

CHILDREN'S MAIL:
AN ANALYSIS OF A PROBLEM AND ITS SOLUTIONS

Draft by Derek Edwards, for the Velham collective.

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PART 1: THE PROBLEM OF CHILDREN'S MAIL

1.1 Introduction.

Children's mail is taken here as a topic for textual analysis because it was defined as one of special importance by project participants, and is the major concern of a high proportion of TCN mail between adults. Note that my reason for studying it is immediately a little different from that of other researchers. Project researchers would normally justify such a study in terms of why children's mail is important, what role it has in the project, what makes it interesting, etc. My analytical position is one step back from that; it is not the "real" nature of children's mail, but the fact that the researchers and other participants define it as important and interesting that justifies my concern.

The focus of this analysis is also different. This is not a study of children's mail itself, like the Lahti conference paper on that topic (*ref, 1990), but rather, a study of how the issues, problems and solutions concerning children's mail arise for the project researchers and coordinators. This study will be a qualitative examination of how the problem is defined and constituted as such by project participants, via electronic communications. Texts such as the Lahti conference paper, and especially those parts and preparations for it that were communicated via Vega e-mail, are therefore not only valuable and parallel analyses to this one, but also data for it.

Discourse analysis of the sort used here is particularly appropriate for such a task, being designed to handle any sort of verbal medium, whether spoken or written (such that the special nature of electronic text poses no major difficulties), and

also because of its own development via the study of educational and developmental processes (my own research with David Middleton and Neil Mercer), and in the sociology of scientific knowledge (Gilbert and Mulkey; Potter and Wetherell, etc.), as well as in more recent studies I have been doing with Jonathan Potter, on constructions of fact and causal explanations. The major concern of this kind of discourse analysis is not with linguistic structures or Austinian speech acts, like some other things that are called "discourse analysis", but with how people produce shared knowledge within situated communicative practices, and with how text and talk, and the versions of reality they produce, are studiable for the social actions they perform.

This means that some very interesting developments are not directly studied here, although they would be amenable to study – such as children's mail itself, the story writing activity that originated at NOLA, and the children's electronic newspaper that began at the Moscow sites. However, it also means that several analytic themes are broached which might not enter into a study of children's mail, such as the relations between theory and practice in the Velham project, and relations between discoordinations and the development of new insights and practices. Similarly, since children's mail was a pervasive topic and concern for adult coordinators, it is inevitable that such an analysis must touch upon larger Velham themes and issues.

Some terms of reference and abbreviations:

Abbreviations for kinds of children's mail – KK (kid to kid), KW (between kids and Wizard/Volshebnik).

Velham site names: NOLA (New Orleans), LJCS (La Jolla Children's school), Vega (Vega club Moscow), Chico (Chico club Moscow), Darrow (Clarence Darrow Community Center, Chicago), Uptown (another computer club in Chicago).

Data Sources:

TCN Vega conference categories, mainly *General/Obschii* (Gen) and *5th Dimension/5 Izmerenie* (5D), between October 18th 1989 and May 25th 1990: also *New Projects/Novi Proekt* (NP) between 30th March and 24th April 1990 for the American and Soviet researchers' preparations for the Lahti conference paper on children's mail. References to conference messages are in the form: conference, number, date, as in "5D £1398, 02/02/90". The date is included for an indication of time scale, and so that confusion does not arise from when accumulating conference messages were re-set to zero in late March 1990. However, the numbers given for messages from the Soviet sites refer to their English translations, and are listed General or 5D as appropriate. This means that the dates given antedate the Russian originals by whatever time it took for translations to be produced. Nevertheless, the provision of message numbers and dates should enable all references to texts, both Soviet and American, to be followed up for the originals.

Let us start by taking a single message and looking at how its content bears upon the sorts of issues we shall be dealing with. Message £2071 (below) occurs in the TCN Vega conference category "General". The entire message is reproduced here, including the message headers, which display for other Vega participants information about the message's source, conference category, time and date, etc. The original message arrived in all upper case characters, but here and elsewhere I have standardized this and made minor alterations for legibility. It is a note from HenryEtta, a group worker from the computer club at the Clarence Darrow Community Center in Chicago, addressed to research and site coordinators in La Jolla.

Item#: 2071 *General (Obscii)*
 (Times read: 12 No. of replies: 0)
 Reply to: 0 Original item: 0
 Author: TCN1243 ID: (141:TCN1243)
 Posted: 03/19/90 15:52 Expiration date: 06/17/90
 Subject: To Cricket From Hen

Last week in computer club all the children got a letter from the wizard. I picked one of the children from the group to read the letter. Some of the kids used games like Swash Buckler, Oregon Trail, Mario Brothers and Print Shop. I brought in paper and pencils for the kids to write wizard letters and some point of the day the kids wrote the letters. I got folders for the kids mail. One side is for going out mail and one side is for coming in mail. You can see the kids letters and wizard answers on KIDS MAIL.

From HenryEtta
 C. Darrow

Dear Mike

Thanks for telling me I have a wonderful group. I think the same about you and your group. I took the name of your group and put a person name in each folder so each child can have a person. We had two left over people. Monica and Roshell willingly volunteered to write two people so no one will be left out. This we will go into the seniors room so the children can read and write letters.

From HenryEtta
 CDarrow

Gen £2071 contains several features of interest for a study of children's electronic letter writing, which we shall follow up in more depth later. It refers to letters between Clarence Darrow children and the Wizard, the local instantiation of which is created largely by the Darrow group workers themselves. This mail is handled within a local arrangement in which club computer meetings begin with communal mail-oriented sessions, one child reading publicly for all the others, with computer game playing reserved until later. There is both time and space ("the senior's room") set aside for reading and writing mail. Local artefacts are used: computer mediated letter writing is aided by the further intermediary of pencil and paper, while mail in and out are organized and differentiated for each child through the use of folders. The mail itself is noted as having been posted to the TCN Vega category KidMail. While the mail from the Wizard is (in this example) general to all of the local children, intersite mail between children is organized on a one-to-one basis. Where this is made difficult by a difference

in the number of children at each site, it is organized that some children will write to more than one partner. Moreover, this arrangement is marked as not merely a technical matter of mapping child to child, but a principled one, designed to ensure that "no one will be left out".

Even such a brief message, then (and as its number indicates, this is one of thousands), is rich in information concerning the aims, nature and organization of children's mail. The context of that activity within a larger set of activities and values is signalled via descriptions such as "at some point of the day..." (suggesting voluntariness and no tight scheduling of actions), the exchange of compliments and encouragement between HenryEtta and Mike [project director Cole?], and the expression "willingly volunteered", which signals a recognition that the activity in question (writing letters) is one for which voluntariness is an issue, whether for children and group workers, or for message author and addressees, or both.

Gen £2071 is also studiable for how it occurs as part of a developing culture of joint activity and shared understanding. Most obviously, its content shows that it is part of a continuing correspondence. But also, the various features we have enumerated are ones that have their own developmental histories. The institution of an "opening session" for mail, and the use of mail folders for individual children, are devices whose origin and development can be traced across sites, through field notes and discussions, in both the USA and USSR. The one-to-one, or "pen pal" organization of mail between children, also developed across sites, and became the subject of considerable theoretical and practical concern. The plan that some Darrow children might communicate with more than one partner did not arise spontaneously through foresight, but as a solution to discoordination and complaint. The following analyses will take up these and other issues in more detail.

1.2 Kids' Mail: Whose Problem?

The topic of Children's writing of mail messages is one that the adult participants and researchers mark both as highly significant for the entire project, and also as problematical. Worries are expressed as to the frequency and quality of children's mail, while at other times the expansion and enthusiastic uptake of mail between children is met with similar enthusiasm from adults:

Now that the letter exchanges with Dianne's and HenryEtta's children have progressed over a few weeks, I am seeing much more enthusiasm in the childrens faces when they read their letters AND when they write them. It's really exciting
(Gen £2138, 03/22/90)

Concerns for children's writing are also reflected in suggestions that the children might be encouraged to engage more in literacy-oriented rather than merely skilled motor action ("arcade" type) computer games (5D £388, 11/15/89). But even the less literacy-based games, when these become topics for electronic communications, offer opportunities for children to articulate their understandings (metacognition), for the development of literacy skills, and for the development of an intersite Vega culture of understanding and activity amongst children:

... So Daniel had both the opportunity to write about a game which requires THINKING about it in a different way, reshaping his own understanding of it, as well as to help someone else with the game and give him that satisfaction and pride in his accomplishment. Real motivation to continue the correspondence.
(5D £2179, 03/23/90)

One of the major concerns has been for the quality of mail between children (KK mail), which is the subject of frequent unfavourable comparisons with communications between children and the Wizard (KW mail). Again, these contrasts arise as an adults', rather than a children's, concern, and this is related to the obvious significance that children's writing has for the project's research aims:

We have reached an interesting new developmental 'crisis' with children's mail... joint activity among kids is a major of what we are up to
(Gen £318, 11/07/89)

These latter extracts, and the issues voiced in the longer one from 5D £2179 above, are illustrative of the project's theoretical foundations, in Soviet cultural – historical psychology, including its notions of the zoped and the development of higher mental functions out of adult – supported joint activity. These concerns generate important expectations, such as "change in child's reliance on adult support," "change in child's motivation and reasons for writing," and such (NP £396, 04/24/90 – topics from LCHC's plans for the Lahti conference paper).

The frustration of these kinds of theoretical expectations is the context for many of the researchers' overt formulations of problems with children's mail. It makes a lack of KK mail a *notable absence*, and a topic for further meta – level discussion and action:

I would love to see the field notes on IS (the game Island Survivors). Why isn't there any mail to other kids growing out of this?? Or have I simply missed it?
(Gen £236, 11/03/89)

The children themselves, of course, have other kinds of concerns, which may even be at odds with those of the researchers, such as avoiding doing mail in order to spend more time playing games. The adults are then faced with the task of harnessing that game playing enthusiasm for the activity of writing ("with... what conditions make writing a real goal of the children's" – Gen £1297, 01/29/90).

Researchers' formulations of the problems with children's mail, and the various solutions offered for it, invariably address this tension between adults' theoretical and practical goals, and children's preferences. Gen £1822, taken from a message from La Jolla to New Orleans, contains a number of such formulations and solutions:

... Mike and I read over your letter together, specifically interested in what it had to say about kids mail, and he asked me to send a response representative of our ideas here.

We have been discussing the problem of motivating kids to write letters for some time. And, after much discussion, we have agreed on a preference that the reasons for writing must be INTRINSIC. That is, rather than using outside motivations like points or privileges, as [an adult] suggests, letter writing has to be useful for the kids, and indeed is necessary in order for them to move from one room to another within the Fifth Dimension.

At the Childrens School we have been trying to encourage the UCSD students and the children to consider letter writing and game playing as connected activities rather than tasks to be completed one after the other. In fact, it is our goal that one will arise out of the other, not necessarily in the order of game, then letter.

You are not alone in your problem of the childrens' lack of motivation in writing. But doesn't it seem as though this is really only a problem with writing to other kids? The New Orleans children always send wonderfully detailed letters to the Wizard... At LJCS although the children are more motivated to write the Wizard, even those letters are given minimal effort.

Mike has talked about an ideal next goal: a COMMON PROJECT for the kids to collaborate on...
(Gen £1822, 03/01/90)

In the above extract, both the problem and its solution are defined as matters of *children's motivation*. The difficulty for participants is, within the requirements of voluntary child participation characteristic of 5th Dimensions, not merely how to get the children to write, but how to get them to *want* to do so. The difficulty of achieving this is shown in the examples of "intrinsic" motivation given, both of which are *instrumental* in obtaining some other thing for which motives exist, rather than writing being rewarding in itself. Again, the notion is offered that despite a "minimal effort" often given to KW mail at the LJCS site, the major problem at that and other sites is with KK mail. A possible solution is offered, of getting children engaged in collaborative tasks, whose realization will require (make useful, or motivate) KK mail. Elsewhere, it is noted that the Wizard itself operates precisely for that kind of purpose, for "creating a new context of communication, which will allow us to avoid direct influence of an adult over a child... *remediated communication*" (Gen £531, 11/28/89). The rest of this report will examine the ways in which children's mail is defined as problematic, and at

how a variety of solutions are offered, tried and discussed. I hope that the analysis will not only describe these solutions, but also contribute in turn to their articulation and development.

