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THE ECOLOGY OF AN SLA COMMUNITY IN COMPUTER-MEDIATED ENVIRONMENTS

INTRODUCTION

Computer technology and its electronic environments force us to confront the constitutive role played by the acquisition environment in both second language acquisition (SLA) and our understanding of SLA. Through its uncontroversial material and virtual presence, the electronic medium not only affects the way we conceive of language, language learning, and human communication, but is itself the product of a distinctly technological human imagination that makes the paradigms of SLA research historically and socially contingent.

Several SLA researchers have acknowledged that the computer has been the dominant metaphor for SLA research (Kramsch, 1995; Ellis, 1997; Crookes, 1997). For example, regarding the mental processes involved in constructing and using an interlanguage, Ellis writes: “[T]he prevailing metaphor for explaining these processes has been that of the computer” (Ellis, 1997:61). Similarly, for the acquisition of discourse in SLA, he writes: “The underlying metaphor that informs work on discourse in SLA remains that of the computer (for example, in the choice of basic terms like ‘input’ and ‘output’)” (ibid.: 50). But do we have to view the computer (and SLA) only as an input-output process? Both SLA and computer technology have gone far beyond their early input-output models. Indeed, in their development, they both seem to have increasingly taken the social and cultural environment into account.

After a brief historical retrospective of the parallel developments of SLA and computer technology, and the emergence of an ecological perspective on language and language learning, we draw on the case study of one Hong Kong Chinese learner of English to explore exactly how the medium impacts on his acquisition of English and his socialization into an English speaking community. We then discuss the implications for SLA research of making the acquisition environment central to the SLA process, rather than its backdrop.

SLA THROUGH COMPUTER TECHNOLOGY

It is good to remember that SLA research took off, at the end of the sixties, at about the same time as artificial intelligence, robotics, and computer technology were starting to dominate the metaphor market and to shape our understanding of language and thought. In *The structure of scientific revolutions*, published in 1962,

Thomas Kuhn suggested that epistemological paradigms change when the questions that scientists and politicians ask of nature, change. The terrible experience of totalitarianism in this century, two devastating world wars, and the fearful advances made in nuclear technology and robotics in the '50s and '60s suddenly brought home the realization that the boundary between humanity and inhumanity, man and machine, might not be as clear cut as was thought in earlier times. As Steven Toulmin has argued (Toulmin, 1990), until the middle of the 20th century, science was mostly concerned with establishing stable, hierarchical, and universally valid categories that clearly distinguished human free thought and autonomous action from natural and mechanical phenomena. By contrast, recent decades have seen a greater (ecological) concern with the interrelationship between humans and nature, humans and technology, and their mutual functionality and adaptability. Scientists increasingly put in question the strict Cartesian dichotomy between "mental activity and its material correlates", as well as between "theoretical ("pure") science and practical ("applied") technology"(ibid.: 183). The notion that the human mind is mediated by the material environment it has in part created goes back to the 18th century (cf. Toulmin, 1990:122) and has been revived by 20th century Soviet psychology (Vygotsky, 1978; Lantolf, 2000), but it has been made particularly relevant by the advent of intelligent machines like the computer. The following quote from Lantolf shows well the reciprocal effect of computers and humans in computer-mediated communication:

In opposition to the orthodox view of the mind, Vygotsky argued that just as humans do not act directly on the physical world but rely, instead, on tools and labor activity, which allows us to change the world, and with it, the circumstances under which we live in the world, we also use symbolic tools, or signs, to mediate and regulate our relationships with others and with ourselves and thus change the nature of these relationships. (Lantolf, 2000:1)

In the '70s, the (then large frame) computer was at first viewed primarily as a CONTAINER for an unlimited database. Its prodigious memory, or capacity to store and randomly access information within fixed frames of expectation seemed to match a view of second language acquisition as the memorization of linguistic structures or functional gambits within pre-established grammatical and lexical rules of usage or etiquette. The MIND-AS-CONTAINER was not inconsistent with Contrastive Analysis, a structuralist approach to SLA research that was based on taking stock of the structural differences between languages (Lado, 1957). These structural contrasts, combined with a behaviorist view of language education, in turn formed the basis for a structuralist method of repetition, drill and habit formation for teaching foreign languages. The metaphors used by SLA research in subsequent decades still bear traces of this early computer technology. For example, the learner's mind is seen as a black BOX (Long, 1983), language heard in the environment is labelled comprehensible INPUT (Krashen, 1982), language uttered by the learner is comprehensible OUTPUT (Swain, 1985). The computer's capacity to match student output with its database, to correct errors tirelessly and on the spot, and to remember the idiosyncratic features of students' INTERLANGUAGE made it an unrivaled taskmaster (e.g. Raymond, 1988, cited in Warschauer & Kern, 2000).

