

**LOCAL VALUES**  
**in a**  
**NETWORKED**  
**DESIGN WORLD**

ADDED VALUE OF COMPUTER AIDED  
ARCHITECTURAL DESIGN

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# Communication and Value in Networked Design Coalitions

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## Introduction

The advent of the Internet has led us to believe that we live in an era of unprecedented globalization. In the field of building design, we now expect both that the local market for design services will be altered, and that many firms will take up the opportunity to pursue commissions beyond their local market. To some extent this is true, but it is instructive to recall that in the 19<sup>th</sup> century London based architectural firms and public works designers designed buildings throughout the Empire. Designing for projects beyond the local market is not new, what is new is our expectation that such a task is now fundamentally altered, made easier and more transparent, by the abundance of new communications technologies.

It remains the case that working outside one's local context is difficult and that when doing so, problems are likely to arise out of cultural differences. Distance too imposes its burdens, as the possibility to meet other members of the team face to face is reduced as the travel costs increase. This breaks down the possibilities of building informal networks among the individual designers working for the firms that are members of the design team. A re-instantiation of this informal network can only be done on the basis of a model of formal and informal communication in the design team. Many of the difficulties of collaborative work outside one's local market are problems that have already been with us a long time. These problems arise out of the fact that buildings are designed by heterogeneous groups of people. The members of such groups must communicate with each other to share information and coordinate decisions and actions. Yet they are in different relations to the project at hand and have differing values arising out of their different backgrounds. This leads inevitably to conflict. Therefore, if we are to discuss communication and value then we must devote our attentions to conflict.

## **Objects of conflict**

Conflict over values and arising out of cultural differences can occur regarding two broad classes of objects: process and product.

1. Conflicts may concern the design process. Here the main issues will be communication, bonding and team integration, and the means to address these conflicts are largely social in nature.
2. Conflicts may concern the building being designed, the product. Here the main issues will be the final form of the building to be constructed (and, therefore, the activities intended to take place within it and their meaning).

Both sorts of conflicts may be caused by either 1) ignorance, error or differences in information, or 2) differences in values. It is not always easy to distinguish the origin of any given conflict. However, it is important to note that conflicts of the first group are, at least in principle, easy to resolve among well meaning persons. Conflicts arising out of genuine differences in values are much more interesting.

## **Sources of conflict**

Conflicts arise out of differences – differences in information, and differences in values. These differences often arise, in turn, out of differences in culture. In the context of the internationalization of architectural practice, we would naturally expect that the most important source of conflict would be the differences in national and linguistic culture that commonly accompany differences in geographic local. In such cases, the members of the design team may not speak the same language, may have very different ideas about how to conduct oneself in professional contexts, and may have different manners of expressing difference or dissent. It is almost certain that an architect designing for a distant locale will not be fully aware of the differences in lifestyles, customs, climate and architectural traditions that influence the form and use of buildings in the target area. These differences can be significant sources of conflict, but there is another source of cultural difference and therefore of conflict.

The cultures of disciplines – professional cultures – are an important source of conflict in any project. Architects, engineers, developers, clients, and users all have different interests in the building to be constructed, and this leads to substantial conflict even in projects in local markets. These differences are then thrown into higher relief by differences in the way members of different professional groups distinguish their group from society in general. Professional groups share specific values, value often cultivated in order to make clear the difference between members of the profession and outsiders. Each profession has its own codes of dress, speech, and behavior that mark its members off from the rest. And the different professional groups compete with each other for position both in the broader society and in individual projects. This source of cultural difference has always and will continue to play a significant role in design processes.

In some cases the dissonance in professional culture can be so great as to mask consensus. When Mecanoo Architecten found that Ikea was absolutely set against their proposals for an Ikea store in the Netherlands, they sent a member of their staff through the Ikea training program for new staff. When described in terms derived from Ikea's own business culture, the same proposal that had been ruled out as unacceptable, was now seen as advantageous (Bakker 2001).