1.3 KW versus KK Mail.

We have noted that there are bases in the project's theoretical foundations, and organizational aims, for the fact that children's mail arises as a different sort of problem for adults than it does for children. It is necessary to see the issue from that general level, to do with project aims and theory, in order to account for the otherwise puzzling fact that children's writing to other children is pervasively defined as an *intersite* issue. Adult participants define KK mail issues mostly at the level of concrete problems, with how problems arise with particular children, with what can be done, how things can be arranged and coordinated, how joint activities and topics can be set up, in order to get more intersite children's mail. One of the major themes, and a source of much focussed meta-level explanation, is the contrast between KW and KK mail. But the first thing to note is how this issue is conflated with another, that of within-site versus intersite mail, and how this may look different from the perspectives of children and adults. While most but not all of KW mail is with a "local" Wizard, there appears to be no mail at all between children at the same site.

For the children, of course, the "local" status of the Wizard is not the same as for the adults; it is not known directly (the Wizard's identity is mysterious), but will be experienced indirectly in terms of speed and reciprocity of messages, local knowledge and sensitivity to local tacit understandings, group history and personalities. Some of the differences between KK and KW mail may therefore reside not in intrinsic differences between children and adult Wizards' assistants as

alternative communicative partners, but between dealing with local versus distant partners, whether child or adult. KK mail is not only mail between children, but (initially at least) mail between strangers.

The availability of some within-site children's mail would be useful for analytical purposes, offering a kind of "control" basis for comparisons with intersite mail. It might also be useful within the project's more practical aims, in providing an intermediary level of communication for further re-mediation later, as local topics and skills are able to be developed somewhat in written form and as joint concerns, before they have to be sustained by children as intersite communications. This might be compared in its mediational function to Peg Griffin's description of "compositions" (where??), in which the record of a child's on-line computer conversation is later taken as the basis for a worked-up piece of writing. Another comparison might be with the technique used with some reported success in Chico club (5D £1844, 03/05/90; Gen £2089, 03/20/90) of consciously using the co-present adult as an intermediary addressee for children's KK letter writing. Possible devices for local KK mail could include live "chats" between children, and a children's bulletin board for messages, letters, suggestions, etc. These might then be re-composed for sharing between sites.

One interesting meta-level possibility strikes me as an outside observer, looking at the whole picture from a constructivist, discourse analytic viewpoint. It could be that the project's theoretical and strategic aims, with their emphasis upon international and intersite communications, have led to local KK communications being overlooked in favour of intersite communication, such that the *immediate* jump to intersite mail for children brings with it the risk of stretching the children's zoped too far. This stretching of adult expectations for children might have been further exacerbated by an early insistence upon intersite *joint activity* as a preferred contrast to the children's disappointing (to researchers) willingness to

indulge in personal, sometimes trivial (again, to researchers) pen-pal kinds of communication. However, I am jumping the gun. It is contrary to normal practice to start with suggestions and conclusions before doing the analysis, but having done so, I shall try now to paint a richer picture of these issues.

Let us look first at how the contrast between KK and KW mail arises as an intersite concern for the researchers. Early formulations (in these data) include those that emanated from visits by site coordinators from LJCS and Darrow to Moscow in early November 1989, though the problem of intersite KK mail is clearly one with a long pedigree. The following extracts summarize those observations.

(...) In the last two weeks we have seen a good deal of mail from kids to Wizards and some to kids far away. Comlab now has experienced the phenomenon LCHC talked about last year of balancing mail to the Wizard and mail to kids far away. In many respects (Katie noted this) Wizard mail is easier to deal with because it can be handled locally, the adult answerer/Wizard Assistant has already-formed goals and lots of skills, etc. BUT, lets not forget that joint activity AMONG kids is a major goal of what we are up to!!!! (I know, no one is forgetting this in theory, but our practice embodies such forgetting "systematically.") (...)
(Gen £318, 11/07/89)

(...) Perhaps I am missing some of the letters, but there seems to be a strong line of correspondence between children and local wizards (Volshebriks) but little joint activity between children in different sites, whether US or USSR. Katie points to a big obstacle: In many cases the adults organizing the activity do not themselves think of themselves as PRIMARILY working with adults or kids in other sites. The task of a joint image remains paramount, as Comlab has emphasized (...)
(Gen £526, 11/27/89)

These extracts raise two kinds of problems, distinguishable in principle as those of THEORY (how to explain the patternings of children's mail) and of PRACTICE (what to do about it). However, it is a feature of this project that theory and practice are so closely interwoven that they frequently do not occur as discursively separate topics, but rather, occur simultaneously and as mutually constitutive. Explanations of children's writing patterns occur as TCN mail, that is, as part of the project itself rather than afterthoughts or post-data analyses, and so

immediately become part of the activity they explain. So explanations are simultaneously suggestions for improvement, encouragements for good results, bases on which to create intersite coordinations. Analyses develop as solutions to practical problems, and are designed to alter the practices they analyse – cf Davydov's notion of a "formative experiment" (cf Newman, Griffin and Cole, 1989). So, the observation that adults at different sites are primarily disposed towards their own local activities and children, is simultaneously a description and also an explanation (for the lack of KK mail), and also a practical suggestion, that adults become more intersite oriented, which is linked to the need to get on with "the task of a joint image" – i.e., increasing intersite knowledge and awareness of each other as parts of a larger whole. This in turn is linked back to the problem of the amount and quality of KK mail – "We shared Katie's view that lack of a strong 'joint image' of this kind was one of the reasons underlying the lack of quality child – child mail" (Gen £556, 11/29/89).

This interdependence of cognition and practice (for researchers, as well as for adults and kids in their 5th Dimensions) should be seen as a feature of any talk or text that occurs as situated action, rather than as abstracted or post hoc theorizing. This lends itself nicely to approaches such as discourse analysis and conversation analysis, where there is no such thing as a disinterested description or explanation! In Velham, e – mail correspondence is both the forum for analytical work by researchers, and also the medium for accomplishing the practical business of the very project being analysed, and both kinds of business get done in the same messages, and even in the same words. This relationship between theory and practice in Velham discourse is the topic of a further study I am working on, so apart from noting its relevance to the study of children's mail, I shall not extend it in any detail at this point.

Let us take it, then, that the topic of children's mail is one raised as problematical, both for explanation and for continuing practice, by the researchers. In so doing, the researchers offer various analyses or descriptions of the problem, as well as practical solutions. The analyses centre largely upon contrasts between KK and KW mail, in which KW mail is seen as typically more frequent and of higher quality, more voluntary on the children's part, more fun and more engaged. Descriptions and explanations include the following:

- 1) Children are more motivated to write to the Wizard, needing much less prompting to do so, than to write to other children:

Afterwards I tried to stimulate them to write about their results... to ask the guys from Chicago, what scores they got, but none of the boys expressed a desire to do so. Then I told them that in the Vega-club the kids play this game very well... But then they still did [not] want to write. I did not make them. As far as the letters to the Wizard are concerned, here the children display an initiative, they sit down to write without any reminder from our side.
(SD £1378, 02/02/90; cf Gen £1398, 02/02/90).

- 2) The Wizard has attractive powers that other children do not, to grant favours, comply with requests, get things done, etc. (Gen £2089, 20/03/90; NP £89, 03/30/90)
- 3) KW mail has greater continuity in a child's experience: "Volshebnik remains a single constant communication partner in the course of a kid's life in the 5th Dimension" (Gen £3, 03/27/90), compared with the more sporadic nature of KK mail.
- 4) KW mail shows more sustained exchanges and topical continuity across turns (Gen £2075, 03/19/90; (Gen £2177, 03/23/90). In contrast, KK mail more often goes unanswered, or answers are subject to long delays,

which observers blame for children's lack of enthusiasm for it (Gen £2177, 03/23/90).

- 5) The Wizard is also much more supportive, encouraging, less critical than other children are, and is a more expert communicative partner, engaging each of the children in a developing relationship:

Volshebnik... constantly communicates with the child, he is involved in his life in the 5th Dimension, he is emotionally tied to each of them... the situation with Volshebnik has a developing character, since Volshebnik is a more experienced communication partner, who leads the child along
(5D £18, 03/27/90)

the Wizard is a more experienced communicative partner who keeps the child in mind
(Gen £2177, 03/23/90).

- 6) KW mail is required as part of children's engagement in each site's 5th Dimension – "an organic part of the very structure of the 5thD" (5D £514, 05/08/90; cf Chico club's constitution, 5D £1759, 02/26/90), while KK mail is (was, until theory became practice – 5D £1473, 02/06/90) outside of the 5th Dimension and purely voluntary, though encouraged by Wizard, Volshebnik and adult assistants (NP £140, 04/03/90).

- 7) KW mail is part of the local scene, which naturally commands attention, especially when sites are first being established:

Just like you wrote in your letter. Its very hard to keep in mind your 'friends far away' when your everyday world is yelling in your ear!! Every site... goes through a period of creating a cumfy 'home' with some help from the Wizard. But then they forget that there are other kids out there! And as Katie wrote, even the adults have trouble keeping it mind.
(Gen £673, 12/08/89).

An interesting example of the special closeness of the KW relationship can be observed in discussions of mail emanating from Clarence Darrow where, as with Vega club, KW mail was first developed as a highly organized and motivated activity in its own right, before the establishment of a 5th Dimension. Mail between children and the Wizard took on a special significance at Darrow, following a special attempt that was made by the researchers to develop the teaching staff's expertise in the role of local Wizards' assistants – "the Wizard's voice does not belong to the staff yet" (Gen £627, 12/05/89). These efforts were richly rewarded, such that Darrow's KW mail came to be cited for prime examples, and for the kinds of contrasts with KK mail that are listed above. Indeed, the development of that close and successful relationship between Wizard and children at Darrow became a criterion for the less successful KK mail. While KW mail flourished at Darrow and the Moscow sites (it was later realized that LJCS KW mail was not being uploaded to TCN – Gen £2178, 03/23/90), the site at NOLA offered a kind of controlled comparison.

At NOLA, there was no local Wizard – "we have distant kid–kid mail and distant kid–Wizard mail, but no local mail at all" (Gen £2096, 03/20/90). KW communications were with a more distant, intersite Wizard (the "Real Wizard"), such that "for our kids, writing to the Wizard is just as distant as writing to other kids" (Gen £2151, 03/22/90). The importance of the local KW relationship, for our understanding of observed differences between KK and KW mail, stems not only from looking at sites like Chicago and Chico, where KW mail flourished, but also at NOLA, where:

In some ways, the audience seems interchangeable, for e.g. Stephanie just wrote a letter to her friends, Jennifer and Tori and Wizzy. All in one letter. Catherine has used the same letter, making different versions like a form letter to other kids and to the wizard. Some kids want to write a letter specifically to someone about something but others come up and just want to write, or we urge them to write, and then the choice about who to write to is made.
(Gen £2151, 03/22/90)

The information from NOLA, then, supports the analysis offered above, concerning the need to distinguish between KK and KW differences per se, and differences that may be due to within-site versus between-site mail.

1.4 The Wizard in KW and KK Mail.

It is mail between children (KK mail) which is our prime concern here, but it is important to look at how this contrasts with KW mail, and how the two are related, in order to understand the special nature and problems that occur for KK mail itself. So far, we have taken reports of the successes of KW mail at face value, as decontextualized truths, to be contrasted with the problems of KK mail. A more interesting and complex pattern emerges when we look a little closer, as indeed the brief glimpse of NOLA (above) might suggest.