In the early '80s, computers became not only information storing, but also INFORMATION PROCESSING, PROBLEM-SOLVING machines. As Abelson and Sussman, the authors of the 1985 basic textbook for the entry-level subject in computer science at MIT, argue, "a computer language is not just a way of getting the computer to perform operations but rather it is a novel formal medium for expressing ideas about methodology" (1985: xv). The reciprocal link between human thinking and computer performance is clear: we get the computer to do things and in turn the computer affects our capacity to imagine the feasible. Abelson and Sussman capture the nature of the computer in the eighties when they write:

The computer revolution is a revolution in the way we think and in the way we express what we think. The essence of this change is what might best be called *procedural epistemology* – the study of the structure of knowledge from an imperative point of view, as opposed to the more declarative point of view taken by classical mathematical subjects. Mathematics provides a framework for dealing precisely with notions of 'what is'. Computation provides a framework for dealing precisely with notions of 'how to'. (Abelson & Sussman, 1985: xvi)

We find here variants of the basic metaphor of knowledge-as-ARCHITECTURE, complete with STRUCTURES and FRAMEWORKS, but also with how-to PROCEDURES to "control the intellectual complexity of large software systems" (ibid.: xv) The major software for the computer as information processing machine is now hypertext technology and its applications: word processor, and CD-ROM. Hypertext technology with its ability to classify, organize, embed texts in multiple layers of relevance, and to combine word, image and sound in hypermedia packages, explodes the linearity of texts and erodes the preeminence given to the verbal over the visual.

Similarly, in the '80s, SLA research takes its metaphors from cognitive science and information processing. The mind is compared with a piece of ARCHITECTURE (Anderson, 1983), teaching with SCAFFOLDING (Wood et al., 1976), the learning of new material with RESTRUCTURING (Mc Laughlin, 1990); the mind as information processing hardware is seen as activating CONTROLLED AND AUTOMATIC PROCESSES (McLaughlin et al., 1983), acquiring DECLARATIVE AND PROCEDURAL KNOWLEDGE (Anderson, 1983), and using LEARNING STRATEGIES (Tarone, 1980; Cohen, 1984; Wenden & Rubin, 1987). Whether the input is of the declarative kind (content, facts of grammar and vocabulary, rules of usage), or of the procedural kind (learning and communication strategies, discourse scripts and conventions, rules of use), the focus is here less on the product than on the interactive process by which language learners access and retrieve, decode and encode, package and exchange information. Language learning is seen as a problem solving activity, the learner as a text-processing, input-processing strategist. SLA is now hypothesized to be an interactive process of creative CONSTRUCTION and NEGOTIATION of meaning (Breen & Candlin, 1980).

The notion of "negotiation of meaning" in SLA is a good example of the parallel developments of SLA and computer metaphors. In 1980, communication in SLA is still seen as an effort to capture variability and difference in *knowledge* and to

“negotiate through and about [differing] conventions of language form and behavior” (Breen & Candlin, 1980:90). A few years later it has become a vying for *information* and a request for clarification (Pica, 1988) within the binary dichotomy (i.e. comprehension/lack of comprehension) that a computer is familiar with. No doubt other forces have been at work here as well, namely the growing hegemony of a global free market ideology and its accompanying metaphors of win/lose competition and informational advantage. But, in all cases, as Steven Toulmin (1990) points out, scientific paradigms cannot be separated from the social and political circumstances in which they have been conceived.

In the ‘90s, the internet revolution fueled and was fueled by the same historical forces that brought down the Berlin Wall, unleashed unprecedented migrations across the globe, sharpened the tensions between global economic interests and national cultures, and exacerbated linguistic and cultural inequalities. The internet came to symbolize the contradictions of the age: the opportunities of a ‘global economy’, but also the dangers of ‘global warming’; the benefits of the ‘global village’ but also the potential cultural threat posed by ‘English as a global language’. Above all, it further increased the post-modern awareness, brought about by the human rights and the environmental movements in the sixties, of the interrelatedness of all human and natural phenomena and the global consequentiality of all human action. The metaphors suggested for SLA have changed accordingly. They are now taken from cybernetics and the environmental sciences, for example Larsen-Freeman (1997) draws on CHAOS AND COMPLEXITY theory, van Lier (2000) on ecological metaphors like AFFORDANCE and EMERGENCE (instead of input and output).

The shift from interacting *with* computers to interacting with people *via* networked computers has been hailed as a second computer revolution (Warschauer & Kern, 2000:11). In the last ten years, the computer is no longer seen as the exclusive target of ‘imperative’ knowledge (Abelson & Sussman, 1985) for the processing of information. It has become also a seemingly transparent ENVIRONMENT for trying to control the global complexities and contradictions it has in part created.¹ E-mail, internet-relay chatrooms, websites, list-servers are extending reality beyond its traditional boundaries and blurring the distinction between the person writing and the person being written about (Goffman, 1981:147). This historical development has been accompanied, in SLA research, by a surge of interest in the sociocognitive, sociocultural, and symbolic/ritualistic aspects of SLA. Under the sociocognitive paradigm, learning a language is not seen as internalizing a new linguistic system, or acquiring/processing information, or adjusting one’s comprehension checks for appropriate and successful communication. Rather, it is viewed as interacting via the language with other individuals engaged in a shared common activity and thereby learning the language of a shared social community (Atkinson, 1997). Sociocultural theory goes a little further: it makes the social activity primary, and views individual cognitive processes as an internalization on the psychological plane of processes that have first taken place on the social plane (Lantolf, 2000). Those researchers who focus on the symbolic or ritualistic, aspects of SLA, don’t separate acquisition from

socialization. Socialization, as the negotiation of power and identity through language, becomes an integral part of acquisition (Rampton, 1995). The recent metaphor of ECOLOGY attempts to capture the *interconnectedness* of psychological, social and environmental processes in SLA (van Lier, 2000).

