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ARTIFACTS AND CULTURES-OF-USE IN INTERCULTURAL COMMUNICATION

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ABSTRACT

This article develops a conceptual framework for understanding how intercultural communication, mediated by cultural artifacts (i.e., Internet communication tools), creates compelling, problematic, and surprising conditions for additional language learning. Three case studies of computer-mediated intercultural engagement draw together correlations between discursive orientation, communicative modality, communicative activity, and emergent interpersonal dynamics. These factors contribute to varying qualities and quantities of participation in the intercultural partnerships. Case one, "Clashing Frames of Expectation -- Differing Cultures-of-Use," suggests that the cultures-of-use of Internet communication tools, their perceived existence and on-going construction as distinctive cultural artifacts, differs interculturally just as communicative genre, pragmatics, and institutional context would be expected to differ interculturally. Case two, "Intercultural Communication as Hyperpersonal Engagement," illustrates pragmatic and linguistic development as an outcome of intercultural relationship building. The final case study, "The Wrong Tool for the Right Job?," describes a recent generational shift in communication tool preference wherein an ostensibly ubiquitous tool, e-mail, is shown to be unsuitable for mediating age peer relationships. Taken together, these case studies demonstrate that Internet communication tools are not neutral media. Rather, individual and collective experience is shown to influence the ways students engage in Internet-mediated communication with consequential outcomes for both the processes and products of language development.

For some social classes and in highly privileged geographical regions, we have entered into a period of rapid and efficient global communication practices mediating an array of interpersonal, discursive-material, and cultural activities. Despite the robust connections between the increasing digitization of everyday communicative practice and issues such as globalization and homogenization, Internet-mediated intercultural educational activities remain demonstrably polymorphous. Reasons for this are many. Educational cultures and objectives vary across nation state boundaries (Belz, 2002) as well as across educational institutions within the US. Moreover, within the same university but across courses or time periods, student populations shift, pedagogical goals are reassessed, and micro-interactional phenomena illustrate their own "accentuality" (Volosinov, 1973), even when the task, as it were, is supposed to remain consistent across participants and time (Coughlan & Duff, 1994). The focus of this article is yet another dimension of human heterogeneity -- the cultural embeddedness of Internet communication tools and the consequences of this embedding for communicative activity.

Three case studies will be presented which illustrate some of the possibilities and problems associated with foreign language intercultural interaction mediated by Internet communication tools. I argue that Internet communication tools, like all human artifacts, are cultural tools (for an extension of this argument to the natural environment and the social construction of nature, see Braun & Castree, 1998; Harvey, 1996; Williams, 1980). Specifically, I show that e-mail, instant messenger, and forms of synchronous chat, are deeply affected by the cultures-of-use, or to borrow a biological term -- phenotypic characteristics, evolving from the manner in which these tools mediate everyday communicative practice. To unpack this somewhat, most of the American students in the case studies have extensive Internet experience that catalyzes specific forms (and expectations) of communication. In turn, the resulting

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communicative dynamics are consequential for both the processes and products of language learning. Importantly, these case studies span a 5-year period and in so doing demonstrate that the cultures-of-use of Internet communication tools are rapidly evolving, if in geographically non-uniform directions, and play a critical role in the manner in which intercultural communication plays out in formal educational contexts.

Of particular relevance to foreign language uses of "telecollaboration" (implying interaction mediated by Internet communication tools), I will include a critical discussion of recent Computer-Mediated Communication (CMC) research (Walther, 1994, 1996, 1997) and will build on a theoretical framework that can broadly be termed a cultural-historical perspective of human communication and cognition (e.g., Bruner, 1995; Cole, 1996; Hanks, 1996; Levinson, 1995; Rommetveit, 1974; van der Veer & Valsiner, 1991). This approach emphasizes the process whereby individuals modify, transform, and comprehend artifacts and environments (e.g., Bødker, 1997; Cole & Engestrom, 1993; Kapetlinin, 1996), including mediational artifacts such as Internet communication tools (Erickson, 2000; Herring, 1999; Kramsch & Thorne, 2002; Thorne, 1999, 2000a). Application of a cultural-historical approach will focus on the concept of mediation specifically as it pertains to Internet communication tools and their use to facilitate intercultural foreign language communication.

Research in computer-mediated communication and technology-oriented second language acquisition (SLA) has begun to illuminate many of the linguistic, interactional, and interpersonal dimensions to language-based interaction as they pertain to learning and development (e.g., Blake, 2000; Chun, 1994; Herring, 1996; Kern, 1995; Ortega, 1997; Pellettieri, 2000; Thorne, 2000a; Warshauer & Kern, 2000). To this day, however, there remains considerable debate, and some mystery, about the mediational affordances (e.g., the possibilities created by the relationships linking actor and object; see van Lier, 2000, in press) of Internet communication tools and their correlation to linguistic and interpersonal dimensions of foreign language learning. Below, I outline a cultural-historical framework for addressing development and artifact mediation and review significant hypotheses from CMC research as necessary background for interpreting the case studies to follow.

A CULTURAL-HISTORICAL APPROACH TO DEVELOPMENT AND ARTIFACT CONSTRUCTION

Cultural-historical approaches to language education attempt to make explicit linkages between an individual's development and the social-material conditions of his or her everyday practice (e.g., Chaiklin, 2001; Engeström, 1999; in second language research, Lantolf, 2000; Swain, 2000; Thorne, 2000b). Higher order cognitive functions, including intentional memory, planning, voluntary attention, interpretive strategies, and forms of logic and rationality, develop out of participation in social practices such as schooling, interaction with care givers, the learning and use of semiotic systems such as spoken languages, textual and digital literacies, mathematics, music, exposure to folk and "scientific" concepts, context-contingent behavioral norms, and spatial fields such as the social and functional divisions of built structures and visual artistic expression. All of these (and this is but a partial list) are uniquely human social-semiotic systems (e.g., Halliday, 1978) that evolve over time and continue to transform from generation to generation. To put this into modern parlance, Vygotsky (1978, 1986) argued that situated social interaction connected to practical activity in the material world is the source of the development of culture. In turn, cultural-societal structures provide affordances and constraints that shape the development of specific forms of consciousness. This dialectical approach to the relation between agent and structure forms the conceptual foundation of this research and continues today to be at the core of related sociological and psychological inquiry (e.g., for theories of structuration, see Archer, 1995; Bourdieu, 1977; Giddens, 1984; Sawyer, 2002; for an application of the social realist approach to telecollaborative foreign language learning, see Belz, 2001).

Mediation and an Artifact's Culture-of-Use

The structure of texts, literacy, and communicative practices are tightly bound to the materiality of their conveyance and representation (e.g., stone engravings, paper, computer generated documents, and here, a focus on Internet communication tools). The relationship between mediational means, genres of communicative activity (e.g., formal vs. informal registers or informational vs. phatic communication), and forms of communicative practice at the level of utterance and exchange structure, suggest that digital communication technologies have made possible substantive aesthetic shifts in human communicative practices.

Mediation is a primary feature of cultural-historical psychology and is the assertion that humans do not act directly on the world. Rather, actions are mediated by social-semiotic tools (language, numeracy, concepts) as well as by material artifacts and technologies.[1] The implication is that historical, institutional, and discursive processes (e.g., the flow of culture at a given point in time and for specific communities) largely mediate an individual's practical and symbolic activity. Artifact or tool (I do not make a distinction between these two terms in this paper) utilization necessarily implies cultural mediation and the routinized use of an artifact exhibits its temporally local as well as its historical constitution. To take a tool like e-mail as an example, it may function primarily as a family information medium for the generation that adopted it after retirement, or be used as a collaboration tool for academics writing articles together. For an Internet advertising operation (e.g., spam manufacturer), e-mail technology forms the means of production enabling its (highly annoying) business to thrive. I know individuals for whom e-mail is an "impersonal" medium ill-suited for intimate or non-work related communication; yet in a recent survey I distributed in a graduate seminar comprised of adult students from a number of countries around the world, 65% (n=17) responded that the emotions they expressed are as or more intimate through e-mail as in face-to-face (F2F) contexts. And as we shall see in case study three of this article, for many American undergraduates, "it's like, 'Oh God, I have to write an e-mail now'" (Grace, 19 year-old American undergraduate). Like many of her peers, Grace simply can't be bothered to use such a banal and non-immediately responsive modality. My point with this example is that even something prosaic like e-mail is a variably understood tool, a culturally specific tool, one that may serve a diversity of functions for some, while for others, it conjures up specific associations or may be used for highly restricted purposes. Internet mediated communication, then, can be seen to comprise a set of phenomena involving individuals and collectives (e.g., foreign language classes) who, through their everyday activities, construct CMC norms and forms of activity. In relation to the education projects discussed here, these norms arise not only from local, extemporaneous activity, but from the wider cultural contexts of computing integral to many students' non-academic lives (Thorne, 2000a).

Within educational contexts, CMC activity often appears to forge a hybridity that allows for an interplay between students' non-academic identities and the discursively constructed institutional roles of the classroom. Factors relevant for analyzing CMC use in language classrooms include the historically sedimented characteristics that accrue to a CMC tool from its everyday use, what I am terming the "cultures-of-use" of an artifact. Of course, artifacts do possess a concrete material form, but in the "observer-relative" world of humans (see Searle, 1992), artifacts are meaningfully and differentially defined by their immediate and historical use by communities (Cole, 1996). In short, artifacts embody historical processes that shape, and are shaped by, human activity.

Employing this framework to interpret the mediated nature of human activity, a cultures-of-use analysis attempts to render artifacts as they exist for users. Without endorsing technological determinism -- the suggestion that technology determines human activity (an argument I counter in this article) -- the structural properties of Internet communication tools have an effect on turn-taking and exchange structures (e.g., Herring, 1999; Werry, 1996). However, I wish to underscore and illustrate in the analysis to come that an artifact's materiality is conventional and takes its functional form from its histories of use in and across cultural practices. In this sense, all artifacts, including Internet communication tools, are

imbued with characteristics that illustrate the intersection of histories of use with the contingencies of emergent practice.

In this section, I outlined a theoretical framework describing artifact-mediated practices as, in essence, cultural practices (see also Cole, 1995). In the remainder of the paper, I focus on the cultures-of-use of Internet communication tools and the decisive role they play in transatlantic foreign language communication projects.

As a final lead-in to the case studies, the following section introduces CMC research and communication theory that will be both affirmed and problematized in the case study analyses.