We have seen that variations in descriptions of KW mail, such as between NOLA and other sites, can be mapped on to other relevant variables, such as the presence or absence of a *local* Wizard. It is a substantial study in its own right, to map the variety of those correspondences and differences. But it is a principle of discourse analysis that descriptions (constructions of reality) also vary with their discursive contexts, according to the pragmatic or rhetorical work they are designed for. This also may account for some of the variation in descriptions of KW mail. For example, when the context shifts from problems of how to stimulate KK mail, to discussions about how to improve within-site 5th Dimensions, KW mail itself appears to be highly problematical, and in similar ways, such as how voluntary, or "required", an activity it is, or how "slow" the Wizard's responses are (e.g. 5D £1176, 01/23/90, where the Wizard's slowness in replying is given as a kids' reason for not writing; and slowness of response is

invoked even in "live chats" – 5D £989, 01/08/90). Similarly, KW mail may be described as perfunctory and unimaginative (cf my earlier report, "The Wizard of the 5th Dimension", in which similar in-site concerns were paramount):

The boys were just interested in fulfilling the minimum requirements on the task card and did [not] have anything else to tell the Wizard.
(5D £145, 10/27/89)

More favourable descriptions of KW occur as a foil for raising problematics and requirements for intersite KK mail:

What is happening with your Mario Bros. experts? Are they and the Wiz so in love with each other that they won't give any hints to kids in San Diego and Moscow and New Orleans, and La Jolla and SO ON??"
(Gen £639, 12/05/89).

Representations of the nature of KW mail vary, therefore, not only with objective differences in the world described (which they surely do), but vary also between the rhetorical contexts within which those descriptions are constructed. With that caveat in mind, we can look at some descriptions of KW mail.

There are plenty of field note descriptions of local Wizards and Volshebzniks providing the kind of pre-emptive, initiating support that children's peers would not emulate. At Vega club, for example, where KW mail had preceded the introduction of a 5th Dimension, we are told how meetings begin with letters from the Volshebznik to each child:

And so, every child looked into his/her envelope, and read his letter from Volshebznik, where the Volshebznik was giving advice, encouragement, assignments...
(5D £572, 11/30/89)

And later in Chico club, there is the same careful, pre-emptive, and individuated attention to each child:

It started with the children receiving letters from Volshebnik. Everyone started reading their letters with great joy...
(5D £1378, 02/02/90)

The Volshebnik is enthusiastic, forgiving and helpful, like the classic zoped partner, inviting further interaction and responding with help and further challenges (e.g., 5D £1754, 02/26/90).

This close, supportive role of the Wizard in KW mail forms a normative backdrop for further interactions, such that absences or disruptions in the flow of mail become immediately noticeable, and accountable. An exchange between adults at LJCS and Vega club shows how such disruptions can provide a motivational basis for KW mail, and opportunities for children to learn about the norms of reciprocity for correspondence in the 5th Dimension.

... in your last fieldnotes you wrote that Kostya was disappointed because he did not receive a letter from the Wizard. You explained to Kostya that maybe the Wizard did not write because Kostya did not write a letter to the Wizard during your last meeting, and maybe the Wizard's feelings were even hurt a little by this. The same thing happened at childrens school last week! The exact same thing! I was passing out mail from the Wizard to the children and Derek did not get a letter, which made him very upset. I asked Derek if he wrote to the Wizard last meeting and he said no, because he was absent. So I explained to him, like you explained to Kostya, that maybe the Wizard didn't write because the Wizard did not receive a letter and maybe even had hurt feelings! So, Derek sat down right away to write and tell the Wizard why he did not write last week. Sure enough, the Ol' Wiz wrote back telling Derek how much he was missed last time! Derek felt much better! I wonder what will transpire with Kostya???

(Gen £789, 12/15/89)

Lessons learned about the reciprocal nature of KW correspondence, that you have to write if you want to receive mail, are clearly relevant also to KK mail. But disruptions are more readily perceived when they take place against a background of more constant and continuous communication. This means that KW mail is not only the more constant and reciprocal, etc., but also the one where a normative pattern enables disruptions to be noticed, defined as problems, acquire motivational value, and become the focus of children's problem solving efforts.

The possibility of transfer of skills and lessons learned in KW mail to KK mail, is one that the adult participants themselves raise. In Chico club, for example, it seems that the boys' early reluctance to engage in KK mail was eventually broken down via the development of a pattern of engaging in e-mail that first grew as correspondence with the Volshebnik (Gen £2177, 03/23/90). This means that any simple contrast between KW and KK mail is inappropriate, or at least only a starting point for analysis, since there are interesting relationships of dependency and influence between them.

In fact, a much more direct and obvious relationship exists between KW and KK mail, in that it is one of the Wizard's most pervasive concerns, to stimulate KK mail. Of course, in contrast to this, the children do not take it upon themselves to see that KW mail gets done! A few examples can be drawn from a set of letters from Wizard to children, that were uploaded to TCN's 5th Dimension by adults at LJCS (5D £1471, 02/06/90):

... Oh, by the way, Adrian, did you see the great letter that you got from Filipp at Chico Club? He answered your questions about ice cream. I hope (and I bet Filipp does, too) that you will write back to Filipp and tell him some more about yourself and what you do in the Fifth Dimensions and what games you have been playing lately! Imagine! A friend all the way across the world in Moscow!!!

... Emily! Did you see the terrific letter that you received from Lena? I hope VERY much that you will write back to her and tell her about yourself and about what you do when you play in the Fifth Dimension.

... Golly robbles! 1264 points at Tetris! That is truly a wonderous feat! And you say that your strategy was to concentrate harder. What else do you do? How do make sure that the pieces you get fit together well? How do you put the pieces together fast enough to keep up with the fast pace of the game? It would be great if you sent some hints to kids in other places because lots of other kids -- in Moscow, in Chicago, in New Orleans -- are playing this game, and they sure could use some hints from a good player!

At one point, the Wizard takes the more rare step of writing directly to the adult site coordinators, declaring this as a special goal:

Wiz here: How is everything going?... I am trying to prompt more child < - > child interaction by sticking my nose into everyones business and having children write to other children who have played the same game recently. So, don't forget to prompt the kiddies to write to other children!"

(Gen £327, 11/08/89)

Another suggested role was for the Wizard to act as an intermediary for KK mail, rather than merely asking children to write:

Perhaps if the Volshebnik and Wizard are getting good notes, they should pass them on to other kids???

(Gen £449, 11/25/89)

However, both of these direct kinds of interventions by the Wizard, asking children to communicate with others, and passing mail to non-addressed children, suffer from a clear disadvantage, when looked at from the perspective of ordinary conversation. They lack the "occasioned" quality of spontaneous talk, the way communications normally arise out of a context, and have a pragmatic purpose in accomplishing some kind of situated action performed by the speaker. A disjunction arises here between child and adult, with the child being required to communicate something that the adult, or Wizard, wants to see happen. As the project researchers also fully recognized (see the discussion above, of "intrinsic motivation"), the real and more difficult challenge was to get children engaged in KK mail for their own reasons, the adults' and Wizard's job being to organize things so that those motives would arise spontaneously out of things the children wanted to do.

Sometimes, however, KK mail is simply impossible, because of differences between sites in when the children are available, or on holiday, or engaged in other important business, or when individual children are absent, leaving children at other sites temporarily lacking in communicative partners. Sometimes there were simply more children at one site than at another, or a temporary lack of

adult assistants to see that letters got answered (Gen £2073, 03/19/90). As we have noted, slow turn-around time and lack of reciprocity are already endemic disadvantages of intersite KK mail. When additional discoordinations arise, it is one of the Wizard's and Volshebnik's tasks to paper the cracks, close the circles, and generally

stand in when kid is sick, absent, or unwilling/ unable to respond: wiz holds place... to maintain motivation and coordination
(NP £396, 04/24/90; cf Gen £193, 10/30/89)

For example, when a flu epidemic struck Vega club, the children were unable to write KK mail: "But Volshebnik is alive and he WILL BE with the american kids during their final lesson" (Gen £872, 12/21/89). Similar arrangements were made for the Spring Break at LJCS (Gen £1968, 03/13/90), and at Darrow (Gen £1990, 03/14/90). In contrast, when Chicago's Uptown site was first getting started, no such arrangements were in place, and delayed mail had to be apologized for and done later (Gen £255, 04/11/90). The development of intersite coordinations of WK mail substituting for KK mail quickly became part of the Velham culture in the established sites, a device and understanding shared between the adult site coordinators. It is an example of how cultural arrangements, devices, artefacts, etc., arise as ways of overcoming discoordinations in joint activity; but this is a topic deserving a fuller treatment of its own.

Where mail goes astray, and the Wizard or Volshebnik themselves fail to respond, this is an *accountable* matter:

The Wizard was happy I'm sure to see a letter from Quianna at Darrow this morning... unfortunately the Wizard never received her letter and said something about some electronic trolls headed for Chicago area. Trolls providing, Quianna will have a letter tomorrow...
(Gen £680, 12/08/89)

Apologies and the provision of reasons, excuses, "accounts", etc., are evidence of the presence of a normative order, shared by participants, within which actions are morally relevant. In other words, they show the development of a culture of joint action, in which actions and their absences are accountable to joint expectations and responsibilities. Keeping the mail flowing (both KW and KK) is clearly one of the elements of that moral order, but much more so for adults and Wizard, than for children.

In embodying those kinds of concerns, the Wizard (naturally enough) is closer to an adult voice than to a child's. Like the adults, the Wizard encourages and rewards, sets assignments, and tries to motivate the writing of mail. "The Wiz is a playful adult" (NP £89, 03/30/90) who carries a great deal of the responsibility for the content and continuity of KW mail, and to a lesser extent KK mail too. The adult-like role of the Wizard can be seen in the content of their discourse, in the fact that, despite obvious differences in style and "voice", adults and Wizard often say and do similar things, and this includes prompting and encouraging mail between children:

If there are letters to the child from faraway places, then it is the responsibility of the assistant to get the letter to the child or a reminder to the child that the letter needs to be answered.

(Gen £209, 11/01/89)

Just as the Wizard mediates in KK mail, and encourages KW mail, so also do adults. For example, Misha of Vega club is encouraged by adults to seek solutions for his problems, and development of his ideas, in communication with Volshebnik (Gen £447, 11/20/89).

More generally, on-site adults in 5th Dimensions are clearly engaged in creating for children a culture of interaction, understanding and artefacts which are

essential to KW and KK mail being possible. For example, even during on-line KW communications:

I try to cover the delay by talking with the children about 'our' possible next response, what they think the complete message is going to say when it eventually appears, and by directing their attention to the simultaneous presence of the Jester and the Wizard.
(5D £376, 11/14/89)

And in writing letters to other children, adult help is often an essential ingredient:

In the end of our lesson the children were asked to write to Volshebnik or to other children living in America and in the USSR. It is interesting that even though the children accepted the idea with enthusiasm, it turned out quite difficult for them. Most of them, after writing the first line, just could not decide what they should best write about, they would ask us questions. We asked them to tell about themselves, so that the other kids could get an idea of who they are communicating with.
(5D £1253, 01/26/90)

While for KW mail, at least one partner is doing this kind of encouraging, motivating work, initiating and continuing the correspondence, making further suggestions and invitations for correspondence, KK mail can only have that kind of adult support as an extrinsic feature. This raises again the problem of how mail (or any other kind of communication) is "occasioned". And again, it raises the importance for adults, *precisely because of its importance for children*, of creating a culture in which KK mail is spontaneous and fun, and thus more likely to be both frequent and rich in content. In Part 2, therefore, we shall shift our attention to the range of devices, means and methods that were invented, in the developing Velham culture, to encourage more and better mail from children.

