Engaging Spaces: On School-based Habitat Restoration

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Abstract

Through a survey of one school board in southern Ontario and a ten-month case study at a school within the board, I aimed to get a sense of participants' experiences of and stories about school-based habitat restoration. Of particular interest to me were the ways that teaching and learning through habitat restoration might foster a lived sense of being in a more-than-human world. In an institutional context which by and large denies access to our earthly fellows, what might be the benefits of allowing students the time and space to step outside and engage with them on an intimate, embodied level?

Résumé

À la faveur d'un sondage d'un conseil scolaire du sud de l'Ontario et d'une étude de cas qui a duré dix mois dans une école au sein de ce même conseil, je désirais avoir une idée des expériences des participants et des histoires sur la restauration de l'habitat des écoles. Ce qui m'intéressait particulièrement, c'était comment l'enseignement et l'apprentissage par la restauration des habitats pouvaient inspirer un sentiment de vivre dans un monde plus qu'humain. Dans un contexte institutionnel qui refuse somme toute l'accès à nos compagnons terrestres, quels seraient les avantages d'accorder aux élèves le temps et l'espace pour s'engager avec eux d'une façon plus intime et incarnée?

> Went for a tour of the restored wetland with the grade eight boys Mark, Steve and Larry—Larry asked lots of questions—asked about a sound (red-winged blackbird call)—about the gall on a goldenrod (Mark explained to him that it came from an insect)—especially about frogs, where they were—I explained that they over-wintered in the mud—he asked again later (perhaps he couldn't quite grasp the concept)—he had never seen a frog. (Field notes, April 10, 1997)

My doctoral research began with a desire for experience. Simply put, I wanted to explore with hands, head and heart, the practice of school-based habitat restoration. My hope in so doing was to gain both intimate, embodied knowledge of habitat restoration as well as an opportunity to reflect with others on its meaning and promise. Of particular interest to me were the ways in which teaching and learning through habitat restoration might foster a lived sense of being in a more-than-human world (Abram, 1996). In an institutional context which by and large denies access to our earthly fellows, what might be the benefits of allowing students the time and space to step outside and engage with them on an intimate, embodied level?

The methods I chose for my research reflected these questions and concerns as well as my epistemological assumptions. I proceeded on the belief that human experiences of nature are mediated by our positions in a time, place and culture, and by our human bodies and the perspectives that they offer. Through a survey of one school board in southern Ontario and a ten-month case study at a school within the board, I aimed to get a sense of participants' experiences of and stories about school-based habitat restoration. Through extensive participant-observation, interviewing and an open-ended questionnaire I was able to share experiences with participants and to identify and explore the metaphors, themes, stories, and storylines which gave meaning and direction to their engagements (Table 1). While a review of relevant literature allowed me to speak in broader terms about habitat restoration, my aim was to probe and work towards an in-depth understanding of patterns of meaning-making among a relatively small group of participants.

Contextual Musings

My hope for school-based habitat restoration lies, essentially, in a renewed appreciation for fully embodied, participatory modes of knowing and being in a more-than-human world. This hope springs in resistance to a pervasive and deeply rooted cultural problem in Western societies: people's growing estrangement from nature's intricate weave. As Erazim Kohák (1984) contends, many if not most of us have become virtually cocooned inside human-designed, human-built environments. And even though "our world of artifacts may be no more than the thinnest of layers covering the rhythm of living nature," still, "it is that layer that we confront in our daily experience" (p. 13). Along similar lines, Phillip Payne (1997) writes of the "technoscape" which increasingly surrounds urban dwellers and shapes their understanding of nature (p. 136).

Method	Details
Participant observation at the case study school	72 days/423 hours participants intensively involved: • 1 class of 22 grade 1 students • 1 class of 23 grade 5 students • 1 class of 25 grade 6 students • 1 group of 7 grade 7/8 students • 4 grade 8 students • 4 teachers participants casually involved: • other students and teachers, administrators and support staff, parents
Interviewing	participants: • 3 teachers at case study school • 1 teacher/consultant in the Board • principal, case study school • 2 parents of case study school students • 49 case study school students, grades 1,5,6,8
Survey	42 schools contacted throughout the Board: • 17 detailed responses received from 16 teachers and 1 parent

Table 1. Summary of field work.