CMC Research and Communication Theory

Within SLA, understandings of "communication" are frequently bound to restrictively operationalized concepts (e.g., communicative competence and proficiency, negotiation of meaning). It is ironic that in a field like SLA, concerned with the development of communicative abilities, communication research (and its research methodologies) is infrequently used to describe and interpret the linguistic activity of foreign and second language learners. Communication theorists and experimental researchers have addressed computer-mediated communication since the early 1980s and over the years have produced a diversity of empirical claims and theoretical frameworks that attempt to explain how Internet communication tools affect language-based human interaction. One early and quite robust line of CMC research describes the medium as "not rich enough" for many task-related needs (Daft & Lengel, 1984, in Walther, 1996, p. 3), nor is CMC effective for interpersonal exchanges as there is "scant social information" available (Dubrovsky, Kiesler, & Sethna, 1991, p. 119). Prominent communication researcher (and CMC specialist) Joseph Walther, making reference to both of the aforementioned studies, rhetorically asks, "if it's not good for tasks and not good for socializing, then just what is CMC good for and why would anyone use it at all?" (1996, p. 4).[2]

Examining data from a number of experimental conditions, Walther (1992) has developed a hypothesis, based on principles of social cognition and interpersonal relationship development, that suggests CMC relationships are as deeply relational as those that occur F2F. His central claim is that in comparison to F2F communication, CMC interaction is not different in kind, but typically mediates a slower rate of social information exchange (Walther, 1996, p. 10). Termed the information processing perspective, it suggests that "as goes [F2F], so goes CMC, given the opportunity for message exchange and accompanying relational development" (p. 11). If, as Walther argues, relationships mediated by textual communication over the Internet are similar in kind to those built in F2F settings, what are the implications for intercultural foreign language education projects? The case study data and analyses to follow respond to this question and show that, though Walther's claims are highly relevant to intercultural education, they benefit from critique and a corrective expansion.

THREE CASE STUDIES

That the Internet can now be used to facilitate direct interaction with expert speaker[3] age-peers over much of world holds great potential for foreign language students. But what forms of linguistic, cultural, and interpersonal relationship building can be experienced via the use of Internet communication and information tools? What is the nature of the production, consumption, and co-construction of meaning and intention when intercultural communication is mediated by such tools? The following three case studies illustrate that Internet communication tools are different cultural artifacts for different communities, precipitating consequential effects on the processes of communication, relationship building, and language development.

Case One: Clashing Frames of Expectation -- Differing Cultures-of-Use

In a recent study, Kramsch and Thorne (2002) examined the presumption that computer-mediated communication naturally fosters the conditions of possibility whereby learners will construct a common ground for cross-cultural understanding. This study was motivated by the authors' awareness that intercultural communication is certainly made more rapid and convenient by global communication networks, but also that traditional understandings of communicative competence (e.g., Breen & Candlin, 1980; Savignon, 1972, 1983) and negotiation (Pica, 1995) may become something quite different when mediated by the Internet. For obvious historical reasons (the Internet was not widely available for educational use until the mid-1990s in most locations), such artifact mediation is not taken into account in the mainstream SLA literature focusing on communicative competence and negotiation of meaning (recent exceptions include Pellettieri, 2000, and Blake, 2000, both of whom apply the interactionist SLA perspective to Internet mediated foreign language activity; Kötter, 2003, this issue). This brings forth the question of how and if Internet-mediated intercultural interaction alters the parameters of communication and the nature of language use. To address this issue, Kramsch and Thorne (2002) examined the intra- and interclass dialogues between lycée[4] students in Ivry and Fresnes, France, and U.S. students studying French at the University of California, Berkeley, in the Spring of 1997. Both student groups were between 18 and 20 years of age.

Real-Time Preparation and Asynchronous Conflict

The American students were excited about the upcoming exchange with French peers and participated in numerous preparatory activities such as intra-class synchronous CMC ("chat") sessions. These chat sessions were oriented toward developing questions and topics that they would then share with the lycée students. Additionally, they prepared questions that focused on the French film *La Haine*,[5] a film depicting issues of racism, gang violence, and ethnic conflict in the housing projects outside of Paris. The resulting inter-class e-mail exchanges were combative, perplexing, and for the American students, resulted in a general sense of disappointment (see also Belz, 2001, 2003, this issue; Kramsch & Thorne, 2002).

As the Americans prepared for the intercultural exchange they exhibited hopes of gleaning an insider's perspective on life in what they had come to imagine as the French equivalent of an American inner city ghetto. Eric,[6] a focal student in this study, participated in the following chat dialogue.[7]

1) Eric says, *"comment ils vivent? Leur vie qouitedenment?"* [how they live? Their everyday lives?]
2) Ken says, *"oui"* [yes]
3) Eric says, *"ca me semble d'etre un sujet"* [that seems to me to be a topic]
4) Ken says, *"comment on s'amuse?"* [how they amuse themselves?]
5) Ken says, *"est-ce qu'il y a des soirees? les raves?"* [are there parties? Raves?]
6) Eric says, *"bon bon, viens!!!!"* [good good, yeah(?)!!!!]
7) Ken says, *"qu'est ce que c'est les chose qui les inquetes?"* [what are the things that worry them?]
8) Ken says, *"les parents, les drogues, la sexe? le SIDA, les politiques"* [parents, drugs, sex? AIDS, politics]
9) Eric says, *"oui oui oui!!!!"* [yes yes yes!!!!]

In this exchange, the marked enthusiasm and their explicit desire to engage around the perceived commonalities of youth culture in certain segments of American and French societies (drugs, parents,

raves, sex, AIDS) illustrates that these students are working toward building solidarity while they also exhibit a perhaps naïve idealism that youth culture would necessarily include their projection of a globally viable constellation of anxieties and preoccupations. In their article, Kramsch and Thorne debate the potential benefits of Eric and Ken's discursive move toward cross-cultural symmetry and sharedness, with Thorne arguing that their attempt to build on what they imagine are universal youth culture themes has the potential to invoke the trust necessary to later explore substantive issues of difference while Kramsch is more critical and suggests that their idealism may obfuscate the "different social and cultural conventions under which each party is operating" (2002, p. 90). A few days after this chat session, the American students collectively wrote the first e-mail message and sent it to the Fresnes instructor's e-mail account (the lycée students, to the best of our knowledge, did not have access to personal e-mail accounts).[8]

E-mail 1: Berkeley > Fresnes[9]

> *A qui de droit:*
>
> *…Recemment, nous avons regarde le film "Le Haine" en classe. Le contenue de ce film nous a choque car il y avait des images de France que nous ne voyons pas d'habitude ici aux Etats-Unis. Alors ce film etait un peu deroutant pour nous. J'espere que vous ou votre class peut nous aider avec notre confusion. Voici une liste de questions sur "Le Haine" que nous avons prepare: …*
>
> [To whom it may concern:
>
> … Recently we saw the film "La Haine" in class. The content of the film shocked us since there were images of France that we don't normally see here in the U.S. So this film was a bit unsettling for us. I hope that you or your class can help us with our confusion. Here's a list of questions on "La Haine" that we've prepared: …]

There followed a numbered list of seven questions which asked if the film La Haine accurately represented the Parisian suburbs, if firearms and illegal drugs were available in these areas, if violence was great, and so forth. The response arrived a few days later, written in English and sent from the French instructor's e-mail account.

E-mail 2: Fresnes > Berkeley

> Dear Nat,
>
> You shouldn't generalize, because there are three sorts of suburbs at least. For example, Sandrine lives in a very good suburb, in which all is quiet; Sophie lives in an area where violence is rising and Delphine lives in a suburb where violence is widespread: a bookseller was killed without any reason four months ago. However the situation in France is certainly better than the situation in America. As a matter of fact, delinquents have more difficulty getting arms than in the USA. Moreover, areas resembling the American ghettos don't exist in France. If you go to France, you will never see an area like Harlem, where violence is great .... So we can confirm that the suburbs you saw in "La Haine" are not like this in reality.
>
> Signed: Sandrine, Delphine and Sophie.

The Americans were quite literally offended at the tone of this letter. Where they had expected responses to questions that they presumed were polite and genuine, they felt as though they had received a reprimand and immediately produced the following response.

E-mail 3: Berkeley > Fresnes

> *Chere Sandrine, Delphine, et Sophie,*
>
> *La premiere chose que vous ecrivez dans votre lettre etait: "You shouldn't generalize", ou en francais, "vous ne devriez pas generaliser" -- ca, c'est incroyable. Innocemment, ma class de francais vous a pose des questions pour mieux comprendre la verite de la situation a la banlieue francaise. Tout que nous recevions de vous etaient des reactions nationalistes! ...*
>
> *Avez-vous visite Harlem? Pouvez-vous dire franchement que vous connaissez bien les problemes sociaux des Etats-Unis? Avez-vous habite a Harlem ou Brooklyn, ou "the Bronx", ou Oakland, ou Richmond, ou Compton, ou Long Beach, ou ici a …? Commest est-ce que c'est possible que vous connaissez la situation des ghettos des Etats-Unis quand vous n'avez jamais habite ici? D'ou avez-vous obtenu votre information -- Des films americains? Si je ne me trompe, vous etes coupable de faire des generalizations, pas nous. Et ca, c'est un peu hypocrite....*
>
> Signed: Nat and Eric.
>
> [Dear Sandrine, Delphine, and Sophie,
>
> The first thing you wrote in your letter was : "You shouldn't generalize", or in French, "Vous ne devriez pas généraliser" -- that is incredible. Innocently, my French class asked you some questions in order to better understand the truth of the situation in the French suburbs. All that we got back from you were nationalistic reactions! ....
>
> Have you visited Harlem? Can you frankly say that you know the US's social problems well? Have you lived in Harlem or Brooklyn, or "the Bronx," or Oakland, or Richmond, or Compton, or Long Beach, or here in Berkeley? How is it possible that you know the situation of U.S. ghettos when you've never lived here? Where have you gotten your information -- from American films? If I'm not mistaken, you are guilty of making generalizations, not us. And that is a little hypocritical ....
>
> Signed: Nat and Eric]

A week later, Delphine replied. Her response showed surprise at Nat and Eric's tone, but she attempted to return to a dispassionate exchange of ideas by redirecting the illocutionary force of Nat and Eric's rhetorical questions and making them into genuine requests for information.

E-mail 4: Fresnes > Berkeley

> Dear Nat and Eric,
>
> I want to answer your letter which surprised me. To my mind, you didn't understand what we wrote. Now, to answer your questions, I have never been to America and all what I know is taken from books and films. The films we see, show us a bad image of the States. In American films, we always see violent actions and in the books we see photos such as I explained to you in my letter of … And to my mind, we are not "hypocritical" like you wrote: we only wrote what we thought. I'm waiting for an answer from you to know what you think about my last letter.
>
> Signed: Delphine

The American and French messages are characterized by different discourse styles that play themselves out on national, institutional, and personal levels. As this study was based in the US, more data is available, including pre-intercultural interaction chat sessions and post-class interviews, that illustrate the Americans had hoped to build relationships based on trust rather than engage within a communicative genre that privileged more dispassionate presentations of truth and fact that appears to have been the operative approach taken by the French students. In a retrospective interview, Eric, who appears both in

our synchronous and asynchronous data, had this to say about the conflicting styles of the American and French students:

> Eric: e-mail is kind of like not a written thing .... when you read e-mail, you get conversation but in a written form so you can go back and look at them. That's neat. I've had that experience where conversational constructions appear in an e-mail form from a native speaker of French, which is really neat. Because it doesn't fly by you and kind of "look at that"-- But in the [French] communications, it felt like they were writing essays and sending them to us rather than having an e-mail conversation with us.
>
> Interviewer: It seemed like you all would ask questions, right? Didn't you get responses?
>
> Eric: Sometimes we'd get long .... but it's true we didn't get, it seems true that they weren't doing the same thing we were. It seemed like, you know, we had a task. And they, it seemed like, I didn't know what they were doing. [laughs]

He went on to attribute the difficulties they encountered with the Fresnes students to differences in social class, although it is not clear why he associates "socio-economic class" with the ability to interact and conduct a conversation.