PART 2: GENERATING CHILDREN'S MAIL

2.1 Introduction.

Much of the developing culture of Velham is concerned with how adults might arrange things so that children enjoy communicating with each other. In Part 2 we examine a range of mediational means, devices, procedures, etc., which developed for that shared goal. The range and variety are enormous, threatening to encompass almost everything and anything. In order to bring some kind of coherence to this analysis, it will be divided into a series of related topics. These are offered as descriptive conveniences, not objectively discrete categories: (1) *mail generates mail* – the idea of mail becoming a self motivating system; (2) *adult mediation of children's mail* – procedures such as developing local concerns into intersite issues, developing joint activities, setting topics for KK mail, encouraging cooperation and competition, organizing opening rituals, etc.; (3) *artefacts and intersite images* – things manufactured at each site, such as mail envelopes, picture boards, etc., and the exchange of pictures and information between sites; (4) *e-mail artefacts* – bulletin boards, banks of advice, timetabling arrangements, etc.; (5) *pen pals versus joint activity* – KK mail organized as correspondence between pairs of children, contrasted with KK mail as a medium for joint activity.

One of the features of the project as a whole, as we have noted, is the close and reflexive relationship between the development of theoretical understandings, and the development of solutions to practical problems. The development of means for improving KK mail is a case in point. Ideas for how to improve KK mail, and indeed motives for wanting to do so in the first place, arise from the

researchers' commitments to a particular kind of cultural –developmental psychology, and to the project's basic aim of creating electronically mediated intersite and international developmental activity and research. At the same time, or rather, through developmental time, those ideas are tried, tested, modified, and new ones arise, as solutions to problems in how those ideas are practically realized. Frustrated goals lead to new ideas and new practices. New practices, which may also begin as means of solving purely practical problems, become integrated into the project's theoretical basis.

2.2 Mail Generates Mail.

One of the major practical and theoretical foundations for the project, is the Vygotskian notion that Bruner has called "handover", the idea that once an adult assisted developmental process is begun, and has become part of a child's zone of proximal development, it will become self generating as the child's competence develops, with the child taking on more and more of a leading role in the initiation, maintenance and development of the activity in question. Children's mail is such a development, studiable for "the way in which their actual compositions have become less dependent on adult support" (NP £89, 03/30/90), and for how far "the child has adopted the adults' goals and/or has developed his or her own motivations for writing to other children" (NP £140, 04/03/90). Indeed, early expectations included the possibility of a large scale escalation of children's mail, such that divisions of Wizardly labor had to be planned for:

Dearest Site Co-ordinators....

Wiz here: How is everything going? I'm just floating around wondering if everything is hunky dory? I have been responding to the childrens mail and might I add that I have been very impressed! (I hope you all have been getting helpful hint on mail answering) But, I have a question for y'all: The mail has been at a pretty steady pace, but not overwhelming for me. I am wondering what happens when the children start sending zillions and zillions of messages. Will I be able to count on you to take over the mail responses?

(Gen £327, 11/08/89).

Further, the stimulation of KK mail was itself urged as a device designed to absorb the burden of KW mail, off-loading to the children the Wizard's (adult assistants') increasing task of replying to mail. A supportive adult's reply to the Wizard's message £327 (above) urged that "the kids better get to writing to each other or you will be blown out of the wires" (Gen £331, 11/08/89); and in some advice to the adults at Darrow, as the volume of local mail suddenly increased rapidly, "Hint hint, if the kids wrote to other kids the wizard doesn't have to do so much work!!" (Gen £1531, 02/08/90). Increasing amounts of children's KW mail certainly began to pose organizational problems for adults, especially with the new Velham sites coming into operation in late 1989 and early 1990, together with the need to accord high priority to children's mail to ensure that delays did not de-motivate the children:

We saw mail, found Laura's, Michael's [both adults] and Wizard's notes to us, we will be replying on Friday, as we got a large amount of kids mail, and we must get it prepared by Thursday and help Volshebnik with his mail
(Gen £1225, 01/25/90).

While KK mail is clearly a development for which the adults have motives, both theoretical and practical, it remained to be seen how the children themselves might be motivated. One expectation was that receiving mail would in itself encourage the writing of mail, such that KK mail might, after a kick start by adults and Wizard, turn over like an automobile engine, with only a bit of further adult oiling and maintenance needed:

(From Chico club to NOLA)
So far we have a problem with boys... who are involved in communication way too little. If they received letters, that would be a first step in developing in them an interest for this.
(5D £1743, 02/21/90).

(From LJCS to Vega club)
The kids at the Children's School read their mail with enthusiasm. I believe this may be our most successful JOINT attempt at facilitating and motivating correspondence

BETWEEN children. I am very excited to see where this will lead and I am hopeful that when both computer clubs are back in full swing the childrens' communication will continue and develop further.
(Gen £948, 01/04/90).

There were clearly grounds that justified this expectation, and also the empirical conclusion that "getting intersite mail is a big motivating factor for many children" (NP £396, 04/24/90). For adults, of course, reciprocity is a culturally understood feature of letter writing, operating like conversational adjacency pairs, such that receipt of a letter (which will include typical first parts such as greetings, offers of personal information and questions) produces the expectation of a response, together with (and evidenced by) disappointment, annoyance, etc., when a response is absent. The children showed clear evidence of such disappointed reactions to non-replies, offering grounds for the adults' assumption that receiving letters should motivate writing – or at least, writing replies, if not initiating the process. However, a minority of children (mainly girls) did the great bulk of multi-turn reciprocated letter writing (Lahti paper). So we need to ask, what is the evidence that receiving mail motivates the writing of it?

Apart from children's disappointment at not receiving replies, two other kinds of evidence are cited for the motivating effect of receiving mail. One is the reports of the pleasure children expressed in receiving it, such as in Vega club:

... it is obvious that they came in expecting letters, they want to know right away who sent them what.
(SD £368, 11/14/89)

and for KW mail at LJCS:

As I printed out mail from Debishell, the children began surrounding me, asking for mail.
(SD £588, 11/30/89)

Similar reports were frequent in these and the other sites. The other kind of evidence was the frequency with which failing to receive mail was invoked as a reason for not writing, both by children themselves, and by adults theorizing on their behalf:

... Ira [adult] asked Sasha [child] to write to her friend Kevin. Sasha refused, giving the traditional explanation: "He did not answer me".
(5D £534, 05/11/90)

... later the interest of the two Katyas significantly decreased. In our opinion this occurred primarily because their partners did not systematically answer them"
(Gen £2177, 03/23/90).

Sometimes those two discursive actions, children's explanations and adults' explanations, are impossible to separate – "He didn't write the letter last week because he didn't receive any mail" (5D £1384, 02/02/90). The fused nature of the child's and the researcher's account here suggests that they share the same view, that failing to receive mail is an adequate and sufficient reason for not writing.

However, pleasure in receiving letters, and the use of their absence as an account or excuse for not writing, do not in themselves demonstrate motivation for writing them:

It must be noted that lately Katya A. frequently did not answer Volshebnik, although she likes to receive letters from him and reads them with interest. But it has been very difficult to talk her into writing an answer.
(5D £530, 05/11/90).

Similarly, at LJCS, having received three KK letters, a reluctant child writer was reported to be

... pleased to get the letters, but less pleased about writing back to the kids, though he did
(5D £1384, 02/02/90)

Receiving mail was not a ready made, or natural, motivator for the children to write, but a culturally defined one. They had to *learn to see it as such*, and for this they generally needed an adult's help. As we noted in section 1.4 (and see section 2.3 below), one of the adults' (and Wizard's) devices for getting children to write, was to point this out for them, that mail is reciprocal, two-way traffic, such that receiving it is conditional upon sending it. *While, having sent mail, children expected to receive a reply, they often had to be coached in imagining the process in reverse, such that the expectation of a reply from others could become a motivation for making the first move.* Children's motives were therefore culturally acquired and developed in joint activity and discourse with adults and other children, just as their skills and understandings were, as part of their enculturation into the developing social dynamics of activities in the 5th Dimension and in the wider intersite project.

While illustrations of these points could be culled from many data sources, several parts of the process can be seen in condensed form in a field note from Vega club:

... Then they wrote letters. I was helping Kostya [aged 7]. I felt that he was very pleased to receive a letter both from Volshebnik and from an American girl. But he felt no necessity to write himself. I told him that this way he will not get any more letters. Especially since this time only he and one other child have gotten anything from the children. Then he wrote a little bit. I turned his attention to the questions in the letters, I told them that answers are expected. Kostya thought about it and wrote answers. He needs some help with the letters so far.
(5D £461, 11/21/89).

There are more issues to be dealt with in regard to the motivation of KK mail, such as the differences between boys and girls, and between personal letters and joint activities done through mail. But having established that mail reciprocity is no automatic motivator of children's writing, but one that requires adult mediation, it is clear that children's writing occurs, takes its meaning and acquires

its motivation, as an activity embedded in cultural practices. We turn first, therefore, to the direct role of adults in the development of children's mail.

2.3 Adult Mediation of Children's Mail.

Any fond hopes that may have been cherished, that free flowing mail would quickly become self-generating between children at sites separated by thousands of miles and differences of culture (and that could be said of the USA sites alone!), were soon swamped by a more realistic urgency to develop forms of mediation and adult assistance in order to make it happen. Of course, within a project whose foundations are in cultural-historical psychology, this was no great surprise. These forms of mediation ranged from the grandiose to the mundane – from grand designs for internationally coordinated children's projects, to the daily, routine assistance and encouragements through which site activities were accomplished and reported on in field notes. At times these mundane kinds of help were frustratingly unsuccessful in generating self motivated KK mail, as several of the extracts we have examined show. But children often needed on-site adult help in order to understand the wider context in which mail was embedded, to understand how delays, non-replies and other problems might arise, and so that the motivation to write could be created and maintained:

... I kept the Soviet mail to hand out to the kids personally, so other kids in the group could see all the writing going on, and we could talk about how to answer them, and a couple of the Soviet letters needed some explanation from me. For example, two girls from Chico Club were distressed because they had not received replies to their letters, and I explained to the LJCS kids that the Soviet kids did not know that LJCS kids did not have 5D on Friday... I explained to the kids that the Soviet kids get very disappointed when they don't receive letters from American kids because for the Soviet kids it's very special and unusual for kids to be able to telecommunicate with kids in America -- or anywhere. I told them that the Soviet kids are very excited about talking to American kids and there are only a handful of kids in the whole Soviet Union who have such an opportunity, etc. etc. I ended by saying that I hope the kids would keep this in mind when they get mail from Soviet children and will answer all the mail they get, and maybe start writing to other kids, too. The kids listened with interest to all of this, and really seemed to take it to heart...
(5D £1384, 02/02/90)

Similar kinds of explanatory and motivating work was done by adult assistants at other sites, such as Chico club:

... the children began to wonder why there were no letters from San Diego. I told them that those children will have their meeting just today, but the schedule might be changed, and then the letters would arrive every time, providing that our children would write themselves.

(5D £1695, 02/20/90)

It is interesting to note, from the perspective of discourse analysis, how the "explanations" offered by the adults are inseparable from the social actions they are designed to accomplish, such as motivating children to write.

As the notion of a *zoped* implies, it is the continuous task of adults to ensure that all the other aspects of life in the 5th Dimensions happen, that artefacts get created, activities get coordinated, children get helped, letters get written, and so on. Again, the range and variety of these kinds of contributions are enormous. They include everything from bringing in an atlas to help children imagine communications between New Orleans and Moscow ("so the children can see how far away you are and appreciate how quickly we can span that distance": 5D £1675, 02/18/90), to direct help with writing, such that often children would dictate while an adult physically writes (Gen £303, 04/16/90), or be encouraged to use pencil and paper to prepare a message in advance of going using the computer (Gen £2071, 03/19/90).

