

Now, we're going to - the question - can any of the techniques which have been proposed in the last decade - some of these are older than that - really solve the problem of creating an organic environment or do we have to go back to the idea of a universal - traditional - language but since tradition is impossible in modern society we would have to become explicit. That's the topic and to introduce it I want to~~x~~ lay stress on one point which I really - looking back over what I've said I realize that I've failed to bring it out sharply. And that is the point that if we're going to be talking about the environment as a whole we are really asking the question how can all the built environment - 100% of it - and that means that all buildings that are done - all building projects - so 100% in scope and also at all levels of detail and size - how can all of that become organized. In other words there is - I gave you three kinds of features that any reasonable attitude toward environmental design would have to contain: memory, coordination and variety but I really took for granted and therefore didn't mention the overwhelming issue of volume. I think it is essential that whatever attitude is adopted is capable of attacking the whole environment - 100% of it - and not just making isolated little ~~sorties~~ sorties on a building project here and a building project there.

Now, its on that issue - of course architecture fails most conspicuously - as you all know the percentage of buildings that are built by architects is quite small - it varies from country to country, where here I think its something of the order of 10%, of all built square footage - and that says nothing about streets and parks and these other elements - that's just the buildings themselves. And its quite clear that given the number of professional architects that exist and the amount of building that anyone of them can do ~~by~~ by present means - ~~x~~ there's no way of really increasing that figure radically. Now, architects will ~~claim~~ claim that they are of course in the business of creating a language - that they merely build - they make innovations and then the idea is that these innovations will be borrowed and

become more generally used, even in building~~x~~ projects which do not involve architects. So ~~xxx~~ some extent this is true and one sees very very clear cut cases for instance with Bucky's dome - where he invented a particular form~~x~~ which then became the property of the society at large, and incidentally doesn't take him or anyone like him to build a geo _____ dome today. But this is a much rarer phenomenon than architects would like to admit and this really hinges on the issue of memory - in other words in terms of those broad categories the architect fails quite noticeably because even when he is successful, his success to ~~x~~ not enter into any kind of a societal memory - I'll give a simple example - there's a housing project in San Francisco called St. Francis Square where Marquis and Stoller put up some walk-up apartments. Now in that project they introduced a very very large balcony which is different from the kinds of balconies one usually finds in housing projects in two respects - first of all the balcony is actually deeper ~~xxx~~ that is from the face of the building to the outside edge of the balcony. Its somewhere on the order of six feet as opposed to the three or four which are common. And secondly, these balconies are ~~xxxx~~ closed all the way up to head level by slats - in other words slatted board with considerable spaces between them so that you can look out quite comfortably when your in one of these balconies but it gives sufficient screening so your in semi-privacy while your in there. Now these two features of these balconies make them work fantastically well if you go there ~~on~~ the evening you'll find there are a very large number of people sitting on their balconies having drinks or just ~~x~~ looking at the view or whatever is going on. An unusual phenomenon - balconies in housing projects are not often used for anything except hanging out the laundry and the point is - this is making the case again about memory - but to make the point that they way architecture is conducted today does not solve that problem. The balcony thing that they did - even if it gets published in a glossy magazine - the features of it that are responsible for its success will

very likely not even be mentioned - but ~~x~~ if they are mentioned it will not - the chances of them entering into the culture at large are almost negligible even though its a clear cut case of a success. The most noticeable failure of architecture though~~x~~ is its failure to cope with the volume problem - they just - architects are just not doing enough for the environment to make a real difference to what a city is. Its successes - it is reasonably successful on the issue of variety, less and less so as the project becomes bigger but reasonably successful there. Of course not very successful on the issue of coordination. In fact none of the standard professional disciplines are very good at that - each one of them has ~~xxxxxx~~ carved out a special area of expertise therefore ~~xx~~ turned its back on all the others. I mean - this is equally true of civil engineers, or city planners, or landscape architects or interior designers.