In response to this situation, a number of environmental researchers and educators are advocating approaches to education grounded, for example, in "nature experience," "ordinary lived experience," and "environmental practice" (Bell, Russell, & Plotkin, 1998; Nabhan, 1997; Orr, 1992, p. 89; Payne, 1997; Weston, 1996). Critical of mainstream approaches to education, which give little weight to direct, intimate involvement with the world beyond the classroom walls, they underline the importance of cultivating and attending to relationships among humans, other animals, plants, communities and places. They hold that embodied participation is key to caring engagement and understanding.

Such deliberations point to the potential benefit of "naturalizing" places well frequented by children, like schoolyards. At more than 1000 schools across Canada (Raffan, 2000), naturalization (which includes tree planting, organic landscaping, vegetable gardening, cultural gardening, and roof-top gardening, as well as habitat restoration) is emerging as a popular and feasible means of situating teaching and learning in the immediate lifeworlds of students and in the intimacy of lived relationships. The school ground is looked upon as an ideal site for "reconnecting our-

selves to the natural world" (Coffey, 1996, p. 10). Edward Cheskey (1996) explains:

> As educators we should consider strategically how we can help children build a strong environmental ethic when so many factors are undermining our efforts. This ethic has to find its way past children's heads and into their hearts, and it can do so only when nature is experienced as part of the life of each child. Creating opportunities for regular contact with wildlife through schoolyard habitat restoration is a main ingredient in this strategy. (p. 17)

The injurious factors alluded to by Cheskey include urbanization, new information technologies, globalization of the economy, and the commodification of nature. All of these, he argues, contribute to a debilitating sense of estrangement and placelessness. Like many proponents of school-based habitat restoration, he envisions it as part of a larger strategy of resistance. That strategy is premised on the notion that frequent, embodied engagement with the more-than-human is key to living out caring, ethical relationships.

Supporters of the broader ecological restoration movement paint a similar picture. Restoration educator Amy Lambert (1999) writes that for many people the very act of putting their hands in the soil serves as a catalyst and raises "absorbing, compelling questions about their own relationship with nature" (p. 127). Restoration facilitator Annie Whittey (1997) likewise contends that restoration means relating to the landscape in a new way: "It means knowing the various kinds of birds, shrubs, trees and insects that inhabit one's neighborhood, valuing the particularity of each one, and appreciating both its integrity and its role in the larger whole." It also means appreciating the land as habitat for human beings, so that it becomes "a way of connecting with the place we are in - with something larger than ourselves"(p. 69). Ecopsychology educator Elan Shapiro concurs. He points to the possibility of revitalizing an "ecological" or "connected" sense of self through restoration practice:

> Such a self expands beyond our human-centered conditioning and sense of being split off and separate, in order to engage intimately with other species, cultures, and people, as well as with places. To live in a relational way requires a gradual opening to broader, more permeable boundaries (1995, p. 235).

In the pages that follow, I present those aspects of my field work which indicate how school-based habitat restoration might facilitate such an opening. More specifically, I discuss some of the ways that study participants created, through habitat restoration, both tangible and discursive spaces where

their affinities for other beings could flourish, and where they could tell, listen to, and live out stories of interdependence within the larger web of life.

Tangible Places

Habitat restoration at my case study school focused on a wetland at the back of the school property. The wetland had been slated for development as a playing field, but concerned teachers lobbied the school board to protect and restore it instead. Restoration, they claimed, would provide habitat for birds, insects, and other animals, would give students a chance to actively care for the environment, and would provide a readily accessible outdoor classroom for environment and nature studies.

The opportunity to restore places where other animals could live, hide, find food, and grow was eagerly embraced by most of the students with whom I interacted. Though few readily used the words "habitat" or "restoration," most understood their engagement along those lines, as a sampling of comments from their interviews suggests:

Grade one interview

Anne (interviewer): Why do you think we went down there (to the wetland) and planted those irises?

Carol (student): For the animals . . . .

Betsy (student): . . . to eat.

Anne: Yes . . . .

Carol: For more living and stuff for animals because animals live on plants.

Betsy: For insects in the spring so they can have more grass to hide in . . . .

Carol: . . . and have more food.

Anne: OK, so it's to make it a little bit nicer for all the things that live down there.