> There was a clear socio-economic class difference between us and the French. We were doing different things so it was sort of an interaction, but it wasn't a discussion or conversation. When we [Americans] were talking to each other, it was debate and agreement and process. But with the French, we'd ask a question and receive a statement...

These exchanges, and Eric's post-semester reflections, present a largely problematic scenario of the use of digital technologies for the learning of French in an American university context. Messages were sent back and forth, but is there evidence of relationship building and mutual knowledge construction that the project sought to cultivate? Addressing intercultural pragmatics in foreign language learning contexts, Boxer (2002) distinguishes between cross cultural and interlanguage pragmatics, saying that the latter focuses on the language learner's appropriation and/or acquisition of pragmatic norms represented in the host language community. Cross cultural pragmatics, on the other hand, "takes the view that individuals from two societies or communities carry out their interactions (whether spoken or written) according to their own rules or norms, often resulting in a clash in expectations and, ultimately, misperceptions about the other group" (2002, p. 151). Indeed, the French-American interactions above provide a strong example of the challenges inherent to cross cultural interaction while illustrating little in terms of interlanguage pragmatic development by the participating American students, though conflict is certainly not an inherently negative feature of intercultural communication, and other, perhaps difficult to ascertain developments may have occurred, such as a breaking down of stereotypical images of a monolithic French culture.

Phatic Versus Informational; Trust Versus Truth

Communication seems defined here by differing emphases on information exchange and personal engagement across culturally different discourse genres.[10] Jerome Bruner might theorize this communicative situation as a case where language reflects and constructs cultural worlds in a way that "preserves the distinction between facts on the one hand, and beliefs and opinions on the other." (1995, p. 20) Most of the French interlocutors used factual, impersonal, dispassionate genres of writing, including the use of examples (e.g., data) and argument building logical connectors ("for example," "however," "moreover"). They made nuanced corrections to what they felt were American mis-judgments about the situation in France. By contrast, the American students, who initiated this exchange in order to understand "how they live? Their everyday lives?" (American student Eric's utterance in a preparatory chat session), viewed this instance of Internet-mediated communication as a ritual of mutual trust building. The phatic style of many of their postings, full of questions and exclamation marks (and other message elements

seeking to build relations rather than exchange information), suggests a high degree of affective involvement and personal-emotional identification with the messages they wrote, especially early in the project. It seems that the Americans, in their search for understanding the lives of the French, expected trust and solidarity to develop through direct contact with French peers on the basis of shared personal experience. The illusion of proximity afforded by their everyday uses of the Internet informed their expectations of what these exchanges would be like.

In part due to the fact that some students have extensive histories as participants in highly structured on-line speech communities (the Americans in this case), while others have very little or highly specific Internet experience (the French lycée students), educational uses of Internet communication tools may illustrate a heterogeneous set of communicative practices that bring into contact different rules, community norms, and division of labor of these two speech communities. In the intercultural context that Kramsch and Thorne explored (though they didn't address this issue in the paper), the American students reported that Internet-based communication allowed them to interact as though they were not in the institutional context of a foreign language classroom. That is, their acculturation into non-academic digital speech communities predisposed them to engage in Internet-mediated communication in a style and with expectations derived from their everyday uses of the medium. As pertains to their intercultural communication, they were seeking phatic communication and the building of trust through the development of relationships much as they would with peers in the US.

For the French students at the lycée, their Internet access was, from what we know, restricted to academic activity in the classroom. Additionally, they wrote their messages in class and then passed them to their instructor who then e-mailed them from the only Internet connected computer available. By contrast, the American students reported spending on average 3+ hours a day on the Internet and were habituated to the use of e-mail and chat for mediating social, familial, and intimate relationships in addition to its use for school and professional communication. Hanks, speaking from a practice theory approach, suggests that "it is the socially defined relation between agents and the field that 'produces' speech forms" (1996, p. 230). Hence for the American students in this study, the articulation through CMC of themselves as agents and their perception of the 'field,' or discursive context in which they were engaged, supported communication in French, but in the style that they might also use in non-academic Internet-mediated speech-community cultures on a daily basis (for an extended discussion of this issue in other contexts, see Thorne, 1999, 2000a). What I would like to suggest is that a difference in communicative genres demonstrably thwarted satisfying interaction in this case of telecollaborative foreign language interaction. Trust and relationship-building for the Americans and truth value and negotiation of factual accuracy for the French involved differing goals, frames of reference, and perceptions of what is desirable, and even possible, through Internet-based communicative activity. Hence the *activity* of e-mail communication was different for the French than it was for the Americans, in part because the cultural artifact was used in a different way in each case (e.g., the French students were communicating through a surrogate).

The social material conditions of these two student groups, spatially separated by 5,000 miles, and more importantly occupying quite different material discursive contexts while producing their messages, were dramatically at odds with one another. In addition to variance in communicative genre that Kramsch & Thorne conclude to be the primary issue (2002), and perhaps even catalyzing these genre differences, are radically different cultures-of-use of Internet communication tools. When cultures-of-use do not minimally align, derived as they are from social-material conditions, the ideational worlds of intersubjectivity and phatic communion become a challenge to envision and difficult to achieve.[11] This raises a profoundly important issue as to whether cross-cultural communication also needs to explicitly take into account cross-class and cross-social material condition differences. If CMC use expands beyond the privileged communities within privileged nation states that currently have full access to the Internet (which in 1997 does not appear to include 18-20 year-olds in the Parisian suburb of Ivry and Fresnes[12]) and if telecollaborative language teaching continues to expand as a method of foreign language teaching

and learning, we will "need to prepare students to deal with global communicative practices that require far more than local communicative competence" (Kramsch & Thorne, p. 100). Kramsch and Thorne conclude that "Between the global and the local lies genre, the social and historical base of our speech and thought. An understanding of this neglected dimension of foreign language teaching may lead to a reassessment of what we mean by 'communicative competence' in a global world and what the communicative contract will be, upon which trust is based." (p. 100). The following two case studies jump forward five years in time and describe events occurring in the French section of the Spring of 2002 Penn State Foreign Language Telecollaboration Project.[13]

Case Two: Intercultural Communication as Hyperpersonal Engagement

In contrast to Case One, what happens when intercultural communication, initially as part of a formal educational exercise, expands beyond the pedagogical goals of the activity? In the Spring semester of 2002, students of French at The Pennsylvania State University (Penn State) interacted with engineering students at the Ecole Nationale Supérieure de Télécommunications de Bretagne. Some, but not all, of the students in France were slightly older than their American counterparts, but most participants were between the ages of 18 and 24 years. Like the Berkeley case described above, the course was organized so that students on both sides of the Atlantic would read parallel texts, see the same films, and share personal biographies using e-mail and a form of synchronous chat (using the program NetMeeting; for other parallel class intercultural collaborations, see Furstenberg, Levet, English, & Maillet, 2001; Kinginger, Gouvès-Hayward, & Simpson, 1999).

Thresholds, Authentic Communication, and Mediational Means

As can occur in distance collaborations, there was a numerical imbalance in participants with more than twice as many Penn State students as there were students participating at the partner institution in France. In the one-to-one e-mail-based correspondence that was to form the critical medium for interaction, each French student was paired with two or sometimes three Americans. As part of their participation grade, the Americans were required to complete a minimum of three e-mail exchanges over the middle 5 weeks of the semester. Kirsten, an American student, initially found her eventual key-pal in France to be frustrating. In a one-hour post-semester interview, Kirsten expressed disappointment with the slow start to this relationship and outlined the following series of events:

> I think he had two other key pals and he didn't know I was his key pal .... I e-mailed him again in English and I was like blah blah blah blah and was like "how are you, what are you up to," whatever, and I think he thought "well, I'm not her key pal and I really don't have time for this" so [he] didn't respond. So after his vacation I e-mailed him again after I thought the rest of them [Kirsten's classmates] would already be done with their e-mails and I tried to take up the correspondence again. And, it worked!
>
> I was really upset when I didn't hear from him [French key-pal] at first. Last week I was like, when I made this appointment [for the interview], I was like "I'm going in there and be like "grrr grrr grrr [vocalizations signifying anger and frustration], he didn't respond, I didn't talk to him, I'm really disappointed, I went and cried", and now I'm like "wow!", within a week I went from completely despondent and being like "I hate this, grrrrr," to "wow, love it! Love it!"

Kirsten was referring to a one-week period of extended and prolific dialogue with Oliver, her French key-pal, which began with an e-mail exchange but then quickly moved to another Internet communication tool, America Online Instant Messenger (IM).

> Kirsten: Out of the blue he [Oliver] IM-ed me.
>
> Interviewer: Did he know your screen name?

> Kirsten: He found it on my Web page. He has been onto my Web page almost every single day! It's gotten scary [laughing]. And he has clicked, I mean, every single link on my Web page and I have a whole list of good sites.

Their first IM interaction was sustained: "We went on for probably close to six hours that day alone" (Kirsten, in interview).

> Interviewer: So 6 hours?
>
> Kirsten: Just that day, and we talk every day.
>
> Interviewer: Really?
>
> Kirsten: Yeah, every day.
>
> Interviewer: For that long every day?
>
> Kirsten: I don't know, usually in 15 or 20-minute spurts, but usually twice or three times a day. So it's about an hour a day.

Kirsten mentioned that both French and English were used and the frequency and duration of her dialogues with Oliver demonstrated an authentic engagement that may or may not be a part of such interactions when they are seen as class activities. As foreign language instructors and students know well, authenticity is unfortunately not a product that can be readily distributed, but is rather a process, the key factor for which is the participant's sense (and enactment) of agency. Van Lier makes the case that language activity is authentic when "it realizes a free choice and is an expression of what a person genuinely feels and believes," and is "intrinsically motivated" (1996, p. 13). In terms of motivation, engagement, and desire, what might account for the success (at the level of time-in-interaction and authentic engagement) of Kirsten's key-pal experience? In reference to successful uses of the Internet in distance learning courses, Kirsten seems to have passed over what Wegerif (1998) terms a *threshold* . Wegerif proposes that success or failure in on-line education (and one might argue in other endeavors as well) depends on participants constructing a space of engagement through which they can position themselves as insiders with a vested interest in the educational, social, and communicative activities at hand. Wegerif's use of a threshold metaphor is derived from Lave and Wenger's (1991) notion of legitimate peripheral participation (LPP), a developmental model contending that participants move from initially peripheral and tentative engagement to full participation in a community of practice over time.

Though Wegerif's use of LPP and the threshold metaphor are useful as descriptors of some aspects of this interaction, the case of Kirsten and Oliver is compelling for it shows that the threshold experience that led to mutually satisfying and interpersonally "authentic" engagement (e.g., intrinsically motivated, van Lier, 1996) began as part of a formal educational process but attained its maturity when it migrated out of the academy (course uses of e-mail and NetMeeting sessions) and into another communicative medium for non-class related relationship building and language learning. Based on Kristen's interview data and the transcripts of her e-mail and IM interactions, the catalyst moving their relationship over the threshold from class task to authentic interpersonal relationship building was indeed tool-related -- the move to the use of IM.

> Kirsten: I asked him in [an e-mail message[14]], do you have a kind of chat like AOL IM or ICQ? And I think that's probably what triggered it ... and then out of the blue I got the IM from him and I was like "you have AOL IM?!" and he's like "this is Oliver" and I was like "holy mackerel!" you know, and I put "bonjour!" and like 5 lines of exclamation points. I was like "how are [laughing] you!" you know, and it went from there....
>
> Interviewer: Is IM better for=[15]
>
> Kirsten: =oh definitely=

> Interviewer: =for you and Oliver to communicate with each other than e-mail? or
>
> Kirsten: Yeah, e-mail is kinda like "ahh, here's my point, here ya go," but it's really hard to have a conversation.