At this point, we can perhaps reframe the relationship of SLA and computer technology as follows. One way of looking at computer technology is to focus on its hardware: its memory capacity, its access and retrieval of knowledge, its data bases – the computer-as-tutor (Crook, 1994:11). This view of computers is analogous to the way some people view SLA: following a structuralist model of language, derived from the study of written Latin, they focus on the material substance of language - the grammatical and lexical features of the sentence - that can be analyzed and taught as building blocks to communication. Meaning in this model is predominantly seen as the referential or ideational content that is retrieved, sent and exchanged in spoken interaction or in interaction with written texts. It is a transmission model of language.

Another way of looking at computer technology is to focus on its information-processing software and to view the computer as a pupil (Crook, 1994:16). Computer metaphors, like STRATEGIES, PROCEDURES, PROBLEM SOLVING TASKS, have permeated SLA notions of interactivity, communication, and negotiation. They have also shaped the way SLA is now talked about, namely, as embedded in a social context. Linguistic form alone cannot determine meaning, rather, one has to take the social context of communication into account, i.e., the setting, the situation, the intentions and purposes of the language users, the strategies they use both to learn and to communicate. SLA has become a question of *learning to learn* in a recursive manner, i.e., like the computer, by matching and evaluating an item learned in one context as to its appropriateness in another context.

A third way of looking at computer technology in the age of the internet is based on what Graddol calls “a post-modern model of language” as it informs media texts (Graddol, 1994). Here, the computer is viewed as a tool (Crook, 1994:20), networked computers as an environment. The parallel model of language takes a broader semiotic view of what language consists of. Born out of media and cultural studies, it is concerned with ‘signs’ rather than words. Music, pictures, clothing, belong to ‘signifying practices’ or processes of human communication of which the linguistic system is only one. In this model, “the boundary between language and non-language is blurred.” (Graddol, 1994:17). This model of language is concerned pre-eminently with texts, not with sentences as model 1, or interactions as model 2, but, rather, it sees text as a combination of many semiotic systems (e.g., words, typographical conventions, layout, photographs, graphs, diagrams) that are uniquely historicized, i.e., they are socially and jointly constructed by many people bound by relations of power and social roles in a certain place and at a certain time. Language users are often described as “speaking subjects”, whose “subjectivity” or identity is constructed through discourse. Texts are viewed as speaking with many “voices” (18). Communication in this model is a site of struggle to be connected, heard, noticed, understood, and to maximize the acquisition of symbolic profit (Bourdieu, 1991). As Graddol (1994: 19) remarks:

...texts are not simply read and understood, but consumed, used, exploited... a text will take on a different life, new functions and new meanings, according to the social activities in which it is embedded... The postmodern language user cannot be said to have particular ideas, intentions and meanings which then become encoded in language, since language users are not the authors of their own meanings: they use the words of others, their utterances and texts are populated with other voices, and they cannot guarantee how their texts will be received and interpreted.

In each of the three perspectives on SLA and computer technology discussed above, language is linked to specific dominant discourses in specific environments at specific historical junctures, each with its own metaphors. We will attempt to match these perspectives with findings from one case study of the acquisition of English via networked computers. To frame this discussion, we will use an ecological perspective that stresses the interactivity of humans and their environments in the process of socialization and development, drawing on Mead's (1934) theory of the formation of self through symbolic interaction in social life. We will then present a case study of second language socialization in a Web-based environment and the model of language and language learning that it supports. Finally, we will explore how an ecological perspective on SLA may help us go beyond essentializing particular models or metaphors of SLA and critically examine the structuring process of different ecologies or linguistic markets (Bourdieu, 1991) in which language learning takes place.

SOCIALIZATION THROUGH SYMBOLIC INTERACTION

Influenced by Darwinian natural science, Mead (1934) suggested that the relations between human organisms and their social environments are characterized by interaction, mutual adaptation, and change. Both the mind and the self are social emergents, and language, in the form of symbols or "significant gestures," provides the mechanism for their emergence. A symbol or significant gesture is one that is not responded to immediately and directly but is first picked out for interpretation before response is made to it. Likewise, one's own gesture is not just automatically called forth but is purposely designed to induce a given response from the other participant. This symbolic form of interaction provides the opportunity for acting and reflecting on both the self and the other as social objects, which is the basis for the formation of self.

