older children from Projeto Clicar, after the museum closed every day, carefully cleaned off the marks of the visitors' shoes from the floor panel. They kept at it for only a few days, however, before they both became convinced that the marks and scratches had already become an integral part of Tiririca's work. The summary of the exhibit, on a brochure made for the occasion and also posted in the museum, made the following comment about Tiririca:

> He was the face of the dinosaurs. Heads, bones, mouths, teeth, fangs, large and small specimens, exuberant colors, black and white, paper, cardboard, wood, photographs, and many other textures record the story of a boy who lived most of his life in the streets, in graveyards, in abandoned railroad cars.

Discussion

Tiririca created a body of work, collected and protected by Projeto Clicar's educators (since the boy himself had nowhere to keep his productions) – including drawings, paintings, murals, and sculpture. He used various media to develop his understanding of the skeletal and other anatomical characteristics of different dinosaurs. He often sat at a table with a book open to a picture of a dinosaur's frontal view while gazing at a computer screen with alternate perspectives of the same dinosaur. From these multiple views, he created clay sculptures of increasing anatomical accuracy. For Tiririca, these images represented a relatively safe alternative universe in which questions of sustenance and survival did not affect him personally. His depictions of dinosaurs in urban landscapes came to symbolize wishful images of himself as invulnerable, or at least formidable, in the contemporary landscape he himself inhab-

ited. His artistic experience culminated in his participation in the museum diorama, sponsored by Petrobras, about the extraction of precious resources from forbidding ecosystems.

Relational Habitus: Projeto Clicar as a Third Space

Programs like Projeto Clicar represent a context in which disenfranchised young people can find a space in which they can take part in an unthreatening social world, a space where they can create their own imaginative world. The precariousness of the predicament of children like Tiririca is mediated by the relational habitus established at Projeto Clicar as shown in the children's own accounts and stories. In this sense, as previously noted, Projeto Clicar represented a "third space" which they viewed as their own (Gutierrez, 2008). It was a time and place that was designed and designated specifically for them, where the social exclusion they encountered daily were temporarily suspended. It was a space where the children were free to set aside the masks of quasi-adult street toughness they usually maintained and, for a few hours each day, simply act like children (Underwood et al., 2003). In some ways, the concept of the "third space" is inadequate to encompass the experience of children like Tiririca and Jorge, as represented in their story of Stubborn and Stubby, in that the concept presumes in the first place a "home world" (the world of parents, shelter, and food) and a secondary "institutional world" (the prescriptive world of school and other institutions of both social assistance and control). For children like Tiririca and Jorge, that first space did not exist, or was constructed situationally and precariously from day to day, and the second space was generally one from which they were excluded, with the exception of local shelters where they could ask for food or a place to spend the night.

As Jorge's story chronicles, Tiririca and Jorge were negotiating their way through remarkably extensive geographies as they navigated among the barriers, hazards, and sparse resources of their world outside Projeto Clicar. As they endeavored, both together and separately, to navigate this world, they did so at times as solitary individuals, and at times, as a small group or team of collaborating partners, pooling information and resources in a distributed system of cognition, similar to what Hutchins (1996) has described in the professional world of pilots and navigators. The world described by Jorge can be understood as a study in the navigational questions posed by Hutchins (1996).

In a relatively short period of time, Jorge and Tiririca, drawing on their combined experience and background knowledge, navigated a considerable distance, from the Itapevi section of São Paulo to two other smaller cities and back by hopping trains, begging in strategic locations, and evading potentially abusive and intrusive situations – all the time, negotiating between themselves a habitus of understanding and mutual association – an implicit code of stubborn affiliation, of fictive relatedness through mutual identification. Set apart from their usual world, Projeto Clicar represented an alternative social space – an alternative relational habitus, a new configuration of associations linking the self, tools, tasks, and others (Stone, Underwood & Hotchkiss, 2012) in collaborative exploration. It replaced Tiririca and Jorge's world

of intense and ever-present dangers, for a few hours a day, with a world of heartening possibilities.