Now, city planning in its traditional form is rather similar to architecture. It deals better with the volume problem because by attacking such gigantic projects there is slightly more hope that a city planner could influence really major percentages of the environment - or that city planners ~~xxx~~ as professional could do so. On there - I think ~~xxxxx~~ partly because of an attitude among city planners - the memory thing is slightly better too. There is a little more rational discussion in the city planning literature of things that work and things that don't work. But by in large you do still have the feature that you have in architecture - that good ideas are apt to get lost. And bad ones are not going to get rejected fast enough. The - well, coordination is in the same kind of boat as is the architecture. Variety - fairly variety is ~~xxxxx~~ good there - particularly because city planner often take the attitude of laying down rather general prescriptions like zoning - they don't attempt to deal with the local adaptation very much so they leave a rather substantial amount of freedom there. So, I think that that would do ~~xxx~~ fairly well on that issue. Now urban design is really an amalgam of these two and I think that the reason that urban

its design has sudden sprung up as a field ~~xx~~ quite quite new, I think really not more than five years old is precisely because of the problem that we are worrying about. That is designers patently realized that there is this appalling lack of information in the environment and also that large enough conglomerates are not getting organized. So here we have a group of professionals who are trying to deal with projects that are as large as city planning projects but ~~xx~~ from an architects standpoint. They - there would be some hope there ~~xx~~ of getting at the volume problem simply again because of the sheer size of the project. They have exactly the same difficulty as with memory as the first two. They are very noticeably ~~worxxx~~ worse on the variety issue. That is, the larger a project becomes you face the fact that lets say several million square feet of building are all under the impact of one designer or one small group of designers. The possibilities that those several million square feet could be well adapted to the literally thousands of individuals who will be using it, is negligible. In fact, a lot of urban design projects do have this sort of dead quality, that one would expect, from this failure. This is true of the ~~x~~ - for instance - the Golden Gate project in San Francisco or the Hartford Plaza, the Century Plaza in Los Angeles, there are projects like this in many ~~a~~ major cities like this by now. ~~xx~~ Which have been architected at a very very large scale. I think - I really don't want to say anything more about that failure of variety - it really is quite crucial and the larger those things get the more inevitable it becomes. Partly because of the way in which buildings are made. It means that a ~~xxxxxx~~ lot of the details in these large projects have to become standardized in order to keep the cost of the design down but the most substantial issue there is there are just ~~xx~~ to few people who are responsible for a ~~a~~ very very large number of millions of square feet - that's the ~~saxxxx~~ salient feature there. I think thats the probably appropriate time to introduce an idea which I also haven't laid any emphasis on. In the traditional societies which did make use of languages, these languages were usually in the heads of all the members of the society. So, the variety was very easy to obtain although all the members of

the society spoke the same language each one of them was able to manipulate it to his own end. We are - almost everything here except perhaps advocacy planning is based on the assumption that there is going to be a small group of professionals an elite if you like, who will take care of the environment for a very large population. And this is an innovation, I mean this is a new idea in this century, and almost any version of that idea, I think, is going to come to grief, on the variety issue. Now, so, what I want to get at then is this - we've spoken about the need for a language and we're going a little further into it now - what I haven't said clearly is that I expect this language could only be successful if it is once again carried in the heads of the population at large. To emphasize this point, I want to draw attention to the fact that of course very many building projects that are - today - their form is actually influenced by the client's idea of what the project in question ought to be like not by what the professional -- for example, I was just in Kansas City on a job where a developer is determined to build a plaza surrounded by high-rise apartments. Now, he, I don't know where he got that idea from - it's an idea in the current - in the body of ideas that are now current about cities design. It is quite clear that the architect in that project although he's a famous American architect, was simply brought in to execute this concept. And this is very very often the case, not only at the large scale but also down to the detail, that the client is really controlling the global aspects of the relational structure. Now, that means that if the language that we're talking about can not get into the heads of the client at large - that is of the entire population - there's really not much hope of affecting the entire environment.