Through their interaction with symbols, human beings adjust their activities and enter into the various coordinated arrangements of behavior that constitute the life of the society. A society is formed by the interlinking of activities, or "joint acts," in which organisms making up the society come to fit their actions to one another. Hence, the formation of self is also a process of internalization of the conventional meanings in society such that joint acts or cooperative activities can be carried out. Mead (1934: 162-3) notes this process of socialization as follows:

The structure, then, on which the self is built is this response [to significant symbols] which is common to all, for one has to be a member of a community to be a self...self-consciousness is an awakening in ourselves of the group of attitudes which we are

arousing in others, especially when it is an important set of responses which go to make up the members of the community.

This view of the self as responding to the social attitudes and conventions of society has to be understood in light of the constructivist perspective of Mead's thought, which sees both the self and human society as existing in ongoing interaction instead of in settled relations or structure. For, even though the meanings of symbols arise out of the common attitudes and behaviors in group life, these meanings may be altered through an interpretive process which involves self-reflective individuals modifying their responses to symbols in their interaction with one another. As Mead (1934: 180) points out:

Fundamental attitudes are presumably those that are only changed gradually, and no one individual can reorganize the whole society; but one is continually affecting society by his own attitude [to significant symbols] because he does bring up the attitude of the group toward himself, responds to it, and through that response changes the attitude of the group.

Language in such an environment is most prominently a verbal art for the symbolic construction of self and other in collective life. Second language learning becomes a process of re-socialization through interaction with an emerging stock of signs and meanings in an emerging social group, which provides the semiotic tools and interpretive mechanism for re-producing or re-signifying meanings in relation to group norms. Indeed, as Mead points out, meaning making or communication can not happen except through a shared stock of signs and meanings and with regard to community definitions. (Mead, 1934: 152-164) Yet, because meanings are continuously produced through interaction, and the self as social object is constructed in a reflexive process in relation to multiple social collectivities, participants in communication may "frame" their interaction according to different ideologies or societal norms, and construct different "footings" or social roles in their interaction with one another. (Goffman, 1981, 1974) Mead (1934: 214) notes this mutual adaptation between organism and environment as follows:

The response of the "I" involves adaptation, but an adaptation which affects not only the self but also the social environment which helps to constitute the self; that is, it implies a view of evolution in which the individual affects its own environment as well as being affected by it.

Applying this ecological metaphor to SLA, the learner is not only socialized into a new stock of signs and meanings to become a participant in a new social community, but they also interactively produce various norms of interpretation in the fashioning of social relations. We now turn to the case study for an empirical illumination of these ideas.

ENGLISH LEARNING IN A WEB-BASED COMMUNITY²

From the Classroom to the Web

In a study of young Hong Kong immigrants in California high schools, Eva Lam came across a high school senior from Hong Kong, named Almon (a pseudonym), who

expressed frustration over the fact that his English was still lagging behind, even though he had been in the country for six years. All of the friends he made in and out of school were Chinese speakers. Most of his classes at school were ESL, bilingual or remedial courses, which stigmatized him as a low-achieving student. For instance, he was enrolled in a remedial composition class designed for students who had failed the mandatory high-school composition test that was required for graduation. All of the students in the class were immigrants and ESL learners, and the teacher put a great deal of emphasis on imparting the correct linguistic code to them through the use of grammar charts and corrections on their essays.

Almon felt discriminated against in school because of his Chinese accent and was worried about his future life and career prospects because of his inability to speak English like a native. He said in an interview in Cantonese (code-switch to English in italics):

The Chinese are prospering quite okay here. The problem is mainly with discrimination. The Chinese have more problems with English, and so it's more difficult for them to find jobs. Even those who have been here for a long time don't speak like the native-born Americans...English is my biggest *problem*...it's like this place isn't my world. I don't belong here. I guess it's going to be very hard for me to develop my career here. And I have a feeling that my English won't be that good even in ten years.

In the latter part of his senior year, Almon became actively involved with the Web, completed a personal home page on a Japanese pop singer, compiled a long list of names of his on-line chatmates in several countries around the world, and wrote regularly to a few e-mail pen pals. His writing ability in English improved dramatically and he felt increasing pride in expressing himself in English. Contrasting the difference before and after his Internet involvement, he said:

...I can express myself much more easily now...It's not a matter of typing skill, it's the English...Now I've improved, it's because of *ICQ* or *e-mail* or other reasons...Before I was the type who hated English, really, I didn't like English. Maybe it was a kind of escapism, knowing I wasn't doing well at it, and so I used hating it as a way to deal with the problem. But I think it's easier for me to write out something now...(to) express better.

This qualitatively different relationship to English came with a newly discovered ability to express himself in writing via the electronic media, which also helped him to overcome some of his fear and worry about the future:

I have kind of changed my determination. I'm not as fearful, or afraid of the future, that I won't have a future...When I was *negative*, I felt the world doesn't belong to me, and it's hard to survive here. And I felt not many people understand me, or would. I didn't feel like I belong to this world...But now I feel there's nothing much to be afraid of. It really depends on how you go about it. It's not like the world has power over you. It was (names of a few chatmates and e-mail pen pals) who helped me to change and encouraged me. If I hadn't known them, perhaps I wouldn't have changed so much...Yeah, maybe the *Internet* has changed me.