Dinosaurs and Participatory Appropriation

Tiririca's art appeared to represent an attempt to answer the first of the questions that navigation tries to address: "Where am I?" The drawing served the symbolic purpose of enabling Tiririca to get a fix on his own position within the larger world in which he lived outside Projeto Clicar. For Tiririca, dinosaurs represented powerful beings, vulnerable to extinction but fierce in their struggle to survive. In this sense, he invested his time and energy in dinosaurs as a way of investing in himself and in his own sense of integrity and strength and his own fierce drive for self-preservation. His cheerful, playful molding of three-dimensional creatures in the open, collaborative culture of Clicar appeared to coincide with an increasingly somber, pensive molding of his own character for a harder time to come. Perhaps Tiririca, as he grew older, began to envision the more daunting world of adulthood in which the challenges to his well-being and survival could be even greater. In short, he began to face the second navigational question: "If we proceed in a certain way for a specified time, where will we be" (Hutchins, 1996, 39)? In the world of navigation, this process is called dead reckoning – a term that reflects the chilling urgency of the process. In Tiririca's world, the question itself was formidable. It implied crucial choices and the cautious calculation of the many hazards and slim opportunities that lay in his future path. The activities at Projeto Clicar, leading to his discovery of dinosaurs and thus giving him the tools and relationships to encourage and pursue his knowledge and understanding of dinosaurs as symbolic creatures that represented his own self-identification and self-preservation in a hazardous world, supported Tiririca's cognitive process, his reckoning of his own course toward a possible future, or toward envisioning even the possibility of a future.

On the eve of Tiririca going to work on the diorama, he was on the verge of anticipating a future he had never imagined before, and his work with the Petrobras exhibit would have represented a profound transformation of his participation in and beyond the world of Projeto Clicar. It would have represented a radical change away from everything that had been familiar to him. We can say that Tiririca, in navigating this possible transformation, was intensely involved in the act of dead reckoning, mapping out a possible cognitive and social trajectory for himself. Increasingly during that time Tiririca appeared to be trying to negotiate between his life on the street and his life at Projeto Clicar. The influences from those two worlds were often at cross purposes, yet blended into a broader relational habitus that took on some of the features of Projeto Clicar and extended them into a larger, not always so supportive context.

Dinosaurs and Anticipatory Appropriation

This portrait of Tiririca suggests how his dinosaur art became, for a time, both a multi-media exploration of personal agency and interpersonal relatedness and a means

of exploring, expressing, and navigating his own predicament of place – moving back and forth between the open, playful world of Projeto Clicar and the rigidly closed world that Tiririca faced outside its protective walls. The educators at Projeto Clicar mobilized their resources to maximize a productive encounter with Tiririca. They found tools, tasks and activities that enabled Tiririca to reflect on his own circumstances and experiences and to re-envision his precarious world. Beyond that, they tried to establish enduring relationships with Tiririca, to offer him the support he needed to build a new framework for his existence. Given his ambivalence, it was an arduous process on both sides.

> Throughout these six years [that] we had been in contact, he had always asked us for help, but it was always a cloudy request. At the same time that he showed weakness, abandonment, and a lack of perspective on life, he also signaled an anguish that life for him was uniquely and exclusively the way he lived, and our views merged in the presence of a boy who, in spite of everything, carried within himself both a drive and an empty feeling of refuge.

Clicar's educators attempted to turn this vicious circle into a rising gyre, that built upon his cycles of fierce energy and placid depression and lifted him toward greater artistic and technical skill and higher self-awareness and purpose. They built a scaffolding of activities and relationships around his internal struggles. That is, they worked closely with him and others to co-construct a relational habitus that represented an alternative to his history of hazard and reactive subsistence, a collaboratively envisioned image of himself and others that drew upon his resilient character while providing cognitive and social tools to imagine and project a future of greater strength and agency. Projeto Clicar provided a neutral, open space that enabled Tiririca, through his changing participation in the program, to anticipate and explore a larger world while holding in suspension the ever-present cloud of potential recrimination and abusive exploitation that pervaded his life on the streets. The encouragement and tangible support for his newly found artistic expression enabled him to imagine and envision a different world, and to create images that represented, for him, a new persona of strength in a formidable world – a self-projected image of fiercely independent yet highly social engagement with others in that world. It allowed him to lower his guard and see others – at least some others – as possible partners in his struggle for survival. Tiririca's agentive exploration of artistic activities and resources at Projeto Clicar tenuously offered him a new perspective on his world – not only as the source of ubiquitous danger (which his world always remained), but as a resource for productive engagement. Yet Tiririca's journey through this alternative universe was by no means free of conflict or struggle. His navigation between the scaffolded activities and opportunities at Projeto Clicar and the ever-present hazards and violence of the streets was always highly precarious, with the potential for greater agency and purposeful activity almost within reach, again and again. It was a long, difficult interactive process for everyone involved.