Carol: And they have more food so they have more food and it looks more prettier.

Betsy: Ya.

Grade five interview

Anne (interviewer): Down in the wetland, what about that planting? Did you enjoy that?

Shawn (student): Ya. Well, I think that when there's more trees down there there'll be better homes for the birds and chipmunks.

Solomon (student): Frogs.

Grade five interview

Anne (interviewer): Oscar, why do teachers take you down there [to the wetland]?

Oscar: More homes for frogs to live and birds and for us to learn when we get older.

Throughout the school board, many of the teachers and parents involved in my study likewise stressed the importance of making the schoolyard more hospitable to living creatures. They considered evidence of animals hunting in, nesting in, and otherwise using the restored sites to be among the most memorable moments of their involvement in projects. In addition, they valued the way that habitat restoration opened up the very possibility of contact. While improving living conditions for a variety of life-forms (including human), it provided opportunities for students to explore and encounter butterflies, ants, caterpillars, ladybugs, amphibians, snakes, birds, and flowers, and to experience, as one teacher explained, a "sense of space, freedom, and natural wonder."

Grade one teacher, Lorne Dalton,[1] who spearheaded the restoration effort at the case study school, articulated this perspective:

> I think that children tend to see their playground as a place for them exclusively to play on, and it's a barren, uninteresting spot. I think that if they saw their world, and their playground included, as a place for them to share habitat with other living things as well it would make it more interesting. If they could sit in bushes and see birds landing there, or see rabbits around or any other small little animals that are in the area ... I think that it's a big part for them to see that as they plant and as they create spaces for themselves that are more comfortable and interesting that other animals find it the same. And I think they will get a much more interesting and enriched life from seeing that sort of thing.

Mr. Dalton made considerable effort to live this understanding of restoration with his grade one students. Throughout the seasons he took his class on regular outings to the restored wetland not only to plant native wildflowers, but also to gather leaves, to listen and watch for birds and to follow animal tracks. Such excursions were accompanied by reading, writing, art, and storytelling activities which highlighted the natural histories of particular species as well as the students' experiences outdoors.

In late April, when Leopard frogs, Spring peepers, and various birds were calling in the wetland, Mr. Dalton told his students about the "strange noises" he had heard. He then proposed that they go "spying" with me to find out who was making the noises. In the days that followed I went out with several small groups, each excited to look around and then report back to the class. Even when the noises did not capture the students' attention, other animal signs certainly did:

> Went out "spying" behind the wetland with four kids from Lorne's class—Molly, Carol, John and Gary. As with the other spy groups, it was difficult to move quietly, but they seemed to be intrigued by a number of things—a dead Leopard frog, with its guts ripped out was their favourite. They also liked climbing over sticks and logs and finding groundhog holes. I let them each take a picture with my camera—the two girls took group pictures. Then John took one of a groundhog hole and Gary took one of a frog in the water. [Back in class] Lorne had them talk about what they saw—> some exaggeration (or fanciful interpretation). John talked about a fox hole and Gary talked about the live frog he took a picture of. (Field notes, May 7)

I was impressed with Mr. Dalton's open, relatively unstructured approaches to visiting the restored area. It seemed to me that they contrasted favourably with the "hyperactivity" of schooling, described by David Jardine (1996) as "a relentless rush from activity to activity, all in the name of keeping the children's interest" (p. 50). There seemed to be an implicit acknowledgement that wetland experiences were, in and of themselves, "already always full, already always enough" (1998, p. 97).

During an interview with restoration advocate and consultant Edward Cheskey I asked whether, in his experience, teachers often took students outside just to be there and experience what was going on. It was unusual he replied, "but wonderful when you came across it." He preferred it, moreover, to "a predetermined lesson with predictable outcomes." One of the challenges teachers faced, however, was creating space for such moments:

> They're under so much pressure to perform, to teach the curriculum, and to get away from the kind of intuitive teaching that so many teachers are good at. They have a sense of what the kids need, and what they have to

> do. Then they have this curriculum that gets shoved down their throats, and they always have to be justifying it.