Question:

Reply: No, it's the developer because he - they own the property and they intend to it's just an 80 acre site that they own and they want to build something.

Your quite right of course, one could also take the view that it ought to be the people that live there but that's a different point - I'm simply trying to make the point that the people that actually carry in their heads the ideas which ~~xxxx~~ ultimately get realized are not by any means only the professionals and therefore these ideas have got to get into all heads before there's any hope of influencing in a serious way. Now, those are all - those are the kind of traditional ways of handling things. Now, there are a whole slew of ideas that have been invented to overcome some of the obvious defects of these techniques. I haven't got any particular order in which to discuss them. Let's start with performance standards here the idea is that what must be transmitted to the culture at large are performance standards dealing with the way in which the building is functioning down to quite a fine level of detail often. This is sometimes ~~times~~ referred to, the process of inventing them or distributing them is sometimes ~~xx~~ referred to as briefing, constructional architectural brief, or writing an architectural program, and it does to some extent overcome difficulties inherent in this process. ~~x~~ It has two advantages. First, of all, it does get much much closer to the heart of the functional problems so that the needs are often more explicit, better ~~xxx~~ cover, not so likely to be left out. So that there's a slight advantage there both in the memory and the coordination angle. More in the coordination really, ~~x~~ you remember that the principle feature of coordination is that as one thing changes another need gets forgot. Well, by making all the needs explicit of course is this helped slightly. Now, also there is an intention in the idea of performance standards, to deal with the problem of variety. The people that advocate this say and it sounds as though it makes sense, we will not state solutions because there have been too many standardized solutions which have failed in specific cases, we will only state what the needs are, or what the activities are, or what the performance standards should be, and we will

let each designer work each solution out for himself, provided that he does deal adequately with the performance standards. Now, this is a fairly attractive notion. But it does break down and it breaks down very simply because it doesn't - when you convey performance standards to somebody * you do not tell that person who to achieve the performance standards in question. This failure * has actually been noticed in London where the Ministry of Works has been trying to write very very detail briefs of the performance standards and in the hope of then handing them to an architect who will design a building that will conform to the standards they found that its very very difficult to get the architect to actually solve the building to the standards. They stated all kinds of activities and needs very explicitly and well and the architect* perhaps doesn't have enough confidence in them or perhaps can't figure out how to solve the problem. Now, I'll give an example to try and make this point clear. This is an example of work that some colleagues of mine were doing - in connection with college housing. The problem concerned the use of - well the need for small kitchenets facilities right next to the individual student room and after a lot of study the people who were doing this work stated the following standards. There will be kitchens, each serving a small group, of individual rooms, and these kitchens must have the following properties: namesly that there are never more than three or four people trying to cook in the kitchen at once. Now this makes a lot of sense and I mean it was based on observations at the point where kitchens ~~xxxxxx~~ tend to - the use began to break down at which point people began to bug* each other and this is all very well, but if you start to examine this statement carefully, you realize that it actually tells you very little. Above all it doesn't tell you how many rooms there should actually be round each given kitchen. Now of course this number, the number of rooms around here, is likely to depend on some extraneous factors.

For instance, on how close the particular dormitory building is to a cafeteria, or other sources of cheap food, to what the regulations are concerning visiting in the rooms, so there are outside influences which will affect the number of rooms that's appropriate in order to meet the standards. This is quite true and this is the motive for not stating the number explicitly because the architects or rather the programmer who stated the standard realized that the actual number of rooms appropriate around here might vary from case to case and therefore he didn't want to pin it down and create a fixed standard which would ~~be~~ become wrong in various different settings. Now, this is true but without the - the critical thing is this - one has to know in order to make sense of the standard or to use it - one has to know under what circumstances will one get three to four people using the kitchen at once. Now this will depend on the size of meals that are being cooked, that is is it just cups of coffee or is it full meals, as I said things like ~~whether~~ whether there's local cheap food available, ready cooked, what the visiting hours will be. What needs to be done in order for this information or this standard to be useful, is that one must state ~~the~~ for any ~~a~~ given value of each of these variables, that is, for given size of meals that students are trying to cook, for a given proximity to a cafeteria, for given regulations concerning visiting, then given a ~~xxx~~ random - ~~xx~~ lets say some kind of a distribution of times at which people will attempt to cook meals, this number n of rooms around here will - there's got to be a function connecting this number n to the number of people who could be expected to be cooking in this kitchen at any one time simultaneously. Now, what I'm trying make out is that as soon as you actually construct such a function that is - as soon as you really do your work here and you make ~~xxx~~ that performance standard useful by adding to it all the specific information that's required to pin down a number - at that point your really doing more than stating a performance