Given the changes that Almon experienced through writing on the Internet - from a sense of alienation from the English language in his adopted country to a newfound sense of expressivity and solidarity when communicating in English with his Internet peers - our question is: what sorts of subject positions was he creating for

himself as an English-user on the web, and what was the nature of the discourse community that supported his English learning?

Constructing Self and Community on the Internet

First, Almon created a personal website through an international server called "GeoCities" (<http://www.geocities.com/main/help/geotour>) advertised as follows³:

Welcome to GeoCities, the largest and fastest-growing community on the Internet...At Geocities, we provide members with free e-mail accounts, home pages and the best page building tools and online help resources to make personal publishing and community building as easy as writing a letter to a friend. More than 2 million people have already joined, and thousands more are signing up every day....GeoCities is a thriving online community of people just like you. We call our members "homesteaders" because they've staked a claim on their own plot of "land" on the Internet....There are 15 themed avenues (Entertainment, Arts & Literature, Sport & Recreation etc.)...From the neighborhoods, you can peruse the best home pages, visit our exciting, interactive avenues, or just cruise the suburbs...

From this ad, we can see that web technology offers not only the virtual base for the construction, storage and retrieval of electronic texts, but also a full-fledged metaphor for the building of social and cultural communities. The fusion of the words "home" and "page" merges the two overlapping tropes of rootedness and literacy into an American life-style that is exported over the internet. One can "peruse" *texts* (or homepages) by "cruising" down the neighborhoods and suburbs of *contexts* (or themes). The names and themes of the over 40 neighborhoods (with branches called suburbs) are characteristically empty stereotypes, devoid of all historical memory. For example,

Paris is the neighborhood of: Romance, poetry, and the arts
Broadway: Theater, musical, show business
Athens: Education, literature, poetry, philosophy
Vienna: Classical music, opera, ballet
Madison Avenue: Advertising
Silicon Valley: Hardware, software, programming
Wellesley: A community of women
Tokyo: Anime and all things Asian

Almon chose to settle his homepage in "Tokyo", where a global community of Asians gathers around Japanese pop culture. Almon's on-line chatmates are located in such diverse sites as the US, Malaysia, Japan, Hong Kong, Canada.

Almon designed his homepage on Ryoko, a teenage pop singer, by using materials and sources from magazines and other websites on Japanese pop (J-pop) music and celebrities. He chose a pseudonym, Mr. Children (also the name of a J-pop music group), to designate himself, hence the home page is called "Mr. Children's Ryoko Page." (<http://www.geocities.com/Tokyo/Garden/5088/frame.html>) It appears on the computer screen with a main page that presents a written introduction, an animated cartoon picture of Ryoko next to her name in Japanese *kanji* (Chinese characters in Japanese script), and a song of hers playing in the background. A side panel shows a list of buttons indicating the other parts of the homepage that can be opened by clicking on them: a profile of Ryoko; a history page with her biographical information; a myriad

selection of photos; a music section with her songs that can be listened to on-line or downloaded to one's computer; several video clips; a section called "My Favorite Links" that provides linkages to other personal and institutional web sites on J-pop music, particular singers like Ryoko, Japanese animations, etc.; and a page with search engines that one can use to look up other items on the Internet. A guestbook is provided for visitors to sign their comments or view other people's comments.

In the written text on the main page that first comes on the computer screen, Almon presents the topic of his home page, Ryoko Hirose, and introduces himself as Mr. Children. Almon highlights his ownership of the homepage by the use of the first-person possessive in "my site" and "my homepage", and establishes himself as a knowledgeable and helpful member of the international J-pop community in statements like "No problem!^_^ you'll find out anything about her in my site." Multiple channels of communication are provided in the second paragraph, in the forms of e-mail and on-line chat, for Mr. Children and his readers/visitors to establish and maintain contact. Clearly, the homepage represents not only the singer Ryoko, but also Mr. Children, a participant in J-pop culture.

In the section "My Favorite Links", associations are formed with other homepages on Ryoko, and various aspects of J-pop music, including animation (anime), and extended out to other interests of internet users, friends' homepages, and computer games, a few of which contain the Chinese language. With regard to J-pop music, not only is there a presentation of factual information, but active exhortation to galvanize the J-pop fans community. This is exemplified in the use of imperatives (e.g., "Let join there...", "Go check it now...", "Must Visit") and the modal auxiliary verb "can" (e.g. "A lot of Ryoko's pictures you can get here.", "You can try to hear the brand-new songs...", "Here you can download a tons of mp3 files of song", "You can find all TK family official homepage here"). A promotional rhetoric runs through the page, both to advertise for the music culture and industry, and to promote oneself in this culture, as can be seen in Almon's adoption of the name Mr. Children. The descriptor for the link to the homepage of the music group "Mr. Children innocent world" reads: "Please don't mistake this, this is not my home page. This is a regular Mr. Children page. *Check it out, and see why I like this group so much. They are so great !!!*" (italics ours). Here one finds the adoption of an iconic figure in the music industry as an identification badge for a J-pop fan. The advertising discourse of the global music and high-tech industry becomes a vehicle for Almon to introduce himself as a knowledgeable and valued member of the global J-pop community, and participate in promoting its interests and resources.