Kirsten's appraisal of IM is that it is a "conversational" environment. By contrast, e-mail supports a temporally sequenced set of responsive monologues rather than dialogic interaction. As I will describe in Case Three, nearly all the 20 students interviewed as part of the 2002 study found e-mail an awkward medium for most age-peer interaction. It's not that e-mail doesn't serve a communicative function -- most students reported using e-mail at least occasionally for hierarchical interactions with professors, TAs, and parents and other family members. But for Kirsten, the move to IM was a pivotal and necessary condition for moving her relationship with Oliver to a more intimate level.

Mediated Intercultural Communication and Language Development

Despite the positive affect associated with Kirsten's telecollaborative experience, questions remain as to the efficacy of intercultural communication as it may promote language development. As Kern remarked in reference to the use of intercultural exchanges in foreign language education, "students are certainly engaged in communication. But has the communication led to any new understanding?" (Kern, 2000, p. 255). I extend Kern's query by asking, beyond the potential/purported benefits of communication with cultural others, is there also evidence of language development at the level of linguistic and pragmatic performance? The Penn State Foreign Language Telecollaboration Project (see note 10) includes an extensive empirical investigation of quantifiable changes in foreign language use over time (which we will share in numerous forms at the conclusion of the project). For this paper, however, I restrict my scope to a micro-genetic analysis of Kirsten's language use in e-mail and IM and to the post-experience reflections that she shared while reading over transcripts of her communicative activity with Oliver.

Tu/Vous Pragmatics

Areas of language learning that instructors often feel may not present significant obstacles often do. One of these areas is in the pragmatic deployment of pronouns of address. Especially in a case of two-way distinction (in contrast to languages that grammatically designate many more levels of politeness), one would think that *tu/vous* (T/V) usage would be a fairly straightforward practice, where students would use *tu* forms with peers, friends, in informal contexts and with younger people, and *vous* forms to show respect and/or distance, in formal contexts, and with older people. Yet as Belz and Kinginger (2002, in press) demonstrate, neither the pedagogical guidelines nor expert speaker explanations for T/V usage present a consistent, rule based system. Changes in her use of T/V is the first example that Kirsten brought to our attention in the interview:

> Kirsten: If you read my first e-mail, too, I asked him to correct my grammar and he did. He was really nice about it but like, we went [over] I guess my typical errors, and uh, he taught me some things I wasn't quite grasping when the teacher taught it in French. =
>
> Interviewer: =Yeah?
>
> Kirsten: He talked to me in English, like, within five minutes I was better, so=
>
> Interviewer: =Right, right. Is there any of that in here? [pointing to the e-mail and IM transcripts Kirsten had brought with her].
>
> Kirsten: Yeah, actually. If you read where he goes … We were talking about the election and the fact that Le Pen, he didn't like him at all and it was such a disaster. And then [he said] "let's talk about your French." And he went through and he said this [Kirsten points to a line in Oliver's e-mail which reads "Bon je garde le 'vous' mais, de grace, utilize 'tu' avec moi!!"] And then, at the very end of here [pointing to her e-mail response to Oliver], see, I do learn. I changed it!

In the final line of her e-mail, Kirsten had written, "J'attends impatiemment ton réponse!" (see I do learn!), emphasizing her use of T forms throughout the message. Interaction with expert speakers is thought to broaden the discourse options (and obligations) available to participating students, in part because students are engaging in age-peer contact under less controlled conditions than would normally be the case in intra-class small group or class discussion. This is a core rationale for telecollaborative arrangements. Drawing on sociocultural and language socialization approaches, Belz and Kinginger (in press) discuss the complexity of developing pragmatic competence and describe in detail the social-interactive conditions under which interculturally engaged students gain pragmatic competence. In their most recent study, they note that T/V usage is a destabilized and pragmatically complex issue for native speakers (making citations to Agar 1994; Delisle 1986; Morford, 1997; Wylie & Brière, 1995) and thus for foreign language students it is difficult to learn as a rule-governed behavior (despite the fact that it is frequently taught as such).

T/V use is embedded in a system of meaning potentials that are realized in particular social interactions (Belz & Kinginger, 2002, in press). When students engaged in telecollaborative interaction have opportunities to observe appropriate pronoun use by expert speakers and to receive explicit feedback for T form usage from peers, they gain a pragmatic awareness of T/V as an important part of their language use. In their study, such "noticing" (e.g., Schmidt, 1990) led to the approximation of expert speaker norms over time in most cases. Why don't students readily learn appropriate T/V use from the instructor or foreign language texts? Belz and Kinginger suggest that peer interaction creates a social ecology wherein students are motivated to maintain positive face (defined as positive self-image and the desire that this self-image be appreciated and approved of; see Brown & Levinson, 1987, p. 61-62) with age-peers and that the context of age-peer telecollaboration helps to crystallize appropriate usage in a social-interactive forum that can be difficult or impossible to create in instructed educational settings. They conclude by suggesting that multivalent participation, and understanding the social implications of the use of linguistic forms, are crucial conditions for the development of pragmatic competence. "Participation" and language socialization, rather than "acquisition" of a rule, may be a more apt descriptor for the development of pragmatic competence (making reference to Sfard, 1998, in Belz & Kinginger, in press).

Interpersonal Mediation and the Acquisition of Prepositions of Location

Kirsten was quite concerned about what she considered to be her "horrible" French grammar, but her ability to carry out extended IM discussions with Oliver bolstered her confidence.

> Kirsten: And there was this whole portion of this conversation where he was like "I'm really enjoying talking to you and I hope we can do it more often." You know, "I'll hear from you again soon." I mean, it's kind of encouraging because that means he doesn't think that my French is so bad that he [laughing] doesn't want to talk to me.

In terms of specific linguistic gains arising from her interactions with Oliver, Kirsten made the following remarks:

> Interviewer: What else beside the tu/vous stuff did he help you with?
>
> Kirsten: Usage of "au" versus "en" versus "dans" versus "à" versus, you know, that kinda stuff. A more in-depth vocabulary, for sure. When he speaks in French I'm like "whip out the [laughing] dictionary!" And then you know, it's kind of nice to have a human dictionary on the other end too....
>
> Kirsten: ...I was like "how am I supposed to say?" like for example .... So the "de" and "à" thing, "de la campagne," "à le cité," whatever, stuff like that. I was like "wow," you know, eeeeeee [vocalization of glee; laughs]. Because I couldn't get that from a dictionary.
>
> Interviewer: That's something you have to have a little help with, yeah?

> Kirsten: Yeah, yeah, and how am I supposed to learn it? That's not in the grammar books, you know [laughing], expressions like that, and other things. It was fun.

In these excerpts, Kirsten describes the interpersonally grounded context that allowed her access to the French prepositional system for location that she "couldn't get … from a dictionary" and that is "not in the grammar books." Though her claims may be empirically debatable, they are true enough for her since she has studied French in high school and at the time of this interview was enrolled in a fourth semester University French composition course focused extensively on grammar. Activity theorist Bonnie Nardi notes that it is not possible to fully understand how people learn if the unit of analysis is "the unaided individual with no access to other people or to artifacts for accomplishing the task at hand" (1996, p. 69). Yet much SLA (and other developmentally oriented) research and assessment approaches privilege the individual as an autonomous being, indirectly suggesting that real learning is *a-social* and unassisted (see Lantolf & Thorne, in press). Many French language students have successfully developed the ability to use French prepositions of location from grammar texts or from grammar lectures. Kirsten, however, required the mediation of another person, specifically an age-peer who was willing to provide immediate and explicit linguistic feedback as part of a socially meaningful relationship.

Oliver and Kirsten exhibit what Leont'ev terms a *pedagogy of cooperation* where "the relationship established between teacher and pupils are primarily relationships between people, not between participants in a mechanical and programmed process of the transmission of knowledge" (1992, p. 43). They see themselves as peers and friends and do not occupy consistent teacher-student relations to one another, as Kirsten provides limited grammatical assistance about Oliver's English as well.

> Kirsten: What kind of errors do we make and what kind of errors do they make. What kind of different things are, you know, like the "look" example [where Kirsten corrected Oliver's abrasive use of "look" as a focalizer/discourse marker]. How would you know unless you actually used it and you used it wrong? Apparently everyone he said "look" to didn't tell him!

The appropriation and appreciation of what might be called *teacherly practices* by both parties alters the usual student division of labor in an educational setting. Occupying the position of peer-expert may increase a sense of authority for participants who typically inhabit the discursive and institutional confines of a 'student' subject position, the entailments of which are to receive and demonstrate knowledge but rarely to act as an authority or expert (see also Thorne, in press).

Flow Activity and Self-Regulation

Building on her confidence expressed through the use of the French T forms, Kirsten provided an extended description of her e-mail and IM transcripts and was able to point to specific instances where, for the first time, she demonstrated what she perceived as an expanded competence to communicate in French. (The IM excerpt has not been orthographically modified but a few lines have been removed to save space.)

1) O: by the way, I don't know what smart means?
2) O: …
3) K: smart means ..hmmm
4) K: how to describe that
5) K: intelligent
6) O: I mean what does intelligent mean?
7) O: no I know what the word means
8) K: it's the same thing

9) O: but I'm not sure I grasp the idea

10) K: ooh..

11) K: hmmm

12) O: kind of philosophical huh?

13) K: yeah.. you know.. *aux Etats-Unis nous avons deux type d'intell*igence [in the US we have two types of intelligence]

14) O: *vraiment*? [really?]

15) O: *Je veux savoir*!!! [I want to know!]

16) K: *il y a "l'intelligence des livres" et "l'intelligence dans la vie"* [there is "book smart" and "life smart"][16]

17) O: *donc l'intellignece des livre c'est le savoir?* [therefore book intelligence is knowledge?]

18) K: *oui.. et l'autre est "common sense"* [yes.. and the other is "common sense"]

19) O: *on peut lire beaucoup et savoir beaucoup de choses tout en étant stupide je suis d'accord* [one can read a lot and know a lot of things and be stupid at the same time i agree]

20) K: *oui*! [yes!]

21) O: cool

22) K: *le "common sense" est… par example, j'ai une amie qui sait beaucoup des choses.. mais elle a mis METAL dans le microwave..* ["common sense" is … for example, I have a friend who knows a lot of things.. but she put METAL in the microwave..]

23) O: *oups* [oops]

24) K: *elle n'a pas de "common sense"* [she doesn't have "common sense"]

Kirsten herself provides an exegesis of this dialogue. Her quotations from the IM transcript (IMT) are labeled [IMT line #].