standards you are now stating a physical pattern which is useful because it really tells you how to solve the problem, it doesn't just merely tell you what problem has to be solved.

Question:

Reply: Now, I'm trying to make the point that it doesn't in fact have the feature of memory because it does not contain solutions within. This standard which says that there should never be more than three or four people cooking at once, that is a fairly usual kind of standard, in this kind of work - tells you ~~know~~ nothing that you could use as a designer. Your shaking your head - what ---

Question:

Reply: Then, I'm not making my point at all. Suppose that I claim - I'll make two claims - two different designers are claiming - one claims that in order to make sure of that standard you mustn't have more than two people - two rooms per kitchen because given the number of visitors who could be arriving you could ~~xx~~ easily get up to three or four people with just two rooms adjacent. On the other hand another designer makes the claim - he says no actually these students each cook their own meals so rarely that its quite all right to have twenty rooms around one kitchen and you will still be ~~x~~ well below the three to four level. Now, how can one argue with the two guys? One guy is advocating two rooms around the kitchen and the other is advocating twenty and obviously - you'll find out when the buildings in use that's much too late. The point is you have to know before you build~~xx~~ the building what the right number is. Your still shaking your head.

Again:

Reply: Your not understanding the point at all. The point is that given this standard - the standard by it self does not tell you how to achieve a solution of it. It leaves~~x~~ the designer total in the dark as to what to do. He could equally well argue that there should ~~xx~~ be two rooms and that there should be twenty rooms. It has nothing to do with local adaptation. It has to do with ignorance.

Question:

Reply: Yes, I'm not trying - let me make one thing clear. In ~~orderxxxx~~ all my criticisms of these things, I'm not trying to make out that they do nothing valuable - I'm trying to point out that they are not sufficient. Your right of course, it is a very valuable step, I'm trying to point out that its not sufficient to solve the problem that we're confronting.

Now system anlaysis is very very hard to talk about that - ~~that~~ because that covers such a wide variety of different professional activities. But by in large, what has happened in practice so far is that certain projects have employed people to do a more careful analysis of whats going on in these situations, in a very large scale, for instance you have the Chicago Transportation Study, at a relative small scale you have study of a hospital and the appropriate layout of wards and surgical units. Now in both those two cases - the first one the Chicago Study - the second one I'm referring to - work done by Starder and Clark - they wrote program~~xxx~~ analysing the walking distance of nurses in such a way as to make the total amount of walking minimal. Now, I¹/₂m not discussing for the moment whether that was a senseable thing to try and solve for - what - the point that I want to make about this is that in these cases the work does~~x~~ not generalize well. In other words, after spending millions of dollars on the Chicago area transportation study, Chicago learned something about its own transportation system. But there were as far as I know no general principles about the location of freeways and streets with respect to ~~x~~ each other. Or general kinds of relationships about the location of freeways with respect to certain commercial areas, they were extratted out of all that work. So all of it is now down the drain. It was very very expensive work, these systems investigations always are very expensive, and so here the principle failure is the failure of memory. Although the method of analysis is of course is remembered and can be applied again, its still very expensive