Despite institutional constraints (e.g., strictly mandated curricula and learning outcomes, large class sizes, tight timetabling), the very presence and proximity of restored areas could create unexpected openings for encounter and awareness. As an example, Mr. Cheskey recounted the following incident:

> I was filming a video [of school restoration projects]. There was a boy who lifted up a rock. I think he even got reprimanded for doing it, but he lifted up a rock and there was an ant colony underneath it. And he was overwhelmed with a sort of joy, that there were these things living under there, and that he hadn't seen them before.

Mr. Cheskey's words evoke, for me, a sense of the wonder that can lie beyond mere observation. I am reminded of Neil Evernden's (1992) discussion of what it might mean to encounter other beings "as *other*, as living subjects of significance," rather than as "an assortment of objects to be observed" (p. 108-111). I am also reminded of the first time I chanced upon a salamander in a rotted tree stump. I would surmise that in lifting up the rock the boy uncovered more than ants: he met with another (astonishing and unsuspected) way of being in the world.

A sense of wonder often imbued the comments of students when they discussed their experiences in the wetland. In the following grade five interview, for example, a young girl's appreciation for the place was intermingled with amazement and curiousity about the creatures living there:

Anne (interviewer): How do you feel about going down to the wetland?

Wilma (student): I like it. It's just fun going down there, and that's one thing I like about the school: to go down to the wetland. We've gone down for the pond studies and gone in the pond and taken nets and found all sorts . . . found big huge frogs and tadpoles and all sorts of different kinds of creatures.

The restored wetland's capacity to foster wonder, awareness of, and intimacy with other life was mentioned by a number of teacher and parent participants in the study. Sadie Butler, a mother of two boys attending the case study school, was a member of the parent-teacher Naturalization Committee. During an interview she described to me a visit that she and her youngest son, Seth, had made to the wetland to record frog songs for Mr. Dalton:

> We went out and it was really buggy. Seth dressed up in everything. We went out with a little tape recorder and set it down and we just sat quietly there and waited. . . . that was another experience that made my own children, specifically, more aware of the environment . . . being out in the wetland recording the frogs, and just hearing them, and you realize that there's more, there's a lot out there if you just want to listen. . . . You don't realize how much life there is.

For Ms. Butler, the restored wetland provided a place to take time out and listen to creatures that otherwise would have escaped her attention. The event was significant to her. She referred to it twice during the interview, first when I asked her about the broader implications of the school's various planting efforts, and then again when I asked her about memorable moments of her involvement. The importance of such outdoor experiences, she explained, lay in "showing kids how important the environment was, and really making them care."

The storyline according to which Ms. Butler's story unfolded figured widely in the comments of other parent and teacher participants in this study. That storyline linked contact with and awareness of other life to the possibility of honouring and nurturing relationships within the natural world.

Storied Spaces

About a month into my field work, I took a bag of ripe milkweed pods, gathered from a nearby housing development, to Mr. Dalton's grade one class. Because milkweed is the food source of the monarch caterpillar, Mr. Dalton decided to organize a lesson around the relationship between these two species. We began indoors where we talked about monarchs and then I read from a book which stated that thousands of monarch caterpillars starve every year because they cannot find enough food. Afterwards, Mr. Dalton explained to the students that we were going to the wetland to release milkweed seeds with the hope of providing more food for monarchs. Outdoors the students were thrilled to be running around unabashedly blowing and throwing the seeds, and especially to be doing so for the sake of the monarchs. The ecological thrust of the activity was clear to most of the students interviewed, as exemplified in the following conversation:

Anne (interviewer): So what were we doing? What were we doing with those milkweeds?

Harry (student): Blowing them away.

Casey (student): Ya, we were trying to plant them and everything in different places.

Anne: Why?

Harry: To help the caterpillar things that live . . . .

Casey: Ya, 'cause . . . .

Harry: And butterflies.

Casey: I think you told us that thousands of caterpillars starve to death every year.

Anne: That was in that book, wasn't it?

Casey: Ya.

As these comments suggest, the grade one students seemed to have a sense of participating, through their actions, in an unfolding drama. They understood that the monarch story told in class was being played out in their schoolyard, a landscape that was familiar to them and that they were actively involved in shaping. The restored wetland was thus a tangible place where they could make sense of and respond to what they had heard.

The monarch incident, like many others that I participated in or heard about during my research, brought home to me the pedagogical potential of linking place and story. It had to do with providing a reference point in everyday reality, including the colours, sounds and textures that could bring stories to life and thereby foster a sensory, participatory, relational mode of awareness. It also had to do with creating space—discursive space—to talk about, and thus make present and acknowledge the significance of the more-than-human world.