One of the plans adults had for stimulating KK mail was to make it a medium for some other activity which might be more fun, like the games themselves. Suggestions were made that children at different sites might be "yoked together" in terms of their progress and fates in negotiating a path through the 5th

Dimension (we examine this idea in section 2.6). Other suggestions included cooperative or competitive game playing:

...I think there are... things that might help us get communications going between Moscow and Chicago and other sites. First, from Chicago here at Clarence Darrow, Mario Brothers and now Tetris are two exciting games that we love and might lend themselves to tournaments or some sort of international competitions. We even have children playing these games on three computers at the same time comparing notes and trying to get the highest score. Last Monday we had a kind of wonderful cooperative play across three computers while at the same time, a competition to get a high scores on Mario Brothers. I wonder could we stage this with other sites as one way to begin dialogue. This week also, Tetris is catching hold and capturing the children and staff's imagination. I see possibilities for this game too if we can think of ways to have a common goal/ inspiration/ reason for playing the game.
(Gen £419, 11/16/89)

While other uses of competition and cooperation were developed, such as the Wizard's competition for designing a 5th Dimension T-shirt (5D £1234, 01/25/90), and the large scale project of composing a children's electronic newspaper (Gen £1764, 02/26/90, etc.) few initiatives before this had met with great success as means of stimulating KK mail:

... kids don't need much prompting to write to the Wizard, but when it comes to writing to kids at other sites, so much effort on our part is required! And so far, we have not been able to sufficiently solve this problem. We have tried contests, games, puzzles... but it is indeed a difficult task to stimulate lasting correspondence.
(5D £1398, 02/02/90)

The intervention that the Darrow group suggested, for competitive games tournaments and cooperative game play, is interesting not just for the idea itself, but for where it comes from. It does not merely spring from the imagination of adults, but is based in the first instance upon observations of what the children are already doing. The adults' role here is to *begin with the children's spontaneous activities, and seek ways of developing for those kinds of activities an intersite, communicative dimension*. Another instance of this kind of intervention was the appropriation of NOLA's activity of story writing. While writing stories may at first seem a kind of writing activity that has little to do with coordinating

joint action, or conducting a passage through the 5th Dimension, or communicating across sites and cultures, it was an activity in which the NOLA children willingly engaged. For an imaginative adult at LJCS, this presents an opportunity for raising the activity to an intersite, Velham one:

We read recently that NOLA is using a story room in their Fifth Dimension, and we thought it would be useful if we at the Wednesday-Friday LJCS 5thD did likewise so that we could build some intersite interaction around it. We plan on having a room in the 5th D called "Story Room," in which we would have two choices of activities: Start your own story or Continue someone else's story...
(5D £1470, 02/06/90)

Similar adult interventions included attempts to raise inter-personal KK mail to the status of a communal "polilog" (5D £55, 03/28/90), by posting all KK mail on site notice boards. Site differences themselves were raised for intersite discussions, together with the Wizard and other topics that adults thought might stimulate more children's mail. The difficulty was always to find "real issues" for the children to write about (5D £1509, 02/07/90; 5D £1567, 02/10/90), and those were presumed to be ones that would involve collaborative activity. In the following sections we shall examine some of the means through which children's intersite mail was organized, beginning with the construction of physical artefacts.

2.4 Artefacts and intersite images.

One of the ways in which children's mail is facilitated is by the construction and deployment of physical devices such as a "mail board" and posters and pictures of other sites, including snapshots of the children, such as those of the Vega club site created at LJCS (and described in some detail in 5D £1158, 01/22/90), and referred to again in a site coordinator's message from LJCS to Darrow:

... I hear that you will be sending pictures of [your visit to] Vega Club soon, and I wonder if you have any pictures of the Darrow bunch? It seems that the New

Year has brought with it an inspired sense of organization and creativity! We have added to the childrens school two new posters of pictures – –NOLA and VEGA – – a "mail board" for the kids, and a newly decorated fifth dimension maze! We would love to add your pictures to our montage.
(Gen £1184, 01/23/90)

Further details are provided in a later note from LJCS:

What we talked about is an artifact that would plot the mail connections between the children at various sites. On a big board, each child at each site would be represented by a pin or a nail, and string or a rubberband would be strung between the pins of those children who are writing to each other. This would actually look like a web of connections because most of the children who write frequently have more than one correspondent.
(5D £1539, 02/08/90)

Other sites invented devices such as envelopes and postboxes for the organization of each child's incoming and outgoing mail, such as at Vega club (Gen £937, 01/03/90), which also developed spontaneously, as well as via the communicated field notes, at other sites (Gen £550, 11/29/89).

Note that the creation of these devices is not merely a local matter, of enabling children at each site to imagine their counterparts elsewhere, but a matter of planned intersite coordination. Also, these are once again both spontaneously invented practical devices for making the project work, not unlike the kinds of artefacts to be found in any school classroom, but also theoretically significant devices, with theory playing a part in the development of practices as they grow, within a self conscious cultural psychology of joint activity:

... I am VERY interested in the auxiliary tools that researchers in different places are needing to construct to mediate their work with each other and the kids. Galya's factory chart is one. At LCHC we are growing tools for coordinating the activity of the wizard in coordinating the kids' mail. Other folks?
(Gen £317, 11/07/89)

These concrete representations of the flow of KK mail were designed to aid the coordination of children's mail, and the task of Wizards' assistants in watching

over the process. They also served as a device for motivating the children, as part of a concerted effort

... to facilitate the development at each site of clearer images of each other and the project. We shared Katie's view that lack of a strong 'joint image' of this kind was one of the reasons underlying the lack of quality child-child mail.
(Gen £556, 11/29/89)

It is interesting, for the study of Velham as a developing culture, to trace the development of one of these mediational ideas. I shall take the creation of shared "concrete images" of different sites, and examine how it became conceived and organized. Before it became a device for stimulating children's intersite mail, the notion of developing shared images of different sites arose as a concern amongst adults, to facilitate things at the level of adult intersite coordination:

Subject: Getting to know you...

Sasha has asked us to make little informal reports -- "just a conversation" -- about our "home" sites: Who works there, what the different people do, the physical structure, etc. If people are interested, we could do a similar little report about our understanding of the situation here: the physical structure, the cast of characters, their backgrounds, etc. and the situation at Vega Club. Anyone? Maybe we'll do it anyway.
(Gen £118, 10/26/89)

Site coordinators appeared to become keen on the advantages of such shared images following visits to different sites, and especially some international exchanges in the last quarter of 1989 between La Jolla, Chicago and and Moscow. For example, a message from Moscow includes this:

We had a wonderful seminar today, Dale [visiting from Chicago] was talking for a long time and in great detail, we listened the way one listens enraptured to a mystery or a fairy tale.

Everything that I have been trying to explain to my people using carrots and sticks (and things I myself am trying to understand, of course) -- all of this is REMEDIATED through Dale, and the details of the setup of work in Chicago have given us a very strong and detailed image, with a lot of psychologically similar things, although formally everything is different. !!!!! We taped everything.
(Gen £309, 11/07/89)

These exchanges, both those reported and the reportings themselves, provided a basis for researchers to perceive similarities and differences between the various sites, even before the later sites (NOLA, Darrow and Chico club) were properly up and running, and to become interested in the nature of that variety. Later, the practice acquired an overtly stated rationale, that of helping adults to coordinate intersite mail:

Dear site coordinators:

I'm trying to compile a comprehensive list of all children at each site. In an effort to better organize the mail system (ie., so we know at all times who has sent mail to whom, who is waiting for a response, and other related tasks that are sometimes difficult to keep track of in our ever-expanding 5th Dimension!)

At your earliest convenience (!!!) can you please forward me a list of the children participating at your site.

(Gen £218, 11/01/89)

It was only later that intersite images came to be discussed as a good thing for the *children* to have, such that the absence of such images could be blamed for "the lack of quality child-child mail" (Gen £556, 11/29/89). It was possible now for project and site coordinators to link the need to develop intersite images for adults and children; in order to get children interested in intersite communications, the adults who coordinate their activities would themselves have to develop an intersite perspective:

... there seems to be a strong line of correspondence between children and local wizards (Volshebzniks) but little joint activity between children in different sites, whether US or USSR. Katie points to a big obstacle: In many cases the adults organizing the activity do not themselves think of themselves as PRIMARILY working with adults or kids in other sites. The task of a joint image remains paramount, as Comlab has emphasized.

(Gen £526, 11/27/89)

Two months later, the argument was sufficiently established in the electronic culture of Velham, that it could be cited with the kind of brevity and form that would have made Bartlett smile: "how can we, the adults, help the children get rich images of each other if we do not have them ourselves?" (Gen £1134,

01/20/90). The relevance for children was earlier made clear in a letter concerning a two week absence of KK mail from Vega club:

could it be that for two weeks in a row, the Volshebnik so bedazzled them that they have forgotten they are Velhamtsi and not just vegatsi??
(Gen £565, 11/30/89)

Adults' intersite images, having begun as devices to help adults do their coordinating work better, had become transformed into cultural objects that could help motivate and improve KK mail. But again, as we noted for the effects of receiving messages, the pictures alone *interested* the children, but may not have been enough to stimulate correspondence:

... They were very interested in all of it, though they weren't very talkative about it. During the session, I saw several kids go to the wall where the poster was pinned up and look at the pictures.
(5D £1158, 01/22/90)

These children did not immediately find it easy to say appropriate things, let alone write letters. It was not until the posters were incorporated into other activities such as tea break discussions in Chico club (5D £1867, 03/06/90) or those of the 5th Dimension, that they acquired some kind of communicative significance, as this field note from LJCS suggests:

... There were several children who seemed interested in identifying the photos to get their free passes. This is a fine idea to get the children to communicate and interlink with others cross country through their computers.
(5D £1177, 01/23/90)

Having established the practicality and desirability of intersite images for children, the ground was created for later cultural developments and refinements, such as Darrow's children needing pictures of their "pen pals" (Gen £2109 & 2110, 03/21/90), and intersite similarities and differences themselves being suggested as a motivating topic for KK mail (Gen £3, 03/27/90; Gen £185, 04/05/90). Since

photographs and other artefacts were not in themselves sufficient to get most children writing, further activities and means had to be devised by adults. These included getting children to describe themselves and their site for an imagined "alien from another planet" (Gen £445, 04/30/90), presumably intended as a device more easily imaginable for children than doing so for a child from another culture!

A pervasive difficulty arises throughout our discussion of efforts to stimulate children's mail, and that is the pragmatic dimension of it – how it gets occasioned. Although it was hoped that children "will find it interesting to describe themselves, and get the descriptions from others" (Gen £984, 01/08/90), it is not clear, and perhaps not to the children themselves who lack the adults' research project aims, what sort of pragmatic purpose those descriptions are for. Harold Garfinkel persuades us that all descriptions are potentially infinite, such that actually occurring descriptions are finitely sufficient ones designed for social actions on particular occasions. The principle is presumably applicable to children; with no other requirement than to write a description, they are placed somewhat in the position of one of Garfinkel's students, asked to describe something, and (leaving aside limitations of imagination and vocabulary) not knowing where to start or stop, or why. Closer to the concerns of developmental psychology, they are placed in the position of the children in what Margaret Donaldson called "disembedded" experimental tasks. Of course, it is the purpose of embedding children's writing within the setting of the 5th Dimension, of games and joint intersite activities, precisely to avoid such disembedded tasks where participation is secured by authority rather than interest. The pervasive difficulty seems to be that of getting children to share adults' motives, or else to develop motives of their own which will generate the same kinds of activities.