to do it the second time - its as expensive as the first almost. Highway engineers that I have spoken to about this have said quite explicitly that they do not consider it part of their business now to extract generalizations from such studies and to preserve these generalizations for the use of others. But generalization - the only generalizations they consider worth handing on are methodological ones not ones concerning solutions. The same thing more or less applies to the Starder and Clark work. They show that it is possible to set up computer programs for minimizing walking distances within a hospital. That's a fairly complicated and expensive business - it can not be done afresh every time some architect has to design a hospital. Because there simply is not enough money in that architect's budget to permit it. So the only thing that would have been useful from that study that Starder and Clark did, was that if they could have stated - look, the most salient features of a hospital that will help to reduce walking distances are that such and such relationships should be made to hold. If the results had been stated in that way then an architect of a fresh project given a minimal budget could have made use of it - as it stands he can't

Question: Field house design?

Reply: Now, what are you saying about that exactly - lets ---

Saying: Program that is developed quite often may be solved in this case by educators

Reply: That's right that goes back to the whole issue of memory that we discussed that last time. Now, let me skip that for a minute and deal with better Journals. Now, there are some journals that have been gone to take a very very serious attitude to architectural problems, ~~xxx~~ planning problems and have begun to publish what one might think of as partial solutions or ~~x~~ patterns that could be used over and over again. For instance the architects journal has done very very fine ~~xxx~~ work in this respect on details. Now, one of the difficulties that arises herex - I

think its easiest to bring it out by means of an example. There was an article published by the Building Research Station in London, some years ago, describing the fact that there are certain classes of trees which must not be planted close to houses because they have the property of drawing a great deal of water out of the ground and if there is any kind of clay in the soil the clay will shrink and the foundations will crack. Now, this is a vital piece of information for any one whose building a building on soil that contains that kind of clay. The difficulty with such material which is beginning to appear in good journals and reports all over the world is that the designer has absolutely no way of organizing all this information for himself. I've picked an example where I think that is particularly obvious. For some kinds of information that are presented in this way you can fool yourself into thinking that a good classification system in your office or in your library will allow you to get at all the information that you need relevant to your problem. I think the example I have given is a clear case where that can not happen. You might not - suppose that that had been filed five years ago, you happened to be confronted with a building that is built on soil containing this kind of clay and you don't happen to remember that there was such an article even let alone finding it.

So given all of this stattered information which exists and which is beginning to get better & and better in the good journals. In order for this material to be brought together effectively in design, there has to be some kind of a coordinating store which will have the properties that it will yield up all the patterns relevant to a given problem whenever that problem hits you. Now this is a very very tall order related partly to the memory issue and partly to the coordination issue. Don't under estimate it. I think that architects or planners who have seriously tried to set up libraries in their own offices dealing with the expanding body of information

coming ~~x~~ into them every day would testify to this but its rather hard to see it ~~x~~ from the point of view within schools because as a student you usually haven't had the experience of trying to do this. It is fantastically difficult and overwhelming.

Apart from that - of course the content of such journals ~~xx~~ ~~x~~ are very much in the spirit of what I'm talking about and I don't think there are - there are no other obvious kinds of difficulty with that. Now, on - or let me go to these cases quickly because those two are so important. Going back to the beginning, of course mass production was brought in quite clearly to solve the volume problem, of course it does quite clear cut the cost ~~x~~ in ~~x~~ certain cases but its chief virtue is the possibility of really dealing with very very large percentages in the environment the only thing that needs to be said there is that although a mass produced building does in a sense contain a memory since it does duplicate the same features over and over again and it certainly solves the volume problem, it fails completely on the variety end. I think that's ~~xx~~ as much as needs to be said about that.