Abram (1996) writes about the importance of becoming "susceptible to the solicitations" of the nonhuman presences that surround and influence our daily lives and about seeking inspiration in "the depths of our ongoing reciprocity with the world" (p. 20 & 56). Yet how to nurture such embodied sensitivity at school, even through habitat restoration, is anything but self-evident. Relying simply on "experience" in and of itself, without

regard for the mediating role of language, is insufficient (Russell, 2000; Scott, 1992; Stewart & Mickunas, 1990) Rather, teachers need to look beyond the technical and organizational dimensions of the activities in which they engage students to the ways of speaking through which restoration is made intelligible. How might their words resonate with and help to recover a sense of participating in the wider web of life?

At my case study school, Lorne Dalton would create a mood of receptive anticipation by framing activities with storytelling—usually one of his own stories to start, and then stories from students afterwards. With an opening story he would set the scene and accord a purpose to the task at hand (e.g., "spying" in the wetland to find out who was making the strange noises; releasing milkweed seeds to provide food for monarchs). This story would provide direction while leaving students open to whatever joy, fright, meeting, or adventure the particular moment outdoors had to offer. Afterwards, student stories would lead to a sharing of experiences and perspectives, generating excitement about and interest in what had taken place. On several occasions students went on to create a class book about the outing or the creatures encountered, each student contributing a page of artwork with a few written words of explanation.

The engaging power of stories and storytelling, which I was so fortunate to have witnessed at the case study school, has received considerable attention, of late, in education and environmental education circles. Stories, and the insight and knowledge they impart, are widely accessible to all types of learners (Egan, 1997). They provide a means of bringing forth the sensory, emotional, ethical, spiritual, and imaginative dimensions of lived experience, thus making room for possibilities largely inaccessible to or through abstract, rational, or formulaic accounts of reality. Rather than representing the more-than-human world in reductionist terms as mechanical and determinate, stories can provide a glimpse of its vitality and invite those who tell, write or listen to attend to the quality of their relationships with other beings and to voice and explore alternative possibilities (Bell & Russell, 1999; Fawcett, 1999, 2000; MacEachren, 1995).

The stories which emerge spontaneously when people are engaged in restoration work also help greatly to open up discursive space for a more-than-human world. I was struck, at the case study school, by the number of times students, parents, and teachers told me, on the spur of the moment, about an animal encounter or about an outdoor experience. Whether it was an owl they had seen, a frog they had rescued, a burrow they had discovered, or a garden they were planting, the restoration project opened the door to countless conversations:

> Went down to the wetland with 4 grade six students—Colleen and Simone were keen to tell me about various nature experiences—both wanted to talk about snakes (after Colleen had asked whether snakes might live here)—the girls also talked about "habitat"—they pointed to the cattails and said animals might live there. (Field notes, November 29)

> Met with the grade seven enrichment kids—worked mostly with Luke and Herb on plant selection—often we got off topic—talked about salamanders—Herb had never found any, but Luke had, nearby the school. (Field notes, March 21)

My very association with the wetland invited a sharing of stories, giving me insight into students' enthusiasm for contact with their nonhuman fellows. I was approached daily by students whom I knew well, and by others whom I had never met, but who seemed to be encouraged to speak to me because I was wearing work boots or carrying a shovel. Students peppered their conversations with me, as well as their interviews, with tales of animal encounters. Catching glimpses of groundhogs, chipmunks, skunks, and butterflies seemed to be the highlight (sometimes pleasant, sometimes sad, sometimes alarming) of their experiences outdoors, whether in the schoolyard or elsewhere. The following interview excerpts, where discussions about the wetland suddenly digressed into animal stories, convey a sense of this enthusiasm:

Grade one interview

Anne (interviewer): I would like to know what you think about going down to the wetland and planting.

Betsy (student): It's fun! First of all I like animals.

Anne: Is it an important thing to do?

Betsy/*Holly*: Ya.

Anne: Do you think it is?

Betsy: Ya, and in my backyard we've got kind of like a wetland. I saw a white-tailed deer in my backyard on Christmas day. We almost got him, but we only got his tail.