The endlessly problematic nature of the educators' work at Projeto Clicar made them reflect on their own pedagogical practice. "When working with these children, we often hear what is not said, we are deaf to what is spoken, we are blind to what is in front of us, and yet we see the invisible, have the feel for the impalpable, yet we are insensitive to the visible ... we are dealing with human lives living in an inhuman state." Out of these reflections emerged realizations about their collaborative

work as educators in a distributed system of cognition comparable to the process of navigation. The directors of Projeto Clicar, while garnering resources, developing and implementing pedagogical strategies, and training others to use those strategies with children who constantly demonstrated the most intense and formidable need, themselves had to contend with the issue of personal and collective agency. As one of the directors said,

> Each one of us, in our own way and without knowing and realizing it, were key parts to our shared attitude 'to do something for Tiririca.' It was important to realize that despite the reach of our experience and of being "directors," we were also powerless and we are not perfect because we are dealing with human lives in an inhuman condition.

As the collaborative tasks with the children energized their sense of power over their own learning, the collaborative work of the educators and directors in engaging with both the children and each other, expanded the reach of their professional and personal knowledge and increased their capacity to have an impact. This collaboration established the interactive framework of Projeto Clicar, for both the educators and the children involved. As one educator noted, "In an absurd situation of human limitation, there was the greatest lesson, and it was a huge certainty; we are a team, where the strength of each of us adds up and makes us special."

Conclusion

The example of Projeto Clicar, we suggest, offers a case in point of both the potential and limits of extended education for young people who face persistent social exclusion. In this article, we have followed one child's development and focused on his problematic navigation – geographical, social, and cognitive – of the circumstances in which he tried to construct his life, both his experience within Projeto Clicar and his troubled encounters with the world on the streets outside the walls of Estação Ciência. We have also hinted obliquely at the comparable yet diverse navigational experiences of several other children in negotiating between the world of Projeto Clicar and the world of the street. By giving young people power over their learning, Projeto Clicar minimized hierarchical pedagogical relationships and situated the children's learning as a mutual negotiation among themselves and the program's educators. This negotiation entailed an openness to the pace and direction of others' learning and increased their sensitivity to each other's learning goals – a social process that involved their careful anticipation of each other's actions in co-constructing both their own knowledge and their learning paths together, while giving others the freedom to navigate their own interests and constraints.

Tiririca's story reveals the persistent, day-to-day design work of the educators at Projeto Clicar. This work was based on their conscious attempt to envision, propose, develop, and adapt learning activities specifically designed for individual children – activities that provided those children with evidence of the strengths and capabilities that they themselves possessed, despite the extreme situations in which they lived every day. In this way, this article has explored both the capacities and the limita-

tions of the transformative ontological complicity established among participants in a program like Projeto Clicar. Tiririca's story is not a success story, in the sense that the program did not and could not eliminate the external pressures and exigencies that ultimately overwhelmed and overcame Tiririca. The program was not able to set him on a permanent, alternative path to a new livelihood and a productive adulthood beyond its sheltered space.

Yet while the program could not compete with the almost random and ever-present hazards and relentless violence of his life on the streets, the program was efficacious in offering Tiririca the lived experience of a highly integrative motor-visceral activity that framed the context for his own cognitive development. As the relational habitus of Projeto Clicar – the tools, relationships, activities, and the occasion for doing artwork – enabled him to anticipate and incorporate (that is, make physically and psychically his own) the translation of multiple visual images in various media to tangible, pliable materials in order to envision and produce artistic figures that were both representational (recognizable and meaningful to himself and others) and perhaps even symbolic (of his own sense of being in the world), the program's activities offered Tiririca a window into an alternative universe of discourse, separate from the grim, reactive world of his life on the street. In short, what Projeto Clicar gave Tiririca was an experience that he otherwise would never have had in his short life. The activities that Projeto Clicar's educators developed for him, and his own talent for and engagement in those activities, gave him, for a time, a sense of belonging and pleasure, a feeling of delight and amazement at the ability of his own hands and his own mind to re-create the precarious earthly presence of fiercely resilient, endangered beings roaming a perilous planet.

Endnotes

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2   In the original Portuguese, the names are Teimoso and Teimosinho, which in this context we translate as "Stubborn" and "Stubby" (or "Little Stubborn"); the latter translation captures (we hope) the diminutive form while conveying the close mutual identification in the names the two boys collaboratively invented.

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