Building systems are much more promising there. They do permit a certain amount of variety and there's every hope that as they get more sophisticated they could allow a great deal more variety of combination than they do now. What they lack, I think this question was brought up last time, what they lack entirely in their present form is a memory. They are conceived of as being almost entirely neutral with respect to the buildings that are to be built from them. Ehrenkrantz takes the attitude for instance, he's been very very ~~soph~~ sophisticated in the construction of these systems. He takes the attitude that in order to get a sufficient volume of orders for the various components in a building system, he have to be able to please so many different architects and clients that you can not afford to build into the system any information about the larger functional nature of the buildings at stake. So that there is not only a failure, a sort of accidental failure, it may even be that a built in reason, a built in difficulty

~~with~~ with this approach that they have to be neutral so that they are just building the difference blocks and they tell you nothing about ~~what's good or bad or~~ between a good environment and a bad environment. To give a specific example, dormitories I'm reporting here on a conversation here with Ezra, I hope I remember it correctly, there are indications that high-rise dormitories are particularly bad. Mainly because they don't give sufficiently - sufficient individual access to the ~~xxxx~~ various rooms with in them and tend to create institutional corridors and lounges. In a high-rise building there is very little that you can do about that - in a low rise building you can do a lot about it. But in a discussion with Ezra he said that the - they were involved in the problem of beginning to design a building system from which one could construct dormitories. And he said explicitly whether this was true or not - it was essential that the building system be able to build high buildings as well as low ~~xx~~ ones simply because there would be a lot of people who would be demanding it whether or not it was a good idea and in order to build up the volume of the components it would be necessary that the system be quite neutral. So it does - it really does fail ~~entirely~~ entirely on the memory aspect. Advocacy planning is very promising in the sense that it is beginning again to involve large groups of people in communities in the questions of design, in that sense, ~~xx~~ of all the proposals on this board the only one which begins to have the flavor that I ~~xx~~ mentioned of trying to get the language into the heads of all members of the society is trying to get people in the community to face up to planning and building problems for themselves and let them realize the connection between the way the building are organized and the way in which their lives will then be conducted.

It is very weak in the sense that it has nothing as it is usually conducted it again doesn't tend to ~~x~~ draw on a stock of solutions and in that sense the memory aspect is totally lacking. What I mean by that is this - the idealists in

this business right at this moment, will tell you that they want to get groups of community members to sit down and discuss problems from their beginnings in the hopes that solutions will gradually appear in the course of these discussions. Now this turns out to be ~~xxx~~ fallacious. It doesn't happen. The only thing that happens is that in the course of these discussions various people present actually are bringing in concepts that they have already read about or heard about or thought of previously. But the design does not get done in such a group meeting. One is always, even in these cases, drawing on a stock solution and it might as well be recognized explicitly then and in that sense the processes of ~~advocating~~ advocacy ~~xxx~~ planning need to be revised and it should be made much more clear that such a process begin with the stock of available solutions now and consist of community discussion, criticism then, rather than this attempt to discuss the problem from its conception and go from nowhere.

Better prototypes, I want to show a slide here, this is a slightly tricky point I mentioned it all ready once with the ~~xxxx~~ example of the court that when a prototype is drawn or described it is very very hard to tell what its allowable limits of variation are, so that this is concerned with the variety problem because if its not clear what its - its ~~x~~ either concerned with variety or the memory, which ever way you want to look at it - if its not clear what the ~~xxxx~~ allowable limits of variation are in the prototype ~~with~~ you'll find that people start to vary the wrong things and begin to lose important features which had functional background or ~~xxxxxxx~~ they'll stay a bit too tight and won't vary enough because they don't know how to vary it and then you'll fall down on the variety end. I can show this with an example which is not quite like the normal ~~xx~~ prototype its a little better actually. This is just a sketch made by sim Van der Ryn and some students.

This concerns a court room. Sim and some of his students analyzed the court proceedings in small courts and came to certain ~~solutions~~ conclusions about the location of the judge, the jury, the attorneys which are shown in two positions

here, the witness stand and the entrances to the court room. Now, I don't want to go into the functional reasons for this whole scheme. I want to draw attention to the fact that even though this diagram attempts to say what variation is permissible, in other words, according to this drawing its quite - it says look - public access could be any where on that part of the perimeter - witness access could be anywhere on that part of the perimeter, court offices come in any where on that part - the jury anywhere there. It says that the attorneys ~~xxx~~ could be anywhere either her or here, it says that the witness stand could be anywhere along that line, the ~~xxx~~ indication is that that jury box could be either exactly rectangular or it could open ~~xx~~ out in a wedge shape manner.