The formation of gendered social roles emerges in another form of electronic communication – the dialogic exchange of on-line chat and e-mail. Almon says he prefers female penpals because they are better able "to help somebody grow in self-knowledge and confidence." Female penpals take on a nurturing, motherly supportive role. Here is a posting of Almon to Ying, a Chinese female penpal from Hong Kong. Almon had presented himself as a shy person in need of support and Ying had responded accordingly:

Almon: Hum...you said you can share my happiness or sadness, that's great. It is a very important thing to be a good pal. So don't try to hide when I need to share things with you, okay. Also I would like to listen, if you have anything you want to share too...

Here is an exchange with Ada, a Hong Kong Chinese living in Canada:

Almon I have some photo scans of my childhood and fellowship, I don't know if you are interesting to take look...

Ada oh... i'm interested ...
I'm curious to see how you look when you're young.

Almon Ok, I hope you don't feel sick by look at my pic. hehe ^^ [raised eyebrows/smile]

Ada I'm sure I won't ...

Almon the pic is very blur ...

Ada You are very happy and cute when you're small :-> [smile]

Almon Yeah, I like my smile when I was a kid. But, I don't know will I smile like that again... hee hee.

Ada ...you'll have a smile like the one you had when you're a baby...if you can be as simple as a baby...I mean it in a nice way...Remember Jesus told us that we have to be like a child if we want to go to heaven.

Almon Yes, I'm 100% agreeing what you're saying. That's what I always thinking, so I very like the people childlike outside, but also mature inside...

Seiko, a Japanese female living in the US, gives him advice to which he responds:

Almon: Seiko, arigatoo for your advice to me (>_0) [eyewink] I will try to more open myself, and be more talkative. But, it takes time to change. Hey, you know what, something can always control my sentiments. Can you guess it? ...Yeah, right. It's music.

If we examine these postings, they sound both very personal and very much like a role-play. The hedges and qualifiers: "you know what?", "Can you guess it?", "hehe", "oh", "hum", "okay", and the ellipses that signal pauses and hesitation, as well as the emoticons of the genre (>_0), establish a distance between Almon the author and Almon the narrator, between the world that is spoken about and the world in which the speaking occurs (Goffman, 1981:147).

The distancing of the author and narrator also allows for a mutual adoption of the supportive, nurturing role across gender lines in the context of intentional friendship making over the internet. This is seen, for example, in an on-line circular posting between Almon and Ada, where the 1st and 2nd person pronouns serve as the deictics for narrative roles that can be associated at will with any speaker:

You are my friend and I hope you know that's true
No matter what happens I will stand by you.
I'll be there for you whenever you need.
To lend you a hand to do a good deed.
So just call on me when you need me my friend
I will always be there even to the end.
Forward this promise to all your friends to show your
Friendship and see who sends it back.

In this next excerpt of an e-mail exchange, Almon consoles Ying after she has expressed frustration over her relationship with her boyfriend:

Almon: Ying, I hope you don't mind. I don't know how to say things to cheer up others. But I really hope you will feel better. Don't be troubled by those people who are not true to

you...You're so kind and understanding...You'll surely find somebody who truly loves
you...I give you my blessing!

Here we see a bracketing by the author of his own authorial authority through the use of hedges: "I hope...", "I don't know...", "I really hope..." It is as though the utterances that follow the initial qualifiers do not belong to the speaker in the normal sense, but are an animation of a gendered voice that happens to be associated with the speaker in this situation (Goffman, 1974). In fact, one has the feeling that Almon is crossing gender lines, and is taking on the nurturing, supporting voice usually associated with the female identity

The gender roles adopted by the interlocutors reinforce the impression of a rhetorical or textual identity that is being developed and that is related to but different from the biographical identity of the authors. Werry (1996:59) notes the interplay between involvement and detachment in the synchronous communication of internet relay chats:

When communicating on IRC there is a different sense of connection to the word; it does not belong to the speaker in the sense that a spoken word does..Yet at the same time, words exist in a temporal framework which approximates oral discourse, which requires interactivity and involvement, and which invites the fabrication of the texture and signature of an individual speaker's voice.

Almon tries to explain this to one of his penpals:

Almon: I believe most people has two different "I", one is in the realistic world, one is in the imaginal world. There is no definition to define which "I" is the original "I", though they might have difference. Because they both are connect together. The reality "I" is develop by the environment changing. The imaginative "I" is develop by the heart growing. But, sometime they will influence each other. For example me, "I" am very silent, shy, straight, dummy, serious, outdate, etc. in the realistic world. But, "I" in the imaginal world is talkative, playful, prankish, naughty, open, sentimental, clever, sometime easy to get angry, etc... I don't like the "I" of reality. I'm trying to change myself.