> Kirsten: The first couple of lines of this [transcript], there's a particular example and I'll show you ... Here's where, this was the true part, where I was like, "wow, I really have learned a lot of French!" [IMT 1] "By the way, I don't know what smart means." Smart means intelligent, like, I made the translation, I was like, but that's stupid that he didn't know that because intelligent is the same word in both languages! [IMT 6] "But what does intelligence mean." And he's like [IMT 7] "no I know what the word means," like [ventriloquating Olivier] "come on stupid," I'm like, yeah [IMT 8] "it's the same thing." And he said, [IM 9] "but I'm not sure I grasp the idea." And I said [IM 10, 11] "ohh" "hmmm." And he said [IMT 12], "kind of philosophical." And I said [IMT 13] "yeah," and then I went into French. And I was [laughing] so proud of myself. And I, you know, then I wrote, [IMT 13] *"aux Etats-Unis nous avons deux type d'intelligence,"* right, like life smart and book smart, and then he's like [IMT 15, initially glossing Oliver's message in English then referring to the French], "I have got to know this!!! *Je veux savoir*!!!" with three exclamation points and that was like, that was the beginning of my explaining in French, and I was like "wow!" .... That was the first one we, that was the first time that I was like, "I made a connection in French." I was so proud. It was like, "wow, that's me, in French, and he understood me!"

Kirsten explained the significance of this short excerpt from her first three-hour IM session with Oliver as a threshold moment in her ability to communicate in French. A combination of the use of IM and Kirsten's tremendous enthusiasm for Oliver (that these two elements interrelate has already been

suggested) created the conditions for interpersonal communicative possibility that Csikszentmihalyi describes as "flow activity" (1990). In Csikszentmihalyi's sense, flow involves engagement in an activity that challenges physical or mental abilities. High challenge situations, such as Kirsten's threshold experience as a first time successful communicator in French, induce a heightened sense of engagement. Absorption in the activity, rather than a self-conscious focus on an eventual product, results in "a harmonious rush of energy ... which comes as close as anything can to what we call happiness" (Csikszentmihalyi, 1993, p. xiii-xiv). Csikszentmihalyi also describes the importance of immediate feedback, such as that possible in IM interaction, to the attainment of a flow state of consciousness.

I would like to suggest a linkage between flow activity and the Vygotskyan and activity theoretical characterization of development. Csikszentmihalyi describes flow as a complex activity that stretches current abilities. Flow states of consciousness are most likely to be experienced when people can control their immediate social-material conditions, or as Csikszentmihalyi proposes, that "make it possible to adjust opportunities for action to our capacities" (1993, p. xiv). This is reminiscent of the familiar Vygotskyan metaphor of the zone of proximal development and provides a succinct description of the developmental context-activity from the participant's perspective.[17] The locus of control through which individuals gain access to interaction and information necessary to regulate thinking are developmentally sequenced as object-, other-, and self-regulation. Object-regulation indicates instances when artifacts in the environment regulate and/or afford cognition/activity. Other-regulation describes mediation by an expert or more capable peer. Self-regulation indexes an activity that an individual can accomplish with minimal or no external assistance (for SLA related applications of this approach, see Alm-Lequeux, 2001; Frawley & Lantolf, 1985; Schinke-Llano, 1993). Each of these stages is "symmetrical and recoverable, an individual can traverse this sequence at will, given the demands of the task" (Frawley, 1997, p. 98). Kirsten's extreme enthusiasm, her flow state of optimal performance when in IM interaction with Oliver, marks a transition point between the levels of object-, other-, and self-regulation. Her reflections suggest the following developmental sequence. Kirsten at first required object-regulation that she characterized as mediational affordances such as grammar texts with their verbal paradigms and vocabulary lists. Through her IM and e-mail interactions with Oliver, she was able to benefit from other-regulation, for example, the explicit linguistic assistance provided by Oliver as well as his confidence building enthusiasm for and reassurance of Kirsten's French language use. These levels of object- and other- regulation made possible a threshold experience during which Kirsten was able to self-regulate and participate in an extended and unrehearsed dialogue in French. In this case, IM mediation supported a developmentally fecund flow activity. Kirsten herself realizes her capacity for self-regulation when she states, "that was the first time that I was like, 'I made a connection in French.' I was so proud. It was like, 'wow, that's me, in French, and he understood me!'" Vygotsky might term this an example of Kirsten's "conscious realization" of her own thinking and language use, a key aspect of development (1986).

Later in the interview, Kirsten added, "It really takes a special person, like him, and our interactions are quick, to make it work." Of the two issues she raises in this statement, one re-emphasizes the real-time speed of IM text messaging which affords virtually instantaneous exchanges. The second issue, her quick intimacy with Oliver that developed over less than a one-week period, presents additional questions that I address below.

Hyperpersonalization, Infatuation, and Language Learning

> Kirsten: The click was that we were both so excited to hear from each other and we decided to listen to each other's ideas and whatever. And then to find out that we had so much in common ... He's really sweet. We're gonna be good friends I think, if we aren't already. We're pretty good friends now. It all happened within a week, yeah, a week tomorrow.

As part of an explanatory framework for understanding the accelerated intimacy that developed between Kirstin and Oliver, Walther (1996) examined a number of CMC and F2F experimental conditions and

developed a notion he terms "hyperpersonal interaction." The idea is this -- in comparison to F2F groups, CMC groups can build interpersonal relationships that attain greater depth and intimacy, including CMC groupings of culturally diverse partners who have never met F2F. Walther builds on what is termed the SIDE model, or Social Identity/Deindividuation theory of group behavior (Lea & Spears, 1992; Spears & Lea, 1992). In application to CMC contexts in which there is little or no prior knowledge of one's conversational partner and none of the visual-social information common to F2F interaction, the cues available take on increased significance. "This overreliance on minimal cues is more pronounced when participants have no physical exposure to one another, as in CMC; they are 'deindividuated'" (Walther, 1996, p. 18). Expanding the SIDE model, Walther asserts that "not only do CMC senders overcome the limits of the media to express personal cues, they may actually do so in ways that F2F communicators cannot" (p. 19), including the over-attribution of similar and positive characteristics which can result in idealizations of one's conversational partner. Such over-attribution in dialogic communication creates an ascending feedback loop, the outcome of which might be termed hyper-intimacy (for academic and popular accounts of on-line relationship building and infatuation, see Cohen, 2001; Parks & Floyd, 1996; Scharlott & Christ, 1995). An important update to Walther's "hyperpersonal interaction" concept is that he claims e-mail, as an asynchronous environment offering time to craft a polished presentation of self, more readily facilitates hyperpersonal effects in CMC mediated relationships. Though this may have been the case in the mid 1990s, e-mail is becoming a tool of the past for age-peer communication for many of the American undergraduates participating in the telecollaboration projects in 2002. For them, AOL Instant Messenger and its synchronous, one-to-one functionality was the more likely tool to result in idealized intention-ascription and relationships characterized by accelerated intimacy. Indeed, something very like this appears in Kirsten's account of her relationship with Oliver:

> Kirsten: He and I have become quite the [laughing] friends! I really do think he has a crush on me. It's really cute. The moment I mention my boyfriend he's like "ohhh." My roommates spent like 15 minutes saying [falsetto voice] "you have a crush on him too!" but I'm like "no I don't," I just think it's really neat to be able to talk to someone in France, and in French! That's my goal. That's why I'm taking the class.

What happens when Internet-mediated infatuation meets foreign language use? For Kirsten, the result was intense periods of communicative activity that drew much of their energy from muted but obvious flirtation. Conditions amenable to the development of hyperpersonal communication include perceived commonality and/or a shared goal, a high sense of self-awareness among participants, communicators that are non-proximal, and in cases where the medium involves a limited-cues channel that allows for editing and selective self-presentation (Walther, 1996). The elusive, allusive world of hyperpersonal communication may provide a powerful affordance for communicative activity, and in Kirsten's case, demonstrably supported her foreign language development in the areas of syntax and pragmatics.

In the section below, the final case study further establishes my argument that specific Internet communication tools correlate with specific forms of communicative in/activity.

Case Three: The Wrong Tool for the Right Job?

For many American students, an ever-expanding proportion of their lives is mediated by communication and information technologies. Computer-mediated communication has become a habitual dimension of social, academic, and professional communicative activity. That most of the American university students participating in the French section of the 2002 Penn State Telecollaboration Project were spending three or more hours a day using the Internet is not surprising (based on survey and interview data). Pushing back to secondary school, a number of studies carried out as part of the Pew Internet & American Life Project (2001) revealed that teenagers 12-17 years of age use the Internet as their primary source for information for their most recent school project (71%) and communicate with teachers and peers outside of school on a regular basis (41%). In another study, Pew researchers found that 90 million Americans

(approximately 84% of the total online population in the US as of October 2001), have participated in on-line communities to get or give information and/or for social or professional purposes (Horrigan, 2001). With often five or more years of Internet experience before they arrive at university, and then an increase in daily usage once they are on campus (due to the availability of Ethernet in the Penn State dorms and campus labs open 24 hours a day), specific cultures-of-use have developed that demonstrably contribute to intercultural communicative processes (e.g., the case of Kirsten, above) while in other unforeseen ways, present new challenges to the top-down organization of foreign language telecollaborative interaction (e.g., faculty-researchers making decisions about which CMC tools to use and for what communicative tasks).

In this brief section, I explore the ramifications of Internet communication tool choice and its relation to the telecollaborative assignments that were part of a fourth semester French course (the same course in which Kirsten, of Case Two, participated). The structured interactions called for each student to exchange a minimum of three e-mails over the semester with their French key-pals (other CMC tools and activities were also employed). Additionally, three in-class synchronous exchanges were carried out during which the French and American key-pals had the opportunity to "chat" with one another in real-time (using the program, NetMeeting). A video conferencing link was also used and students from both classes took turns sharing video images of themselves, most of which involved waving or extended shots of student groups typing at computer stations (sound was not available). At the end of the third and final NetMeeting session, the following interaction was video recorded and subsequently transcribed. Three students were both typing messages to their key-pals in France (two sharing a computer and one solo) while also talking to one another about their key-pals and the intercultural experience.

1) Kate: I love François. He's so terrific. I would talk to him, like, doing this [indicating the synchronous NetMeeting session in progress], like, on IM. I would talk to him. I just don't like writing e-mails.
2) Grace: This isn't that great either, I mean … [indicating NetMeeting].
3) Stef: I would talk to him, like, if he was on AOL [IM]? I'd talk to him all the time. He's a sweetie.
4) Grace: Did he give you his ICQ number?
5) Stef: No.=
6) Grace: =He [laughing] gave me his. It's like, ICQ is like what they use in France instead of Instant Messenger.
7) Kate: Well lucky you [jaded voice]
8) Grace: I don't, I don't [laughing] talk to him [on ICQ].
9) Stef: Poor François [relating to his self-disclosed isolation from women in France since his school is mostly male]
10) Kate: He's so cute, I love him! François is the best person ever!
11) Researcher: Can you all follow up with e-mail or? [in reference to the final few minutes of the last chat session of the term]
12) Stef: Yeah, but I hate writing e-mails.
13) Researcher: Really?
14) Grace: It's just that, this is just better because, it's not like, here's what I have to say and then all these responses to it? Like I hated pen pals when I was little.
15) Kate: Yeah, I did too! I never liked them. I never did them.

16) Researcher: So are the e-mail exchanges just not as dynamic as this, or=

17) Stef: No [they aren't]=

18) Grace: =But I think it's also because we have, like we communicate with a lot of people now through AOL [instant messenger]. That's so like that's how I talk to all my friends at different colleges=

19) Stef: =and here=

20) Grace: =We don't send e-mails back and forth to each other to like catch up. Like we just talk [using IM]. It's very like=

21) Stef: =Yeah, it's just, like, what we're used to.