Now these variations are individually all very well. The trouble is, about such a drawing, that there are problems of co-variation which are always critical in design and which are not clearly express in such a drawing and I doubt whether they could be. For instance, if the relationship between the witness stand and the attorney is rather important, now what doesn't come across in this drawing is the fact that if the witness stand is out here at that point - sorry - if the attorneys are up here - at that point this witness stand really needs to be at this end of that line. If the attorneys are down at this end it becomes all right for the witness to move further out. Similarly there is nothing said about what kind of relation there should be between the public access and the position of the attorneys. Obviously its not going to be right behind it and ~~xx~~ to some extent the exact location of this access is not quite as variable as its made out. If the attorneys are up there then perhaps this access could be literally anywhere along this arch. If the attorneys are down here this is going to be more restrictive and its not brought out in the drawing. Similarly, its not clear from the drawing whether there is any connection between the allowable shape of the jury box and the position of the attorneys. It seems ~~x~~ fairly clear that if the jury box where the open wedge shape it would be unfortunate to put the attorney's as far to the left

as the pointer is now. On the other hand since its not stated exactly what the attorneys have to be able to see or to walk directly ~~xx~~ out to you don't know quite how far in to bring this edge of the attorneys box as a function of the exact shape of that then location of the jury box.

Now, these problems of co-variation which are really critical to any design and my point here is this: this drawing is already unusual even though its a rather rough and ready drawing, its all ready unusual as a drawing of a prototype in a sense that it attempts to deal with the problem of variation. Most often prototype drawings just give you a type of possible alternatives and they don't even begin to talk about what can vary. Now this does begin to talk about what can vary but the co-variation is still totally obscure. The permitted co-variation. And I don't think any prototype drawing, no matter how sophisticated, can overcome this difficulty. Apart from that the general idea of books of prototypes and prototype schemes, I think is in the right ~~xx~~ kind of spirit and there is more dealing and more activity of that sort = more and more books and leaflets ~~ixx~~ with prototype designs are being circulated among professions.

Teamwork: Well, I'd like to cut short. I think that the chief difficulty in teamwork is actually the same difficulty as exists in the splitting of the professions. Those people who have experienced so-called team work; now, I'm talking about teams of a number of different professionals, I'm not talking about a team of all architects. But I'm talking about a traffic engineer, an architect, a systems analyst, an ecologist, these are the kinds of teams that people are beginning to experiment with today. Communication within such a team is very very bad and people who have been trying in the last few years to make ~~xx~~ experiments with these teams have found that in almost every case the high hopes that the team started with break down because the various members of the team have no common form of discourse, so that one of them - the opinion of any one of them about a paticular topic can not be written down in the same form as the opinion of anyone of the others. So these

t4ams so far have not produced much. And I think for the same reason that the various professionals have not been able to get together - the absence of a common language of any kind. Now, I'd like - since its very sketchy to run through all of these different techniques - this is a crucial point in the argument. I'm making the assertion that the - to get an environment~~a~~ that is an organized whole and which is 100% of it is an organized whole - none of these is sufficiently good. If there is disagreements about these or if you think that there are items that I've left out or that I've dealt hastily with items on here or that possible two or three of these kinds of things - cooperation could over come the difficulties which they have single~~y~~ - I want you to comment on that as sharply as possible. Because this really is the crucial step in the argument.

I'm going to start on Friday to build the idea of a universal pattern language I'm going to start spelling it out and of course that everything that we do from Friday onwards is based on the assumption that this is necessary because none of these things or no combination of them will work. So I would like you to attack that as hard as you can. Do we have time for some discussion.

Question

Reply: Oh, I forgot about it - you say a word about it.