There is an interesting paradox in the suggestion that concrete images of other sites and other children would stimulate children's KK mail. This is, that mail to the Wizard, despite being celebrated as relatively successful compared to KK mail, is conducted with a writing partner whose elusive mysteriousness is one of its most notable and attractive design features! Indeed, children's frustrating efforts to get the Wizard or Volshebnik to reveal its nature and identity are the subjects of at least two Velham studies (Belyaeva et al., *LCHC Newsletter*; and my own Lahti paper). In the latter study, it was noted that children's descriptions of themselves in KW mail did show an "occasioned" nature, being designed as efforts to get the Wizard to reciprocate. In those cases, it was the LACK of any adult-given concrete image that stimulated the children's curiosity. What therefore can we say about the need for concrete images in KK mail?

It could be that the Wizard and Volshebnik are special cases, which invert a children's preference for initial personal information, or which illustrate its importance, via the children's efforts to discover it. (We shall return to that issue when we look at the notion of "pen pals"). The Wizard is an abstraction that children try to make concrete, but there are good reasons for doing so; children are engaged with the Wizard as part of *other* activities, as an integral part of life in the 5th Dimension, and of dealing with the adults who coordinate those activities. The Wizard has power to grant favours, offer advice, mediate in disputations, and who knows what else if we (kids) don't write and find out! Writing to children at other sites lacks those magical ingredients. But one lesson is clear; children need reasons for writing other than having people to write to, and letter writing needs to be embedded within some kind of activity in which it serves a purpose for the children. Of course, these are not merely my own conclusions, but those of the adult participants themselves. We shall continue to examine some further means and devices that were designed to make writing a children's activity.

2.5 E-mail Artefacts.

Although for adults, fast turn around time is one of the features of e-mail that gives it an advantage over conventional mail, as far as children's communications are concerned, the medium is disruptively slow, and the telling comparison is with the immediacy of face to face talk. Some of the means devised for enhancing the prospects of KK mail consisted in direct ways of organizing the nature and flow of electronic mail, either to improve turn around time for messages and responses, or else to use an alternative organizational means such as a mail bulletin board or conference system. This is essentially what the adults themselves use, the TCN conference system. By storing and organizing topic-based messages from many participants, an electronic bulletin board offers an alternative to the inevitable delays and discontinuities of person to person mail. While children's mail comes via the TCN system, uploaded and downloaded by adults, it is adults alone who deal directly with that system as a bulletin board; what the children see is the sending and receiving of mail, as if it were straight mailbox to mailbox e-mail.

Included amongst the bulletin board kind of suggestions were topic-based or issue-based conferences, to which children could contribute, or read messages, at any time, rather than having to wait upon the vagaries of responses to personal messages. Examples include the "expert committees" proposal that was discussed at some length under the subject line "structuring kids' communication" (in 5D £116, 10/26/89, and subsequent responses). Another suggestion was for the creation of an "international bank of good advice" concerning computer games, where "every child could answer on the subject of a specific game, argue with a concrete 'depositor'" (5D £1214, 01/25/90). This was explicitly proposed as a solution to the problem of "lengthy intervals" in KK exchanges, and the "decrease in activeness" in KK that such delays possibly caused. The major development,

however, turned out not to be that of topical bulletin boards, but of ways of improving upon turn around time for child-to-child messages. Let us first look at the fate of the bulletin board ideas.

By far the most significant of these, in terms of the amount of TCN mail it generated, was the "expert committees," or "specialist conferences" proposal:

... One idea we talked about is the following: Children in all the various sites can be asked (or required) by the Wizard to "specialize" in a game or a couple of similar games and to talk about some aspect of the game or some topic related to the game with the other children who choose to specialize in the game. Essentially, there would be children's sub conferences on the game/topics. Or perhaps the Wizard and Volshebnik would formulate these topics or choices of games to "specialize" in, and children would pick one. And of course the Wizard and the Volshebnik would mediate and maybe participate in the children's discussions. Maybe one kids' subconference or "committee" could be about writing a task card for Factory, for example. Perhaps it could be worked out so that there is at least one kid from each site on each committee or sub-conference. And maybe "old-timers" would be encouraged to join "advanced topics" subconferences. And kids could have a choice of joining a Wizard/Volshebnik formulated conference or proposing a topic or game of their own to their local wizard, who, if s/he approves it, can forward it to all sites for kids to join if they like...

(5D £116, 10/26/89)

It was further suggested that the specialist conferences "would be run in parallel to the main 5D activities, not within the maze structure" (5D £200, 11/01/89).

The proposal was welcomed for the forum it offers "veteran" game players for sharing their expertise (5D £129, 10/26/89), to which one might add, that it also helps make that expertise widely available for less experienced children. The proposers went on to list a number of other benefits:

1.) It's very flexible and can adapt to those unpredictable circumstances at site and on task that can make it hard for a kid to stick to her or his plan; 2.) It can easily accommodate differences in fifth dimension structures or detail, as for example, at C.Darrow, where they do not use the maze or task cards; 3.) Activities that are not strictly related to fifth dimension doings can be easily accommodated into these "conferences"; 4.) When something interesting or useful develops in one conference, other kids can be asked or invited to join in, maybe approaching the new topic in some way that relates to their original topic/conference; i.e., the kids' conferences have the possibility to stimulate and develop each other; 5.) Tight coordination and planning is not necessary, on the part of the kids or the adults.

(5D £170, 10/30/89).

The prevailing objection to setting up these useful looking conferences was that they did not seem (especially to senior project coordinators) to fit easily into the structure of the 5th Dimension, in which the Wizard's mediational role in place of adult authority is of crucial importance. The specialist conferences idea seemed to by-pass all of that (5D £175, 10/30/89; 5D £279, 11/04/89). Similarly, and in the unavoidably authoritative voice of one of the project directors (MC):

... I am not real enthusiastic about game conferences outside the 5thD.
(Gen £221, 11/02/89)

... It makes me nervous to have even 2 parallel structures... Couldn't one incorporate instead of getting multiple organizational principles going?
(5D £328, 11/03/89)

The idea of specialist conferences for children lost momentum from this point, due both to a lack of enthusiasm for a proposal that might be an alternative to the 5th Dimension as the primary organizational principle for children's activities, and also, due to new developments at this time, which went some way towards meeting the conferences idea, such that all of children's mail would go to a TCN Vega "Kids Mail" conference category, with specifications as to who each message is for, from whom and about what (Gen £209, 11/01/89). However, children's access to this all-purpose conference would continue to be via adults and Wizard, rather than directly, and there would be no "specialist" conferences. It seems to me that the idea of specialist conferences, parallel to and based upon the 5th Dimension, or incorporated within it, might be explored further. One additional reason for suggesting this (apart, that is, from those offered by participants) is that it could be the sort of organization that might allow for *in-site* KK written communications, as well as, or as a preliminary to, intersite mail – see my comments on this in section 1.3 above.

Despite the general rejection of the specialist conferences idea, time delays in the exchange of KK mail were still generally seen as a major inhibition upon it, such that proposed means for enhancing KK mail were often means of solving problems of delay. The idea that most obviously got put into practice was that of speeding up KK mail turn around time. Theory and practice were once again closely linked:

It is my feeling that an attempt at shorter turn taking time for at least one sub-group would help to determine if timing is crucial for kid-kid writing.
(Gen £1298, 01/29/90)

A great deal of effort was devoted to the intersite organization of KK mail, though the coordination of timetables, such that writing and receiving responses to mail, with allowances for translations, would involve the minimum turn around time. Links between LJCS, Darrow, NOLA, Vega and Chico club, all required numerous exchanges between site coordinators, concerning when each group met, on which day and at what time, and with which set of children, of what age and how many, and with which group at another site they might communicate so as to allow two or three days (or longer for international mail) for receipt and turn around of messages. Local activities were sometimes re-scheduled in order to accommodate the requirements of these new mailing timetables (as at Chico club: 5D £1519, 02/08/90; and 5D £1542, 02/08/90).

It was a feature of these timetabling arrangements that they were closely linked to other developments in the organization of KK mail that we are reviewing here, especially the creation and use of physical artefacts and intersite images (discussed above), and of "pen pals" (discussed below). Arrangements typically specified days and times of meetings, names and ages of children in each group, and often some

further information about the children, including both 5th Dimension or game playing details, and also more personal things:

... You asked for some idea of what games and other things they like, so I'll give you a short run down: Mark and Eric are really into Mystery House, and last week the Wizard gave them some hot hints! Max is busy writing hints for the 8 games he has played at the expert level, trying to hurry along to becoming a Young Wizard Assistant! Terra and Anke are great at Lemonade and are trying to become experts at Mario Brothers but are having trouble with the Whirlwinds. Anke is from Germany and has a baby brother that she loves very much. Jared is also a pro at MarioBros. and likes Pond. Daniel G. is an expert at Marketplace and Defender. Derek has a lot of questions about the Wizard, like is it a computer and is it's number listed in the phone book!

(Gen 1537, 02/08/90; cf 1543, 1821, 1929)

The way in which intersite arrangements for KK mail were organized suggests the assumption of a person-to-person format, such that individual children could choose who to write to on the basis of the information provided, and of their "images" of each other (both physical and mental), and perhaps get involved in some reciprocated person-to-person exchanges. While this kind of correspondence was clearly an important researchers' goal, the tendency for children to engage in "pen pal" kinds of exchanges was sometimes contrasted unfavorably with a more ambitious goal, that the children might use the medium for coordinating joint activity. It is worth noting therefore that the way intersite KK was *arranged for* by site coordinators, seems to orient the system more towards pen pals than joint activities.

2.6 Pen Pals, Joint Activity and the 5thD.

At the same time as discussions were going on about the suggestion for specialist conferences, an alternative (or additional) organizational principle for KK mail was also being discussed. This was the "yoked partners" idea:

... Each kid gets a kid from another place as they enter a room in the Fifth Dimension or do whatever their activity is for the day. So, kids get to do twice as much -- part of it in their own time and place and part of it as personas in someone else's time and place.

This should CHANGE the communication situation.

Each local kid will have FOUR people to write to:

TWO whose fates are sealed by the kid's choices and performance;

TWO OTHERS whose choices and performances seals the local kid's fate.

The distant kids may get a free pass, thanks to the local kid's choice and work, or they may want to give up a free pass to help their "controller" (and themselves) out.

The distant kids may get a beginner level exit or a good or expert level exit -- and she or he can use it in his local activity!

Letters will have to explain what happened and why...

(SD £72, 10/25/89)

This idea possesses several important advantages concerning the researchers' goals for the project, and fitted well with the theoretical basis on which expectations of success were generated. It also met with immediate approval and plans for implementation:

I think that this is a terrific idea and I would like to try a small scale run of the idea with a few of the Darrow children being hooked up with children in other sites. We're game! I'll be in close touch to see what we can work out with fellow friends in the 5thD in far away places not so far away.

(SD £146, 10/27/89; cf Gen £419, 11/16/89)

However, it transpired that the major organizational principle for KK mail, and especially so for the Darrow children, came to be that of "pen pals". It is worth examining how this appears to have developed, both as the reality of KK mail, and also as a researchers' practical and theoretical concern.

One important advantage of the "yoked partners" concept is embodied in the message subject line by which it was introduced, and which got repeated as mail "replies" continued the discussion -- "Communication in the 5thD". Unlike "Structuring kids' communication" (the subject line for specialist conferences), this heading emphasizes how KK mail might be included as an integral part of the overall organization of 5th Dimension activities at each site. Recall that the lack

of such integration, and the need to avoid "multiple organizational principles", were major objections that thwarted the development of specialist conferences. Further, the integration of yoked partners within already established 5th Dimensional activities promised to fulfil the project's principled preference for spontaneous communications that are mediational in joint activity, and productive of information on children's developing cognitions:

This could get a "natural" motivation for writing among children. And a topic for writing that might let us in on what the kids are understanding about the activities they are engaged in.
(5D £72, 10/25/89)

It is not a simple thing to point to how and why the yoked partners idea did not come to be a major organizing principle for KK mail. This is mainly because (in the substantial body of data I have, at least), the adult participants did not themselves address that topic directly. Most of TCN mail, even for project coordinators, consists in contextualized actions, rather than reflective analyses of the whole enterprise. While meta-level analyses do occur (this would have to be the subject of an independent study), they tend to do so in an occasioned manner, with regard to whatever problem or crisis or issue is current at the time of writing. In a complex and quickly developing project, the business of coordination, of making it happen, provides the major context for reflective abstractions and explanations. Nevertheless, it is possible to offer an observer's analysis, based on the data I have, though I am sure that the participants themselves will have further perspectives to offer.