Anne: Oh, You're so lucky!

Betsy: And, guess what. I could try to look for it, but . . .

Grade five interview

Anne (interviewer): What's the difference between learning about trees in books and learning about trees in the wetland?

Wendy (student): Because you can identify them by the touch, by the bark, by the branching, and in a book you don't really get to see it so it's not as real as when you're in front of it.

Anne: OK. What were you going to say, Peter?

Peter (student): Well, when I went to cubs one day we went to a conservation area and we were studying trees and birds, and we went out and we had to identify trees and birds, and we tried to tell where certain animals lived and we saw a baby raccoon up in a tree. It was poking its head out at us. And then we just kept walking and we got to identify trees and birds and we got to feel some of the bark, the leaves, and how big they were.

Speculating on the significance of the *telling of* animal stories, Leesa Fawcett (1999) proposes that it is a way of bridging the widening gap between humans and other species by remembering "the existence and experience of the Other" (p. 20) as well as the feeling and context of our encounters. Given the excitement, spontaneity, and regularity with which animal stories were told to me at the case study school, I would agree. Telling stories seemed to be a way of making present other animals, of wondering about them, sharing a sense of their importance, and validating moments of contact. It opened up a discursive space where those who were drawn to their fellow beings could speak and be heard and understood. That the wetland provided a source and/or catalyst for most of these stories highlighted its potential to disrupt and transform the everyday human-centered organization of schooling. It helped to foster circumstances where significant experiences within a more-than-human world became available for discussion at school.

Where Affinities can Flourish

Writing about the possibility of reawakening forgotten or dormant ties to nature, Janet Pivnick (1997) recommends that teachers turn their students'

attention "to the wisdom which already exists within each of them by pointing to the small incidents which are bursting with signs of connection" (p. 62). Habitat restoration offers opportunities to do just that by validating a participant's sense of appreciation for and belonging in a more-than-human world.

For instance, several of the Board survey respondents explained their involvement in restoration projects in terms of personal interests and predilections. These participants (four teachers, one parent) were already sitting on environmental committees, taking environmental studies courses, or regularly involved in outdoor activities when they began to take part in habitat restoration. One respondent wrote, for example, that "birding, gardening, walking, canoeing, camping in [the] outdoors" had always been of interest to her. Habitat restoration, she explained, was a "natural extension" of these other pursuits. Another respondent remarked that he had been interested in alternative landscapes as an undergraduate and had been looking for "an environment where [he] could actively express this."

Likewise, at my case study school, all of the adults interviewed (one principal, three teachers, two parents) related their participation in restoration to their feelings for and interest in the natural world. In Lorne Dalton's words:

> It's a kind of humbling experience, as you walk back through that wetland now and look at the size of those trees. And you realize the regenerative power of the natural world . . . I mean, we were there, yes, we put the trees in the ground, but there are lots of plants in there that we didn't plant that have come back just because of the opportunity to come back. The seeds are in the soil. . . .
>
> I think I've learned a deeper appreciation for the cycles of life, for nature itself, for the interrelationships between plants, and the animals that are there. And I think that that has, again, deepened my resolve to continue this sort of work. Because I guess before I was always, I was always really interested and loved to be outdoors, but I never really made the connection of how important it is to . . . about values of stewardship, and to really look, look for ways that you can better develop a site so that it becomes habitat. And I think that's been a very important shift in my personal development.

Mr. Dalton's words attest to the kind of learning described by Jardine (1998), where, through patient, persistent, repeated involvement, one learns "how to carry oneself in a place in such a way that the ways of the place might show themselves" (p. 96).

For Mr. Dalton and for many of the participants in my study, habitat restoration provided tangible places and storied spaces where affinities for their fellow beings could flourish. Through their involvement they became

attuned to the living world in ways that the lawn-and-asphalt landscaping more typical of schoolyards simply will not allow. Such attunement entailed a caring engagement with the rhythm and unfolding of a particular place. It added a depth of feeling and commitment not accessible through indoor, print-centered approaches to learning which so often cast relationships within the more-than-human world in terms of distance, detachment, abstraction, and control.

Notes

[1] I use pseudonyms for participants to help ensure confidentiality. One exception is Edward Cheskey whose published work I quote.

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Notes on Contributor

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