But, I think you usually would see "I" in imaginal world because I'm very open to writing e-mail to people. ^-^ [Japanese emoticon for smile] How about you?? Do you have two different "I"?? hee hee.

The question arises, of course, as to the originality of the narrative self developed through these networked electronic chats. Many of these youngsters' postings display quite conventional narrative roles, they borrow their codes from Madison street advertising (e.g., GeoCities promotional talk), adolescent internet talk (e.g., emoticons, oral forms of language), popular psychology (e.g., the need to share and care, to change oneself), and religious discourse (e.g. references to Jesus). One could characterize these borrowings as so many "animations" of other people's discourses (Goffman, 1981) or of multiple "voices in the text" (Thompson, 1996; Fairclough, 1992), and one may wish that Almon would acquire a more "proper" kind of English. Yet it is precisely this 'worldliness' of English and the discourses that adhere to its global spread (Pennycook, 1998) that have provided Almon with the linguistic tools to enter into a multicultural world of Japanese pop culture where he finds a community that understands and supports him. The kind of English that Almon acquired through his Internet involvement is the 'global English' of adolescent pop culture, not the standard English taught in ESL classes.⁴ Whereas classroom English contributed to Almon's sense of

exclusion or marginalization (his inability to speak like a native), which paradoxically contradicts the school's mandate to prepare students for the workplace and civic involvement, the English he acquired on the Internet enabled him to develop a sense of belonging and connectedness to a global English-speaking community. Almon is not only learning more English, but more relevant and appropriate English for the World Wide Web community he sought to become part of.⁵

DISCUSSION

Almon's use of a variety of discourses and an embedded voice or narrative self (Goffman, 1981:146-57, 1974:496-559) in constructing his role as a member of a global Asian J-pop community on the Internet points to how language and identity are intertwined in a symbolic process of self and other formation in a particular social community. Almon's successful acquisition and deployment of linguistic forms of adolescent on-line communication, and the advertising discourse of J-pop culture provided the symbolic means for him to become a member of the Internet J-pop community. His construction of his interlocutors' femininity as nurturing females is dependent on coordinated lines of action in which both parties follow a dominant gender ideology in their interaction. However, this particular discursive construction of gender relations is also subject to change through a transformation in the way the self is represented as a social object. In Almon's case, this change in the representation of gender relations is carried out discursively in the construction of the narrative self or embedded voice that might be viewed in some instances as crossing the boundaries of stereotypical gender roles, as seen in his adoption of the nurturing feminine voice. As a socially constructed object rather than an ontological entity, the self in this computer-mediated environment is formed through an embedded first-person pronoun that is the textual object of interaction.⁶

Mead's perspective on the formation of the social self helps us to see how Almon's use of various discourses is part of the exchange of significant symbols, or the discursive mechanism, by which Almon becomes a member of an Internet community. Here, the most prominent aspect of language is neither the grammatical and lexical features of the sentence that can be analyzed and taught as building blocks to communication, nor the exchange of information or "negotiation of meaning" between participants in a social group. As illustrated in Mead's view on the symbolic construction of self and society, and Graddol's postmodern model of language, the metaphor of language here is a set of discursive practices for the construction of community, and the representation of self and other in Almon's computer-mediated environment.

This metaphor of SLA as the semiotic construction of self and other in an emerging community may be particularly well suited to the ecological environments of Web-based computer medium in our present age, because for the moment computer mediated communication (CmC) still operates pretty much outside institutional power, academic gate-keeping mechanisms, and standard registers. The largely non-institutionalized nature of the networked electronic environments accounts for their use for constructing alternative subject positions and social

networks outside the sanction of established institutions, which is well documented in studies by Cherny (1999), Hall (1996), Jones (1995, 1997), Poster, (1997), and Turkle (1995), among others. These studies show that language is used in Web-based environments for symbolic community building, the crafting of multiple personae and collective identities, and the enactment of social roles in the temporal frame of on-line exchanges. The ecology metaphor of language learning as socialization through symbolic interaction with other individuals engaged in a shared common activity and participating in a shared social community may describe aptly the Web-based acquisition environment in which Almon developed his competence as an English user. We may be tempted to argue that this ecological model could be a new SLA paradigm for the creation of instructional approaches and curricula. However, more crucial than institutionalizing another paradigm or *doxa* (see, e.g., van Lier, 2000:233) for SLA is to examine from an ecological perspective how different environments support particular metaphors of language learning at different historical periods.

Almon's lack of success in acquiring English in an American high school, as compared with his sense of competency in using English on the World Wide Web, compels us to examine the significance of the acquisition environment in SLA. In the introduction, we provided a brief survey of the parallel developments of metaphors for SLA and computer technology. Here, using Almon's case as a springboard, we want to suggest a critical ecological perspective on SLA acquisition environments that seeks not to propose yet another model for language learning, but to analyze the structuring or patterning (Bateson, 1979) aspect of the acquisition environment that constitutes people as more or less competent learners of a language.