22) Researcher: So you don't use e-mail that much normally?

23) Stef: I almost never do. I just use it for teachers and stuff=

24) Grace: =teachers, yeah. Or my Mom [laughs].

This dialogue illustrates a powerful and unexpected force that confounded the viability of the planned e-mail exchanges for a number of the American students. All three of the students found François to be likable, "the best person ever," and someone they would interact with on a regular basis, but only using the "right" Internet communication tool. Grace and Stef in particular (lines 23-24) vocalized the perception of many of the students interviewed for this paper: E-mail is a tool for communication between power levels and generations (e.g., students to teachers; sons/daughters to parents) and hence is unsuitable as a medium for age-peer relationship building and social interaction (the research project team's primary aspirations for the intercultural exchange). Grace, perhaps representing a more extreme case, described her views on e-mail this way.

> Interviewer: Do you e-mail much?
>
> Grace: Not not that much. Just mostly for communicating with professors.
>
> Interviewer: And for your key-pal?
>
> Grace: I just e-mailed him a couple of things in English … and then I was like, I'm not talking to him any more except in the NetMeetings. And then [the Instructor] was saying how like we have to do that, but then I didn't [laughs]. I didn't e-mail him any more .... Like I just, it just wasn't very convenient I guess. Like if you had AOL Instant Messenger I would just, you know, type in something every so often or whatever, but it's different than e-mail .... It's like, "Oh God, I have to write an e-mail now." Like it's just like, you don't want to, it's like an effort.
>
> Interviewer: So how many times a week do you e-mail friends?
>
> Grace: Never.
>
> Interviewer: Never?
>
> Grace: Never.

For these undergraduate American students, e-mail was a constraining variable in the intercultural communication process. Grace enjoyed her interactions with François. She states at a number of points that she would have communicated with him more readily and eagerly had she had IM as a tool option. For a number of students participating in the Spring 2002 telecollaboration section of this French course, the e-mail interactions fell flat and did not result in rich, or for that matter, contentious or problematic exchanges either (in contrast to Case One, presented earlier). They simply did not happen at all. This is due, in part, to the fact that the communication tool decided upon by the project coordinators and

instructor, e-mail, carried with it the specific limitation of acting as a communicative medium well suited for vertical communication across power and generation lines, but utterly inappropriate as a tool to mediate interpersonal age-peer relationship building. For Grace, her conviction that e-mail was an inappropriate tool for age-peer interaction even overpowered the coercive force of the direct (graded) assignment given by the instructor to continue e-mail exchanges. In other words, though she liked her key-pal and enjoyed the project generally, Grace chose not to participate when e-mail was the modality option.

DISCUSSION

Mediational artifacts both complicate and help to reveal the dynamics of human communicative activity. As an added mediational layer, CMC tools present additional variables and associations that may be difficult to predict. However, as a medium that produces a persistent representation of communicative interaction, CMC residua (in the form of on-screen or printed out log files) can be scrutinized and reflected upon by researchers and participants and can help to locate specific developmental episodes. Based on the data and analysis presented, what can we weave together from these three distinct cases of intercultural communication? First, I'll make the reminder that I am encouraging a dialectical approach emerging from the structuration lineage that emphasizes the relations between local social material conditions, the cultures-of-use of Internet communication tools, and the communicative goals at hand. As I have attempted to demonstrate, the mediational means available (e.g., IM versus e-mail) and its cultural-historical resonance for users, play a critical role in how and even if the communicative process and accompanying interpersonal relationships develop.

As illustrated in Case One, artifacts can form the nexus of diverse and heterodox activity (Bødker, 1997). While "comprehension is the most primitive and important precondition for human solidarity" (Bruner, 1995, p. 28), differing cultures-of-use of an ostensibly "shared" or "common" mediational artifact may invoke divergent communicative expectations. For Internet-mediated interpersonal or hyperpersonal relationships to develop, I suggest that certain minimum alignments of cultures-of-use are a necessary condition. In other words, the cultures-of-use of a communicative medium -- its perceived existence and construction as a cultural tool -- may differ interculturally just as communicative genres and personal style may differ interculturally (e.g., Case One). Internet communication tools and their cultures-of-use, associated communicative genres, and for participant-actors, a shared orientation to activity, are necessary before substantive intercultural communication might develop. Cases One and Three both illustrate problems at these various levels and for many educators would be treated as unsuccessful encounters. It is significant that artifacts take their character from activity. Cultures-of-use, however mitigating or facilitative, are dynamic and will necessarily evolve in relation to the object of an individual or collective activity. As Bødker notes, artifacts have a "double character": They are an "object in the world around us that we can reflect on, and they mediate our interaction with the world" (1997, p. 150). As such, teachers and students can interrogate mediational artifacts and their cultures-of-use as an important (and altogether neglected) dimension of Internet-mediated intercultural communication.[18]

As an example of intercultural communication at work in the foreign language learning process, Case Two illustrates the potential for intimacy-charged relationship-building through IM to result in a tremendous volume of reading and typing in French and English. Though we have but a fraction of Kirsten's non-course related IM and e-mail transcripts, the data show significant gains in the areas of T/V usage and French prepositions of location (and additionally, reveal development in the use of logical connectors such as "whereas" and "consequently"[19]). Her self-image as a speaker of French rose considerably through her threshold IM conversation in which she was able to self-regulate during her first authentic communicative experience in French (book smart and life smart discussion, above). Though not in contradiction to some of the critiques I voiced earlier (that over-attribution and hyperpersonal communication may elide otherwise developmentally worthwhile contestations with difference), Kirsten's

IM exchanges and concomitant interpersonal relationship with Oliver suggest that both pragmatic and linguistic affordances were constructed through this communicative activity.

Cultural Artifacts and Socio-Historically Located Subjects

Instead of the presumption of "extreme dissembedding" (Miller & Slater, 2000, p. 4) between, say, educationally oriented CMC activities and F2F interaction, or the position which suggests that CMC and F2F communicative interaction achieves similar results save for differences in rate of transfer (e.g., social processing theory discussed earlier), we might benefit from assuming that most forms of internet-mediated educational activity are embedded in and functionally dissassociable from other habituated and everyday communicative contexts. These may include casual F2F encounters, non-virtual relations of power and knowledge (such as occur in formal F2F educational settings, for example), or importantly, as I have argued elsewhere (Thorne, 1999, 2000a), that the process of becoming a competent member of one digitally mediated speech community may have demonstrable effects on presentation of self and the aesthetics of communicative performativity (e.g., Butler, 1993; Cameron, 2000) in another, quite dissimilar digitally mediated interaction. In essence, an approach that presumes the existence of "the Internet" and then seeks to understand its effects on identity, activity, social formations, or the genres appropriate for intercultural communication risks becoming yet another argument that succumbs to the reductionism implicit to technological determination on the one hand and of reifying a dualism between agent and structure on the other (Miller & Slater, 2000).

Communicative activity articulates with and is a form of material culture (Bourdieu, 1991; Gee, 1990; Lemke, 1995; The New London Group, 1996). As such, getting a handle on material culture and its production, consumption, reproduction, and transformation involves interdependent correlations that can include multiple forms of digitally mediated activity (e-mail, chat, Web use, instant messenger), non-digital communicative and literacy practices, experience in and of brick-and-mortar institutions like schools and universities, and language socialization practices (again, representing a wide array of contexts and serving differing goals and needs). McDermott (1977) has remarked that people create environments for one another. Focusing on the relationships between cultures-of-use and intercultural human communicative activity mediated by the Internet, I suggest, inspired by Latour (1993, 1999) and Tomasello (1999), that cultures-of-use and mediational artifacts co-evolve over time. It is this co-evolutionary process that warrants attention and that correlates to how communication is carried out at both the intra and intercultural level. People engaged with and mediated by material culture in all its forms mark the profitable point of departure for research in the area of communicative practice and intercultural understanding.

In this paper I have attempted to describe some instances of intercultural communication that attempt to live up to the notion of ecological validity: that any analysis really ought to be consistent with the participants' definition of situation (Cole, Hood, & McDermott, 1997). My tactical approach, to borrow a phrase from de Certeau (1984), has been to balance the materiality of networked language-based social interaction with the participant-relative perspectives of students. Showing that cultural, individual and collective historical factors influence the ways students perceive Internet communication tools and their (mis)uses provides insight into relationships between language use, mediational means, levels of engagement, and the potential for authenticity in the communicative process, all of which are implicated in the activity of language development.

Internet communication tools cannot be fully apprehended from a positivist vantage point as generically "there" in the world. Cultural artifacts such as global communication technologies are produced by and productive of socio-historically located subjects. Such artifacts take their functional form and significance from the human activities they mediate and the meanings that communities create through them.

NOTES

1. The cultural historical perspective marks a radical epistemological shift from Cartesian-derived theories of cognition and development that separate forms of knowledge from social practice. The key to this shift away from Cartesian dualism is the notion of mediation and internalization in which the mediational means are themselves cultural tools and artifacts (Cole & Engeström, 1993; Engeström, 1999; Wertsch, 1998).

2. Walther (1992, 1996) challenges the cues-filtered-out research by persuasively arguing that the comparison is typically made between CMC log files and transcripts of face-to-face interactions. Since transcripts of face-to-face interaction cannot convey the entirety of social and relational information that may be critical to the ordering of communicative interaction, such comparisons "may be tainted" (1996, p. 34).

3. Acknowledging the debate within applied linguistics about the myth or reality of the native speaker (e.g., Kramsch, 1997), as well as the fact the national languages discussed in this study (French for France, English for the US) may not be the first language of participants residing in these countries, I use expert speaker throughout this paper in place of the potentially inaccurate term "native speaker."

4. A lycée is an institution that meshes together high school and college or community college environments.

5. Directed by Mathieu Kassovitz, *"La Haine"* (The Hatred) depicts the experience of three boys living in housing projects in a Parisian *banlieue* (suburb).

6. Data throughout this paper have been made anonymous. In accordance with the differing human subjects guidelines for the two research contexts involved, case study one uses only participants' first names, and pseudonyms are used in all instances for case studies two and three.

7. Synchronous inter-class CMC was facilitated using a MOO server coupled with the MacMOOse client which automatically tags user messages with their names (e.g., Eric says, "..."; Ken says, "...").

8. None of the orthography or grammar have been modified, but portions of these messages have been deleted (marked by "…") due to space limitations.

9. Note that Richard Kern generously shared the French-American data included in both this paper and that published by Kramsch and Thorne (2002). For his analysis, see Kern, 2000.

10. Genre as Kramsch and Thorne (2002) use it, and as it is employed in this paper, builds upon the following key insights:

1) "Genres can be defined as the historically specific conventions and ideals according to which authors compose discourse and audiences receive it" (Hanks 2000, p. 135).
2) Genre addresses the ways language functions in and co-produces social and cultural contexts.
3) Genre addresses how institutional, social, and medium effects produce regularities in discourse.
4) Genre creates expectations of communicative form at the levels of style, content, and register.

Genre suggests that language use is realized by means of a systematic relationship between cultural context, situational context, and linguistic features (known collectively within the Hallidayan framework as the text-context model, e.g., Halliday & Hassan, 1985).