One such observation derives from the analysis above, of the significance of time delays as an inhibition upon children's communication. A great deal of effort throughout the project, and indeed much of the coordinating work involved, hinges on how to speed up, or compensate for, or organize around, the inevitable delays for children in writing and receiving replies. International mail and the

need for translations obviously exacerbates those delays. While the yoked partners idea promises to make for much stronger links between individual children, giving them something to write about and letters worth waiting for, time delays could become an even more severe problem than before. While waiting for an unreliable reply to a personal message may be a nuisance, the fact that it is de-coupled from activities in the 5th Dimension means that there is always something else to do. But if activity and progress in the 5th Dimension are directly dependent upon coordinations via KK mail, mail delays and communicative misunderstandings then become delays in doing the 5th Dimension itself. It is a swings and roundabouts effect; close integration with the 5th Dimension brings both advantages and potential disruptions. Disruptions can be positively valued, of course, in that they can lead to new coordinations and to metacognitive analyses of what went wrong, and to the need to explicate problems and solutions (this is another topic for separate treatment, but see also the "Phase transformations" analysis: Newsletter, Dec 1989). However, tolerance for constant and endemic disruption amongst young children who are keen to get on with playing games is another matter.

Another potential problem with yoked partners is directly alluded to in TCN mail. It is that not all sites were organized around the 5th Dimension, and indeed, Clarence Darrow (where there was some enthusiasm to put the idea into practice) was a case in point. Even the sites that do have 5th Dimensions have their own versions of these, and it is a feature of the project, and a topic of practical and theoretical interest to the coordinators, to see how those different cultures arise and develop (Gen £2177, 03/23/90). As a defender of specialist conferences observed, in contrast to yoked partners, "it can easily accommodate differences in fifth dimension structures or detail, as for example, at C.Darrow, where they do not use maze or task cards" (5D £170, 10/30/89). As we have noted, NOLA also differed in having no local Wizard. Again, those differences between sites

could become the source of discoordinations that give rise to interesting messages between children. But on the other hand, such mismatches may also be seen to impose further burdens and difficulties upon KK mail, as children try or want to do things that are not available for their partners. Rather than serving as constructive difficulties for yoked partners, site differences actually came to be offered as *topics* for a more "pen pal" kind of KK mail (Gen £2154, 03/22/90).

After the Christmas 1989 break, by which time neither kids' conferences nor yoked partners appeared to get taken up and developed, the mail from Clarence Darrow, NOLA and Chico club began to increase rapidly, and it was from this time that KK mail became established along "pen pal" lines. At Darrow, the desirability for kids of having computer pen pals appeared to arise spontaneously within the local club, rather than as a means of fulfilling Velham aims:

We are putting a want ad in the computer for computer pals we need someone to be our friends to communicate with us over the computers. We have written some letters and are just dying for someone to respond to our letters so if you would be ever so kind to have your group from were ever you are would love to hear from you.
(Gen £1306, 01/30/90)

Within minutes, a message from another Darrow group worker, replying to a general Velham question about how to encourage KK mail, was reporting:

Our kids haven't really gotten into writing the kids from other places. Maybe each site can send a list of children's names and the groups days. For instance, I have Monday group and my kids can pick some one from one of their Monday groups and send them messages. Here are the Monday kids...
(Gen £1310, 01/30/90)

The enthusiasm at Darrow for pen pal exchanges is clear from further requests to LJCS such as:

I am having a very hard time getting my group penpals we meet on tues and their ages are 9-12 and they want to receive penpal letters if you can help me I would really be grateful to you because I have begged sooo long till I have forgotten how so help.

(Gen £1862, 03/06/90)

I love the idea of pen pals... I am going to have them pull the names out of a hat to see who will write who...

(Gen £1889, 03/07/90)

Soon NOLA was involved too, writing to Darrow ("I hear from... La Jolla that you would like pen pals for your kids..." 5D £1932, 03/10/90), and exchanging names and pictures of children.

So the notion of KK mail as "pen pals over the computer" (Gen £1831, 03/02/90) arose in Darrow spontaneously as something local children and adults were keen to do, and immediately became the Darrow response to the general Velham call for KK mail initiatives. The local Darrow Wizard was soon involved in encouraging the children to take part in intersite KK mail (Gen £1831). Since Darrow was a computer club with games, Wizard and e-mail, but no fully operational 5th Dimension, it was inevitable that KK mail initiatives arising from Darrow would not be defined as part of a 5th Dimension structure. It may also be noted that the model of mail as personal correspondence may have been established at Darrow following one of the coordinator's [Dale's] visit to Moscow a few months earlier, during which a strong and personally oriented series of messages were exchanged between her and the Darrow children and adult group workers. Indeed, the importance of personal interest between mail participants, of writing to "a person out there in the world that can be reached that they care about" (Gen £617, 12/03/89) was stressed several times, especially by Darrow workers who had engaged in these exchanges during the Moscow visit (cf Gen £1375, 02/02/90).

Another notable feature of the Darrow mail was the highly voluntaristic basis upon which it was done:

Today the care bears [a Darrow group of kids] will receive letters from the wizard and respond to the letters *if they wish*. I will also discuss the pen pals idea with my group to *see how they like it*. Then we will enjoy computer games.
(Gen £1890, 03/07/90)

This kind of "if they wish" arrangement appears to be less structured than when mail happens within 5th Dimensions, like at LJCS and the Moscow sites, where adults are keen to encourage and organize *to see that* it happens. In any case, Mail between Darrow and LJCS was recognized as an immediate success by adults both at Darrow, where they "generated some real excitement," and at LJCS, where

Today I received the letters from Dianne's children and they were super... we were especially thrilled by their content: talk about the 5th D! This has been a MAJOR goal of ours, to get the kids communicating about what they have IN COMMON... which is this wonderful place called the Fifth Dimension... As I said to Dianne in a note also sent today, "so far so good."
(Gen £1918, 03/08/90).

It is notable that the adults at LJCS, an older site close to the origins of the project, stress the importance of links between KK mail and the 5th Dimension culture (at least, that much of it that is shared with Darrow – games, mail and the Wizard, presumably). The concern is that KK mail should be an integral part of the project, a part of, and medium for, intersite cultural growth centered upon 5th Dimensions. If KK mail was to remain an essentially person-to-person preoccupation outside of, or parallel to those other activities, it is clear that it would not be fulfilling the project's more ambitious aims. This was made clear at this time not in direct policy statements, but in the terms in which encouragement was offered to the new site at Darrow. The "so far so good" of the extract quoted above suggests the tenuousness of current communications, and

the need for further development, as does the note to Dianne (at Darrow) that is referred to:

Dear Dianne,

We received today your first batch of letters and I think they are wonderful! Mike really liked them too. They are *so much more than pen-pal letters*, they are filled with thoughts about the 5th D, which is very important. I will be concentrating on encouraging the children to write ABOUT their life in the Fifth Dimension... the games they play, hints they can share, their friendship with the Wizard, etc...

(Gen £1919, 03/08/19).

That KK mail should be "so much more than pen pal letters" is clearly marked as a desirable goal, as is the aim that children should talk about their site activities, rather than just exchanging personal information. Nevertheless, personal exchanges became a kind of template for starting up intersite KK mail, as with this greeting from LJCS to the new Uptown Chicago group:

WELCOME! You have such a big group of kids! I'm sure they will have a great old time writing back and forth with Debbie's [Darrow] group. And if any child ever wants a long distance computer friend, there are some children at the La Jolla Children's School that REALLY love to write! And if they want a LONGER distance friend you could try writing to Chico or Vega Club in the Soviet Union!

(Gen £2074, 03/19/90)

Similarly, the exchange of children's photographs, designed to create concrete images of other sites for both children and adults, became assimilated into the pen pal organization, as in this message to LJCS from Darrow:

I have a suggestion I hope you will like. I would like for our children to have pictures of their pen pals, maybe we can work something out and mail to each other so the children can get a picture of the person they are writing to.

(Gen £2109 & 2110, 03/21/90)

The exchange of pen pal mail between the American sites created excitement amongst the adults as well as the children. But for the LJCS site in particular, this was always conditional upon the letters having some kind of utility and place within the 5th Dimension:

... Now that the letter exchanges with [Darrow groups] have progressed over a few weeks, I am seeing much more enthusiasm in the childrens faces when they read their letters AND when they write them. It's really exciting. I think what is happening is that because the children are writing about the games they play in common, and exchanging scores, hints, and ideas, the letter writing has become very useful to the children.

(Gen £2138, 03/22/90)

Although pen pal letters may include those kinds of exchanges about common 5th Dimension games etc., still that does not constitute joint activity mediated by KK mail, which remained a strong researcher's goal. Nevertheless, it is clear that some kind of common culture was being created and sustained, in spite of some possessiveness between pen pals:

... an interesting thing occurred on Wednesday. Christopher, who writes with Lyuba, asked me with a bothered look on his face, why Jennifer and Tori were writing to Lyuba also, because "Lyuba is MY penpal." I asked him to consider how it was possible for correspondence between children to overlap: Christopher writes with Lyuba, and Christopher also writes with Roshell in Chicago and Roshell also writes with Daniel who is in Christopher's computer class as well.

			Christopher
	Christopher ->	Roshell ->	
Lyuba->			Daniel
	Jennifer & Tori		

Christopher nodded his head and concluded that in a way "we are all talking to each other."

(Gen £2154, 03/22/90; cf 5D £2179, 03/23/90)

This kind of development, of children's activity and insight, shows how pen pal letters can start as simple exchanges of information, which children enjoy doing, but become with guidance something larger and more engaging, the creation of a common culture of intersite understanding concerning persons, places and activities, as well as a medium for adult mediated (or wizard mediated) personal development (e.g., regarding the virtues and vices of possessiveness). Though not being joint activity per se, pen pal letters can be an *alternative route* to much the same ends. The Soviet researchers refer to this kind of development of a discursive common culture as a "polilog" [*what is the Russian?*], to which

electronic communication particularly lends itself via its creation of a re – usable textual record (Gen £1760, 02/26/90). Again, the preferred orientation of such a polilog is towards sharing intersite images and information about the different instantiations of the 5th Dimension, and more widely, "images of different sociocultural environments" (ibid.). The idea arose in Vega club to embody such a polilog in and through the medium of a children's electronic magazine, "The World of the 5th D" (5D, £1764, 02/26/90), jointly produced as an intersite enterprise. It is interesting to note, therefore, how a *joint activity* kind of KK mail arose out of, rather than in contrast to, topic – oriented person to person mail; and how this development owed itself to the intervention of adults (and implemented via the mediation of the Volshebник) in activities in which children were already engaged. Prior to such intervention, even for the exciting mail that started up between LJCS and Darrow, children's mail is soon reported to be

going in circles, not getting anywhere. It doesn't seem as if bonds between writing partners are developing.
(Gen £298, 04/16/90).