According to Bateson (1979:13), there is always a "dance of interacting parts" that produces particular patterns of interaction in an ecological system. Different members of a social system are fitted together through a process of differentiation that produce complementary and interdependent parts. For example, pride feeds on admiration and fears contempt; hence, admiration and contempt may equally reinforce pride. (Bateson, 1979) In other words, the proud and both those who admire them and those who despise them are all indispensable participants in a system of status hierarchy.

Looking at Almon's case in regard to his differential "competence" in acquiring English in a US high school vs. an Internet peer group, we suggest that not only is Almon's textual identity on the Internet a discursive formation, but his position in the US high school is also symbolically constructed, this time as a low-pride "low-achiever," through the high stakes testing mechanism of schooling. This gate-keeping mechanism privileges those who are socialized with particular linguistic and cultural dispositions (Bourdieu, 1991), and have developed familiarity with particular genres and discourses (Cope & Kalantzis, 1993; Gee, 1996) and ways of interacting with print (Cushman, 1998; Heath, 1983; McDermott & Varenne, 1995). They are the ones who stand a better chance of being selected for institutional validation and certification. Using Bourdieu's terms, we need to understand the acquisition environment as part of a "linguistic market" that provides the whole set

of political and social conditions in which the dominant competence (valued dispositions) functions as a linguistic capital that secures a profit of distinction in relation to other competences. In Almon's case, what is considered dominant competence varies between the different linguistic markets that institutionalized schooling and Web-based communication belong to: the former operates by the logic of differentiation (the high vs. low achiever) for a stratified economy, while the latter functions at least for the moment on the logic of "community" to draw in consumers for a growing communications technology industry.

The metaphors of SLA as creative construction or as input-output information processing would fit well with the overall testing and sorting mechanisms of schooling, for these metaphors individualize both the language learner and features of language that act as input. By focusing on the learner as input-and-information-processing strategist, these SLA models, all innovative in their own times, do not detract from preparing learners for their role as test takers, and might even help to reinforce institutional labeling and certification as indicating the individual merits of the learner. By contrast, the metaphor of SLA as ecology would consider the social and political conditions that influence whether the learner is more or less well adapted to the circumstances in which he or she uses the language (see Kramsch, forthcoming).

CONCLUSION

Our examination of the ecology of one particular virtual environment for second language learning has shown the futility of characterizing and measuring language learners' progress only in terms of their acquisition of standard linguistic structures as displayed on standard school tests. The increase in self-confidence, the acquisition of a medium-appropriate register of English, the skillful representation of self, the ability to play multiple roles and adopt multiple voices, as well as the ability to command empathy and respect in a foreign language, are all part of an SLA process that is impoverished if considered only as an input/output or even as an information processing endeavor. A critical ecological perspective on SLA does not mean replacing schools with computers that simulate the process of socialization in more "natural" or loosely institutionalized environments. It means examining the relationship between the learner and the context, and how a particular metaphor of SLA is part and parcel of a self-organized, self-regulating ecology of language learning. In other words, we need to examine how different parts of an environment fit together to constitute a system that has its own logic of functioning. Applying an ecological model of SLA to a school setting without altering its sorting mechanism of testing and evaluation may not produce the successful outcome of language learning that Almon achieved on the Internet, just as Almon's semiotic skills on the Internet do not ensure his success in a high school exit composition test. Almon's skills in navigating Web technology may afford him an entry level job in Web-page design in the expanding networked computer industry, but he would still need to work his way through multiple language classes and exams to complete a college certified computer science program.

NOTES

- ¹ See the role played by television and the internet in the link that has been made between the Tiananmen Square massacre in Beijing in June 1989 and the fall of the Wall in Berlin in October of the same year. See also the role the internet is currently playing in raising the consciousness of populations around the globe regarding economic inequalities and thus encouraging emigration and regional unrest.
- ² The data presented here are previously discussed in Kramsch, A'Ness, and Lam (2001, 2000), and Lam (2000).
- ³ GeoCities has since been merged with Yahoo!, and the GeoCities link given here is no longer accessible.
- ⁴ The variety of English Almon acquired and used on the Internet is a different register of English compared to the standard English used in classroom pedagogy. In line with the ecological perspective presented here, Halliday (1994) defines register as the linguistic forms and potential meanings that are typically associated with particular social relationships, topics, and channels of communication in a social context.
- ⁵ According to the motto: "Tell me what you need English for, and I will tell you what English you need" (Hutchinson, R., & Waters, A. 1987. *English for Specific Purposes. A Learning-Centered Approach*. Oxford: Oxford University press, p. 8).
- ⁶ CMC is believed by some to hold the potential for deconstructing gender norms (e.g., Poster, 1997; Turkle, 1995) since the physical self is not presented through CMC's commonly used modes. Subversion of gender stereotypes tends to happen in an arena that is more accepting of experimentation and where the risks of social sanction are not as high. However, gender norms could also be re-constructed on the Net, as seen, e.g., in Hall's (1996) study, where participants on a feminist discussion list collectively construct particular linguistic practices that highlight what they believe as the attributes of the female gender in order to promote feminist beliefs.

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