11. From a cultural studies perspective, radically dissimilar cultures-of-use of CMC tools may mitigate the construction of a "Third Space," which Bhabha suggests is a "precondition for the articulation of cultural difference" (1994, p. 38). Bhabha describes the Third Space as "the discursive conditions of enunciation" that move signification away from "primordial unity and fixity" and which "makes the

structure of meaning and reference an ambivalent process [and] destroys this mirror of representation in which cultural knowledge is customarily revealed as an integrated, open, expanding code" (p. 36).

12. In a 2001 article on e-gateway titled "France Still Lags in Internet Use," Jüptner, using Nielsen Net Ratings statistics for August, 2001, reports that 11.7 million, or 20% of the French population has regular access to the Internet, with 22% going on-line at least once a week at home, work, or in cybercafes. By contrast, the August 2001 Nielsen Net Ratings for the US and Canada (a combined north American category) is 166.4 million, or 59.75% of the total population.

13. The purpose of the project is to examine the effects of intercultural communication in University-level foreign language classes on students' language acquisition, cultural awareness, and beliefs about language learning. Two each of intermediate-level French, German, and Spanish classes at Penn State are participating in the project. One class in each language is partnered with a class abroad and uses electronic media for communication and collaboration (i.e., the Telecollaboration or TC classes) while the second class in each language uses the same communication tools for intra-class communication, but does not correspond or collaborate with students abroad (i.e., the control classes). Each telecollaborative partnership utilizes a number of Internet communication tools that minimally include e-mail, Web-based threaded discussion, and synchronous chat. We have amassed a substantial and growing corpus of these texts and have coded them for time (week of the semester), tool (chat, e-mail, threaded discussion, video conference), and by language, student (and/or student "team" or working group), and activity type (e.g., writing and editing an essay for eventual posting to a Web site, a discussion of films or literature seen by both partner classes, etc.). The project will be completed at the end of 2003.

14. Kirsten acknowledges that it was an e-mail message that sparked their subsequent flurry of IM activity. In this message, Kirsten asked Oliver if he had access to an IM client (mentioning Yahoo Messenger, ICQ, and AOL IM by name) and encouraged him to contact her using one of these tools, stating that "*je pense vous etes intelligent et gentil et j'aime parler avec vous*" (I think you are intelligent and nice and i like speaking with you). She continues in the second (of two) paragraphs with questions about the recent French presidential primaries, ending with "*Votre candidat extreme [Le Pen] ne gagnera pas, je crois et j'espere! Je ne peut pas attendre de lire votre reponse!*" (Your extreme candidate [Le Pen] won't win, I believe and hope! I can't wait to read your response!).

15. An equals sign refers to an overlap between speakers' utterances, sometimes called *latching.*

16. This is the translation that Kirsten herself gives for "l'intelligence des livres" et "l'intelligence dans la vie" in her gloss of this IM exchange.

17. The zone of proximal development (ZPD) is defined by Vygotsky as "the distance between actual developmental level as determined by independent problem solving and the level of potential development as determined through problem solving under adult guidance or in collaboration with more capable peers." (1978, p. 86; for a discussion of the ZPD in second language education, see Kinginger, 2002, and Dunn & Lantolf, 1998). For Vygotsky, the ZPD is not only a model of the developmental process, but also a conceptual tool that educators can use to understand aspects of students' emerging capacities that are in early stages of maturation. In this way, when used proactively, teachers using the ZPD concept as a diagnostic have the potential to create conditions that may give rise to specific forms of development.

18. Some practical concerns are

- Though the participants may not represent all or even the majority of university students in North America in terms of their Internet use, resistance to e-mail, and predilection for IM, the relative homogeneity of their perspectives merits attention. Based on these, the following issues may prove relevant to other institutions considering telecollorative foreign language projects.
- Tool selection may be critical to success, and even to achieve minimal interaction.

- Language learning and intercultural preparedness may benefit CMC intercultural communication in terms of relationship building and general cultural awareness prior to students embarking on a study abroad program. Wilkinson (1996), in a small sample study, found that prior cross-cultural experience played a positive role in a French study abroad immersion program. A number of the students we interviewed stated that they may keep in contact with their key-pals and a smaller number intended to look them up in person when they went to France during their junior year.

19. In interview, Kirsten mentioned that Oliver read over and commented on one of her French essays, saying, "The whole thing has been wow, you know? It's been an eye opener for me, it's been, you know, as little progress I've seen myself make, and I'm like "oh I already knew that, oh I already knew that, wow I don't understand that. Where'd that come from?" I feel like I got to that plateau of, "okay, I learned the vocab, I learned the conjugation, I learned blah blah blah," now it's like structure and it's more the in depth and the "okay, let's expand the vocabulary and use things like *consequently, whereas, from this to that,* and you know, little stuff, little stuff."

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REFERENCES

Agar, M. (1994). *Language shock: Understanding the culture of conversation.* New York: William Morrow.

Alm-Lequeux, A. (2001). Using the Internet as a zone of proximal development for teaching indirect speech: A Vygotskian approach. *Die Unterrichtspraxis / The Teaching of German, 34*(1),1-9.

Archer, M. S. (1995). *Realist social theory: A morphogenetic approach.* Cambridge, England: Cambridge University Press.

Belz, J. A. (2001). Institutional and individual dimensions of transatlantic group work in network-based foreign language teaching. *ReCALL, 13*(2), 213-231.

Belz, J. A. (2002). Social dimensions of telecollaborative foreign language study. *Language Learning & Technology, 6*(1), 60-81. Retrieved February 16, 2002, from http://llt.msu.edu/vol6num1/belz/

Belz, J. A. (2003). Linguistic perspectives on the development of intercultural competence in telecollaboration. *Language Learning & Technology 7*(2), 68-117. Available in this issue at http://llt.msu.edu/vol7num2/belz/

Belz, J. A., & Kinginger, C. (2002). The cross-linguistic development of address form use in telecollaborative language learning: Two case studies. *The Canadian Modern Language Review / La revue canadienne des langues vivantes, 59*(2), 189-214.

Belz, J. A., & Kinginger, C. (in press). Discourse options and the development of pragmatic competence by classroom learners of German: The case of address forms. *Language Learning, 53*(2).

Bhabha, H. (1994). *The location of culture.* New York: Routledge.

Blake, R. (2000). Computer mediated communication: A window on L2 Spanish interlanguage. *Language Learning & Technology, 4*(1), 120-136. Retrieved February 15, 2002, from http://llt.msu.edu/vol4num1/blake/

Bødker, S. (1997). Computers in mediated human activity. *Mind, Culture and Activity, 4*(3), 149-158.

Bourdieu, P. (1977). *Outline of a theory of practice.* Cambridge, England: Cambridge University Press.

Bourdieu, P. (1991). *Language and symbolic power.* Cambridge, MA.: Harvard University Press.

Boxer, D. (2002). Discourse issues in cross-cultural pragmatics. *Annual Review of Applied Linguistics, 22*, 150-167.

Braun, B., & Castree, N. (Eds.). (1998). *Remaking reality: Nature at the millennium.* London: Routledge.

Breen, M., & Candlin, C. (1980). The essentials of a communicative curriculum in language teaching. *Applied Linguistics, 1*, 89-112.

Brown, P., & Levinson, S. (1987). *Politeness: Some universals in language usage.* New York: Cambridge University Press.

Bruner, J. (1995). Meaning and self in a cultural perspective. In D. Bakhurst & C. Sypnowich (Eds.), *The social self* (pp. 18-29). London: Sage Publications.

Butler, J. (1993). *Bodies that matter: On the discursive limits of "sex."* New York: Routledge.

Cameron, D. (2000). *Good to talk? Living and working in a communication culture.* London: Sage.

Chaiklin, S. (2001). The institutionalization of cultural-historical psychology as a multnational practice. In S. Chaiklin (Ed.), *The theory and practice of cultural-historical psychology* (pp. 15-34). Aarhus, Denmark: Aarhus University Press.

Chun, D. (1994). Using computer networking to facilitate the acquisition of interactive competence. *System, 22*(1), 17-31.

Cohen, J. (2001, January 18). On the net, love really is blind. *New York Times.*

Cole, M. (1995). Socio-cultural-historical psychology: Some general remarks and a proposal for a new kind of cultural-genetic methodology. In J. V. Wertsch, P. del Rio, & A. Alvarez (Eds.), *Sociocultural studies of mind* (pp. 187-214). Cambridge, England: Cambridge University Press.

Cole, M. (1996). *Cultural psychology: A once and future discipline.* Cambridge, MA.:The Belknap Press of Harvard University Press.

Cole, M., & Engestrom, Y. (1993). A cultural-historical approach to distributed cognition. In G. Salomon (Ed.), *Distributed cognitions: Psychological and educational considerations* (pp. 1-46). Cambridge, England: Cambridge University Press.

Cole, M., Hood, L., & McDermott, R. (1997). Concepts of ecological validity: Their differing implications for comparative cognitive research. In M. Cole, Y. Engestrom, & O. Vasquez (Eds.), *Mind,*

culture, and actvivity: Seminal papers from the laboratory of comparative human cognition (pp. 49-58). Cambridge, England: Cambridge University Press.

Coughlan, P., & Duff, P. (1994). Same task, different activities: Analysis of a SLA task from an activity theory perspective. In J. Lantolf & G. Appel (Eds.), *Vygotskian approaches to second language research* (pp. 173-191). Norwood, NJ: Ablex Publishing Company.

Csikszentmihalyi, M. (1990). *Flow: The psychology of optimal experience.* New York: Harper & Row.

Csikszentmihalyi, M. (1993). *The evolving self: A psychology for the third millennium.* New York: HarperCollins Publishers.

Daft, R., & Lengel, R. (1984). Information richness: A new approach to managerial behavior and organizational design. In B. M. Staw & L. L. Cummings (Eds.), *Research in organizational behavior, 6* (pp. 191-233). Homewood, IL: JAI Press.

de Certeau, M. (1984). *The practice of everyday life.* Berkeley: University of California Press.

Delisle, H. (1986). Intimacy, solidarity, and distance: The pronouns of address in German. *Die Unterrichtspraxis, 19*(1), 22-26.

Dubrovsky, V., Kiesler, S., & Sethna, B. (1991). The equalization phenomenon: Status effects in computer-mediated and face-to-face decision making groups. *Human Computer Interaction, 6,* 119-146.

Dunn, W., & Lantolf, J. P. (1998). Vygotsky's zone of proximal development and Krashen's i + 1: Incommensurable constructs; incommensurable theories. *Language Learning, 48,* 411-442.

Engeström, Y. (Ed.). (1999). *Perspectives on activity theory.* Cambridge, England: Cambridge University Press.

Erickson, T. (2000, January). Making sense of computer-mediated communication (CMC): Conversations as genres, CMC systems as genre ecologies. In J. F. Nunamaker, Jr. & R. H. Sprague, Jr. (Eds.), *The proceedings of the thirty-third Hawaii International Conference on Systems Science.* New York: IEEE Press.

Frawley, W. (1997). *Vygotsky and cognitive science: Language and the unification of the social and computational mind.* Cambridge, MA: Harvard University Press.

Frawley, W., & Lantolf, J. (1985). Second language discourse: A Vygotskyan perspective. *Applied Linguistics, 6,* 19-44.

Furstenberg, G., Levet, S., English, K., & Maillet, K. (2001). Giving a virtual voice to the silent language of culture: The cultura project. *Language Learning & Technology, 5*(1), 55-102. Retrieved February 18, 2002, from http://llt.msu.edu/vol5num1/furstenberg/

Gee, J. (1990). *Social linguistics and literacies: Ideology in discourses.* Bristol, PA: Taylor & Francis.