And even with such adult intervention, as we have seen, it is no simple matter to make the activity one that sustains the children's interest, rather than just doing something adults have organized for them:

We have tried contests, games, puzzles... but it is indeed difficult to stimulate lasting correspondence.
(5D £1398, 02/02/90)

While personal pen pal mail and more "serious" joint activity were sometimes contrasted, it seems that the former was favoured, or easiest to establish, with the children and some group workers, while the latter was more favoured by researchers. Personal contacts and exchanges were highly motivating for the children. This should be no surprise, of course, especially in the light of experiences with KW mail, where close, sustained and emotional relationships

between child and Volshebrik/Wizard were often noted as important motivating features, for example in Chico club (5D £1338, 01/31/90) and also at Clarence Darrow, with the development of local group workers' Wizard "voices". But whereas in KW mail the Volshebrik could shape the correspondence internally towards 5th Dimension and intersite concerns, KK mail required some outside assistance from Wizard and adults, in the form of suggesting topics, setting up joint projects, and integrating KK mail into the organization of local 5th Dimensions. The interesting thing is how pen pal letters came to be used as a starting point for more ambitious KK mail which could, with adult and Wizardly intervention, develop out of it. So, when a couple of boys at Chico club showed a sustained reluctance to write letters, it was suggested that "It would probably be a good idea if those particular boys received personal letters" (5D £1506, 02/07/90).

The case of these Chico boys rewards further study, for how children at first uncooperative in writing mail developed a motivation to write via the intervention of adults. It was a fact pointed out mainly by the Soviet adults, that reluctance to write letters showed a strong gender differentiation, with boys the more reluctant, and especially so with KK rather than KW mail. Again, this gender difference would have to be a topic for study in its own right. But let us focus on this specific instance. The case in question was one cited above at Chico club where, although the boys were the ones to receive mail, it was the girls who wrote back! (5D £1506, 02/07/90). As we noted in the section on "Mail generates mail", this reciprocity effect of receiving upon sending was by no means automatic, but one heavily mediated by the cultural meanings and organizational procedures in which it was embedded at each site. In the case of the Chico boys, those meanings and procedures had to be invented.

The way this was done was by first allowing the boys some time and space separate from the girls (presumably an acceptable means, but not a desirable end, for 5th Dimension work with children), and helping them articulate motives, such that letter writing could become a meaningful activity:

... The girls went into the other room with Lena to write to Vega club and to answer the letters they received from LJCS. The boys remained. They and I together read the letter from Vega from Alexandr, addressed to Chico club. The guys took it with interest. But still Dima and Andrej said that they don't want to write to Moscow. I reminded them that in all of Moscow and in all of the Soviet Union there are only two clubs where the children live in the 5thD together with the American children, and that Chico and Vega clubs have a lot in common, and the children of these two clubs have a lot to talk about with each other. The guys, especially Sasha, started to say that let Vega write to them first. I noted that first of all, they have already gotten one letter, and second of all, the Vega club is older – they have already been in existence a year. The boys started to ask, when Vega holds their meeting, why in the evenings, etc. Using this new interest, I sat them down to write...
(5D £1867, 03/06/90)

The reluctant Dima, on receiving mail later from America, had become a boy transformed:

Dima was very very excited by Catherine's letter from NOLA. He was showing the letter to everyone, and then he wrote the reply without any reminder.
(5D £9, 03/27/90)

The device of allowing the boys their own time and space for letter writing, away from the distractions of game playing and of comparisons with the girls, was one that they themselves developed further, by starting to arrive early, before the 5th Dimension was due to start:

The boys came in half an hour early as usual, and tackled the letters. Dima and Sasha were very happy to get letters from the girls Katie and Nicole. They started discussing how many penpals each had. They boasted before each other who has more...
(5D £2155, 03/22/90)

The boys' letters were reportedly not very long or interesting, but a start had been made, such that they were at least now freely and enthusiastically engaged

in KK mail, and further developments were now possible, with further sensitive adult and Wizardly help. A month later, that help is being sought for and obtained:

The four boys arrived at 9:30, a full half hour before the four girls. They immediately checked their mailboxes for messages from Volshebnik and mail from other sites. The boys eagerly read their messages and several asked Irina to explain portions that were unclear.

(5D £424, 04/27/90)

And the activity of writing became not merely competitive as before, but a joint, negotiated one:

I distributed the questionnaire about the 5th dimension which Justin from NOLA had sent us. The children wrote their answers, and while doing this, the boys discussed every question between themselves with agitation, consulting on what to write.

(5D £530, 05/11/90)

The Chico club coordinators noted the importance of what had happened (of what they had helped foster), in that not only the boys' actions, but also their motives and interests had been transformed:

They used to come earlier in the hopes that I would allow them to start playing earlier. I wouldn't allow that, instead I used their high motivation to get them involved in a different activity – letter writing. An additional stimulus was the fact that later in the day they would not have to waste time on writing letters. Frankly speaking, at first I was afraid that the boys would stop coming earlier, because they didn't especially enjoy writing letters when Chico was just starting. But to our joy that didn't happen, on the contrary – the boys started writing actively enough! For the last 2–3 weeks, Lyuba and Zhenya [girls] also started coming to the lessons earlier, and they come specially so as to write letters.

(5D £539, 05/11/90)

Note that the device of arriving early, at first a perhaps worrying split between boys and girls (though it seemed not to concern the field note writers), served its purpose of developing the boys' activities and interests, and later came to incorporate the girls too. Like with pen pal letters, activities that are at first not so desirable can become, with adult and Wizardly guidance, steps or means

towards more desirable ends. At Vega club, a parallel device developed, through which letter writing could be done in its own time and space, at home before coming to the club:

I think that the fact that children wrote their notes at home, that is in the situation where they were not distracted by games, did not keep watching the computer to see when it is free, gave them the opportunity to concentrate. Perhaps my ideas are a little hasty, but children's letters to Volshebnik, these two last lessons, are different from previous ones, both contentwise, and emotionally. Besides, for the last two lessons we didn't have to force children to write letters (as it happens sometimes), and only a few of them had to be reminded that the lesson would soon be over.
(5D 03/29/90)

It was clearly a significant discovery for the adults at Chico and Vega clubs, that the seemingly intractable problem of getting reluctant children, especially some of the boys, to voluntarily write mail to other children, could be successfully solved by re-organizing the physical and interactional setting in which it was done. In fact, this discovery links well to the more general Velham development of "opening rituals", where children's mail would be handled at the start of each session, when the children assemble as a group, before proceeding to play games and other 5th Dimension activities. Opening ceremonies, oriented around communal mail, were characteristic of the newer sites (Chico, Vega, Darrow; not sure about NOLA) from the beginning, and as we noted earlier, Vega club had always begun with mail from the Volshebnik, addressed personally to each child. A similar "opening ceremony" format came to be adopted (through exchanges of field notes and discussions) at LJCS where, as also at Chico club, KK mail came to be publicly displayed for all to see (5D £2027, 03/16/90; 5D £28, 03/11/90), and the opening session was used for group discussions. The development of these opening group sessions provides an interesting perspective on the growth of the sites as model cultures, and as parts of a larger Velham culture, and also on how those cultural levels of development served as contexts for changes in individual children's engagement in mail.

The idea of organizing some time for children's mail, so that it did not compete with the attractions of game playing, arose at Vega club as a means of dealing with one child's reluctance to write. In the following message, it is cited as a piece of intersite advice for similar problems arising elsewhere:

... Lately Misha has started playing very actively, started mastering the games on expert level, feeling as a real citizen in the 5th D, and... has lost all interest in correspondence. At several lessons we have attempted to come back to the question of rules and Constitution, but the kids would lose interest quickly, apparently because so far they are pleased with everything, and they find things very interesting anyway, and Misha would say "later, later" and make a dash for computer also... We discussed Gabe's [a LJCS boy] position here in Vega, and it seems to us that his problems, just like Misha's, can be resolved by time, as he continues living in 5th D.

We noticed that Misha's unwillingness to write could be overcome, if he is offered the chance to write at home. Apparently the older kids have difficulty concentrating on letters during the lessons: they do have a need for serious correspondence, as we can conclude from Misha's example, but in the club they are oriented toward computer games... or perhaps we should be thinking about a room for correspondence in the 5thD, or some comfortable spot?
(5D £1721, 02/21/90)

The experience with Misha meant that for Gabe, though separated by thousands of miles, language and culture, reluctance to write mail could be seen as something understandable in terms of 5th Dimension culture, and therefore as something that could be organized for, rather than treated as a problem endemic in the children themselves. The solution was either to adapt the 5th Dimension so that writing becomes a more important activity within it, or else to set time and space aside for mail so that it no longer competes with game playing. An enthusiastic reply from LJCS tells of similar developments there, where "several of the kids... have expressed a desire to write letters at home, on their family computer, and bring in the disk to upload," and where the older children were about to be given "homework assignments from the 5th Dimension" (5D, 02/09/90). Again, the preference at LJCS is for mail to remain within, or at least referenced to, the 5th Dimension.

At Clarence Darrow, opening sessions oriented to mail developed during the first half of 1989, when the groups of children were first constituted:

We and the staff evolved the following routine for computer club: each afternoon began with a short group time with the 10 children scheduled for that day. Messages that had been received from the Wizard or other sites were read aloud and discussed. We helped the children figure out how to respond to the messages, and who would respond to those received. Occasionally specific activities were selected for play by either the Wizard or by requests from people at other sites. Otherwise, the rest of the afternoon was a free choice activity period where children could choose whatever games they wanted. The Wizard writing and telecommunications happened in and around game playing as we adults generated interest and opportunities for it. The children were given reminders as the afternoon progressed to fulfill their responsibility to respond to mail that had been addressed to them.

(Gen £617, 12/03/89)

While *writing* mail at first took place alongside the game playing, later developments at Darrow included a rotating division of labour which was designed to make efficient use of the available computer resources. (Again, note how developing practices are oriented to solving problems). Writing came to be done at the beginning of meetings, sometimes as a communal activity with one child reading aloud (cf reading aloud at Vega club: Gen £937, 01/03/90), with time or space set aside especially for mail, or else done in rotation with game playing:

I will have two children to sit at computer together and take turns writing their letters, at the beginning of computer club. For all the kids it shouldn't take longer than a half hour. They can write their letters to the Wizard in between.

(Gen £1687, 02/19/90)

Today I have planned for the care bears [another group] to meet in the seniors room where they will discuss and write wizard letters [and] talk about any problems they may have when working on the computers. I will then have one computer open for the children to write the wizard, while others play computers games. They will rotate so that every one gets a turn to write the wizard.

(Gen £1734, 02/21/90)

When the children come into the computer area they read their wizard letters and pen pal letters then we give them a piece of paper and pencil and let them answer them back when they are done they start on computer activity.

(Gen £115, 04/02/90)

At Darrow, time, space and social arrangements developed and changed such that writing mail became an activity set aside from game playing. The problem to be solved seemed to be one of scarce resources, a matter of efficient local organization, for children who were keen to write and read mail. At other sites, the most pressing problems were of a different sort, though they gave rise to similar solutions. As the examples of Dima, and Misha and Gabe (above) exemplify, Chico, LJCS and Vega had to find solutions to the problem of children who flouted the rules and expectations of the 5th Dimension, and who refused to write letters. Again, as we have seen, the solution was to constitute mail as an activity in its own right, with time, space and supportive social practices such that it did not compete with game playing. While these developments might be seen as loosening the relationship between mail and the activities of the 5th Dimension out of which mail was expected to arise, they arose as solutions to how to implement such practices, especially for boys, who, given the distraction, would generally rather play than write! The 5th Dimension had to be adaptable to take account of children's preferences and motives, but by doing so, was able to shape those preferences and motives could be appropriated for writing, and directed back towards the topics and activities of the 5th Dimension.

It is possible to draw some generalized principles for theory and practice from these analyses of pen pal mail, Chico's boys, and the growth of opening ceremonies for dealing with mail. Children's cultural development may be thought of as taking place stepwise, and in means–ends fashion, and sometimes the steps have to be small (this is is much smaller scale, and more content based than developmental "stages"). Where results are disappointing for adults, such as KK mail being too trivial, too pen pal based, too short and perfunctory, too forced or not enough enjoyed, or disappointingly gender differentiated, then the problem *may* lie with adults' expectations. The steps required of the children