Giddens, A. (1984). *The constitution of society.* Cambridge, England: Polity.

Halliday, M. A. K. (1978). *Language as social semiotic: The social interpretation of language and meaning.* London: Arnold.

Halliday, M. A. K., & Hassan, R. (1985). *Language, context, and text: Aspects of language in a social-semiotic perspective.* Oxford, England: Oxford University Press.

Hanks, W. (2000). *Intertexts. Writings on language, utterance and context.* Lanham, MD: Rowman & Littlefield.

Hanks, W. (1996). *Language and communicative practice.* Boulder, CO: Westview Press.

Harvey, D. (1996). *Justice, nature and the geography of difference.* Oxford, England: Blackwell.

Herring, S. (Ed.) (1996). *Computer-mediated communication: Linguistic, social and cross-cultural perspectives.* Philadelphia: John Benjamins Publishing Company.

Herring, S. (1999). *Interactional coherence in CMC. Proceedings of the Thirty-Second Annual Hawaii International Conference on Systems Sciences* (CD-ROM). Los Alamitos, CA: IEEE Computer Society.

Horrigan, J. (2001). *Online communities: Networks that nurture long-distance relationships and local ties.* Pew Internet & American Life Project. Released 6pm EST, October 31, 2001. Available online at http://www.pewinternet.org/reports/toc.asp?Report=47

Kapetlinin, V. (1996). Computer-mediated activity: Functional organs in social and developmental contexts. In B. A. Nardi (Ed.), *Context and consciousness: Activity theory and human-computer interaction* (pp. 45-68). Cambridge, MA: MIT Press.

Kern, R. G. (1995). Restructuring classroom interaction with networked computers: Effects on quantity and characteristics of language production. *Modern Language Journal, 79*(4), 457-476.

Kern, R. G. (2000). *Literacy and language teaching.* Oxford, England: Oxford U. Press.

Kinginger, C. (2002). Defining the zone of proximal development in US foreign language education. *Applied Linguistics, 23*(2), 240-261.

Kinginger, C., Gouvès-Hayward, A., & Simpson, V. (1999). A tele-collaborative course on French-American intercultural communication. *French Review, 72*(5), 853-866.

Kötter, M. (2003). Negotiation of meaning and codeswitching in online tandems. *Language Learning & Technology, 7*(2), 145-172. Available in this issue at http://llt.msu.edu/vol7num2/kotter/

Kramsch, C. (1997, May). The privilege of the nonnative speaker. *PMLA, May,* 359-369.

Kramsch, C., & Thorne, S. (2002). Foreign language learning as global communicative practice. In D. Cameron & D. Block (Eds.), *Globalization and language teaching* (pp. 83-100). New York: Routledge.

Lantolf, J. (2000). Second language learning as a mediated process. *Language Learning, 33*(2), 79-96.

Lantolf, J. (in press). Sociocultural theory and SLA: An exegesis. In E. Hinkel (Ed.), *Handbook of research in second language teaching and learning.* Mahwah, NJ: Erlbaum.

Lantolf, J., & Thorne, S. (in press). *Sociocultural theory and the genesis of second language development.* Oxford, England: Oxford University Press.

Latour, B. (1993). *We have never been modern* (Catherine Porter, Trans.). New York: Harvester Wheatsheaf.

Latour, B. (1999). *Pandora's hope. Essays on the reality of science studies.* Cambridge, MA: Harvard University Press.

Lave, J., & Wenger, E. (1991) *Situated learning: Legitimate peripheral participation.* Cambridge, England: Cambridge University Press.

Lea, M., & Spears, R. (1992). Paralanguage and social perception in computer-mediated communication. *Journal of Organizational Computing, 2,* 321-341.

Lemke, J. (1995). *Textual politics: Discourse and social dynamics.* Bristol, PA: Taylor & Francis.

Leont'ev, D. A. (1992). Joint activity, communication, and interaction: Toward well-grounded "pedagogy of cooperation." *Journal of Russian and East European Psychology, 3*(2), 43-58.

Levinson, S. (1995). Interactional biases in human thinking. In E. Goody (Ed.), *Social intelligence and interaction: Expressions and implications of the social bias in human intelligence* (pp. 221-260). Cambridge, England: Cambridge University Press.

McDermott, R. (1977). Social relations as contexts for learning in school. *Harvard Educational Review, 47,* 198-213.

Miller, D., & Slater, D. (2000). *The Internet: An ethnographic approach.* Oxford, England: Berg.

Morford, J. (1997). Social indexicality in French pronominal address. *Journal of Linguistic Anthropology, 7*(1), 3-37.

Nardi, B. A. (1996). Studying context: A comparison of activity theory, situated action models, and distributed cognition. In B. A. Nardi (Ed.), *Context and consciousness: Activity theory and human-computer interaction* (pp. 69-101). Cambridge, MA: MIT Press.

The New London Group. (1996). A pedagogy of multiliteracies: Designing social futures. *Harvard Educational Review, 66*(1), 60-92.

Ortega, L. (1997). Processes and outcomes in networked classroom interaction: Defining the research agenda for L2 computer-assisted classroom discussion. *Language Learning & Technology, 1*(1), 82-93. Retrieved February 18, 2002, from http://llt.msu.edu/vol1num1/ortega/

Parks, R., & Floyd, K. (1996). Making friends in cyberspace. *Journal of Communication, 23,* 409-425.

Pellettieri, J. (2000). Negotiation in cyberspace: The role of chatting in the development of grammatical competence. In. M. Warschauer & R. Kern (Eds.), *Network-based language teaching: Concepts and practice* (pp. 59-86). Cambridge, England: Cambridge University Press.

Pica, T. (1995). The textual outcomes of native-speaker-nonnative speaker negotiation: What do they reveal about second language learning? In S. Kramsch & S. McConnell-Ginet (Eds.), *Text and context. Cross-disciplinary perspectives on language study* (pp. 198-237). Lexington, MA: D.C.Heath.

Rommetveit, R. (1974). *On message structure: A framework for the study of language and communication.* New York: John Wiley & Sons.

Savignon, S. (1972). *Communicative competence. An experiment in foreign language teaching.* Philadelphia: Center for Curriculum Development.

Savignon, S. (1983). *Communicative competence: Theory and classroom practice.* Reading, MA: Addison-Wesley.

Sawyer, K. (2002). Unresolved tensions in sociocultural theory: Analogies with contemporary sociological debates. *Culture & Psychology, 8*(3), 283-305.

Scharlott, B., & Christ, W. (1995). Overcoming relationship-initiation barriers: The impact of a computer-dating system on sex role, shyness, and appearance inhibitions. *Computers in Human Behavior, 11,* 191-204.

Schinke-Llano, L. (1993). On the value of a Vygotskian framework for SLA theory and research. *Language Learning, 43*(1), 121-129.

Schmidt, R. (1990). The role of consciousness in second language acquisition. *Applied Linguistics, 11,* 219-258.

Searle, J. (1992). *The rediscovery of the mind.* Cambridge, MA: The MIT Press.

Sfard, A. (1998). On two metaphors for learning and the dangers of choosing just one. *Educational Researcher, 27,* 4-13.

Spears, R., & Lea, M. (1992). Social influence and the influence of the "social" in computer-mediated communication. In M. Lea (Ed.), *Contexts of computer-mediated communication* (pp. 30-65). London: Harvester-Wheatsheaf.

Swain, M. (2000). The output hypothesis and beyond: Mediating acquisition through collaborative dialogue. In J. Lantolf (Ed.), *Sociocultural theory and second language acquisition* (pp. 97-114). Oxford, England: Oxford University Press.

Thorne, S. (1999). *An activity theoretical analysis of electronic foreign language discourse.* Unpublished doctoral dissertation, University of California, Berkeley, CA.

Thorne, S. (2000a). Beyond bounded activity systems: Heterogeneous cultures in instructional uses of persistent conversation. In S. Herring & T. Erickson (Eds.), *The proceedings of the thirty-third Hawaii International Conference on Systems Science.* New York: IEEE Press. Available at http://language.la.psu.edu/~thorne/cmchicss33.html

Thorne, S. (2000b). Second language acquisition and the truth(s) about relativity. In J. Lantolf (Ed.), *Sociocultural theory and second language acquisition* (pp. 219-244). Oxford, England: Oxford University Press.

Thorne, S. (in press). Cultural historical activity theory and the object of innovation. In O. St. John, K. van Esch, & E. Schalkwijk (Eds.), *New insights into foreign language learning and teaching.* Frankfurt, Germany: Peter Lang Verlag.

Tomasello, M. (1999). *The cultural origins of human cognition.* Cambridge, MA: Harvard University Press.

van der Veer, R., & Valsiner, J. (1991). *Understanding Vygotsky.* Oxford, England: Blackwell.

van Lier, L. (1996). *Interaction in the language curriculum: Awareness, autonomy, & authenticity.* New York: Longman.

van Lier, L. (2000). From input to affordance: Social-interactive learning from an ecological perspective. In J. Lantolf (Ed.), *Sociocultural theory and second language acquisition* (pp. 245-259). Oxford, England: Oxford University Press.

van Lier, L. (in press). *The ecology of language learning.* Dordrecht, The Netherlands: Kluwer Academic Publishing.

Volosinov, V. N. (1973). *Marxism and the philosophy of language.* New York: Seminar Press.

Vygotsky, L. (1978). *Mind in society.* Cambridge, MA: Harvard University Press.

Vygotsky, L. (1986). *Thought and language.* Cambridge, MA: The MIT Press.

Walther, J. (1992). Interpersonal effects in computer-mediated interaction: A relational perspective. *Communication Research, 19,* 52-90.

Walther, J. (1994). Anticipated ongoing interaction versus channel effects on relational communication in computer-mediated communication. *Human Communication Research, 40,* 473-501.

Walther, J. (1996). Computer-mediated communication: Impersonal, interpersonal, and hyperpersonal interaction. *Communication Research, 23*(1), 3-43.

Walther, J. (1997). Group and interpersonal effects in international computer-mediated collaboration. *Human Communication Research, 23,* 342-369.

Warschauer, M., & Kern, R.(eds.) (2000). *Network-based language teaching: Concepts and practice.* Cambridge, England: Cambridge University Press.

Wegerif, R. (1998). The social dimensions of asynchronous learning networks. *Journal of Asynchronous Learning Networks, 2*(1). Retrieved February 18, 2002, from http://www.aln.org/publications/jaln/v2n1/v2n1_wegerif.asp

Werry, C. (1996). Linguistic and interactional features of Internet Relay Chat. In Susan Herring (Ed.), *Computer-mediated communication: Linguistic, social and cross-cultural perspectives* (pp. 47-63). Philadelphia: John Benjamins Publishing Company.

Wertsch, J. (1998). *Mind as action.* Oxford, England: Oxford University Press.

Wilkinson, S. (1996). *Foreign language conversation and the study abroad transition: A case study*. Unpublished doctoral dissertation, the Pennsylvania State University.

Williams, R. (1980). *Problems in materialism and culture: Selected essays.* London: Verso.

Wylie, L., & Brière, J. F. (1995). *Les Français* (2nd ed.). Englewood Cliffs, NJ: Prentice Hall.