Each profession (architect, engineer, developer) and each role (client, owner, user, investor) brings a different set of values to the project in which each has a different

interest. However, in a “service” industry, designers are often in a conflict within themselves regarding their dual obligations to “Architecture” and to their clients. This dual loyalty meets Michael Davis’ definition of a conflict of interest:

“A conflict of interest exists if (1) an individual is in a relationship with another justifying that other’s reliance on the proper exercise of her judgement in that other’s interest and (2) the individual has an interest tending to interfere with the proper exercise of that judgement.” (Davis 1998) P. 104

Conflicts can, therefore, exist even within the members of the design team. This conflicted position may lead architects (and others) to conceal their private (architectural) agendas from their clients. Nevertheless, these agendas will govern their behaviour as designers.

Professional culture is not only a source of conflict, is also a bridge that unites members of the same profession over differences in geography, nationality and language. Architects throughout the world read many of the same magazines, admire many of the same architects, and share many of the values, codes, and habits that distinguish their profession. The same is true, although perhaps to a lesser extent, of the other professions involved in building projects.

We can see such considerations at play in the formation of the architectural design team for the Yokohama Ferry Terminal. Foreign Office Architects assembled a team of young designers who were “practically trained in Japan and theoretically trained in the West” and an inner core who “shared a common language developed through years of work in academia or in the office.” “These individuals were the only workforce capable of producing the cultural synthesis that the project needed...” (Moussavi and Zaera-Polo 2002)

## **Ideology of teams and “common values”**

In his book, *The Corrosion of Character*, Richard Sennett mounts a devastating attack on the contemporary notion of teamwork. Sennett uses the term *teamwork* to designate a management policy that he sees in operation in the *new economy*. There are strong similarities with the way in which the term is used in management literature, but it is not clear that the two uses are synonymous.

In both Sennett and management literature the term teamwork refers to organisational structures within corporations that group people together on a project basis along with a team leader who plays the role of a coach, or facilitator, rather than of a supervisor. Such teams are formed around a single project, and then disbanded, allowing the people to be assigned to other projects. Working relationships remain contingent, and the long lasting hierarchical relationships that used to characterise work in corporations no longer apply.

Sennett attacks teamwork on two grounds. First he objects to the enforced superficiality of the relations between people in work teams. Second, he objects to the way the coaching role allows managers to enjoy power without acknowledging the responsibility that normally comes along with authority. (Such acknowledgement is, for Sennett, the distinction between power and authority.)

Teams, according to Sennett are restricted to superficiality both in respect of the content of their projects and of the relations between the “players”, and between players and their “coach”.

“Groups tend to hold together through keeping to the surface of things; shared

superficiality keeps people together by avoiding difficult, divisive, personal questions. Teamwork might seem to be just another example, therefore, of the bonds of group conformity. But the ethos of communication and information-sharing gives conformity a particular twist: the emphasis on being flexible and open to change made members of the team susceptible to the slightest twitches of rumour or suggestion from others on the party-office-lunch-club network.” (Sennett 1998)

The ethos of teamwork requires that everyone share the value system of the team. No substantive conflicts either concerning the project or concerning the process are permitted to flourish. Instead each member must conform to the standards of a “good team player” and set aside all doubts for the sake of the team. Teamwork (according to the theory) relies on a commitment to superficiality. No substantive disputes must be allowed to emerge. Teamwork, therefore, manifests only weak ties between the members of the team, as they move on from project to project, team to team. (Sennett 1998)

The combination of superficiality and the coaching metaphor makes it possible for managers to discount the needs of workers, and dissociates workers from both the work they do and the careers they attempt, or would have attempted, to build up. Thus members of the team are robbed of any opportunity to communicate their deep needs, desires, plans or goals to each other. Teamwork does not acknowledge that workers are motivated for a variety of reasons. Instead, both in literature and in practice (apparently) it is emphasised over and over again that the team is composed of workers all of whom share a single goal. The fact that workers might have multiple goals is never commented on.

And yet it is precisely an atmosphere of trust in which people feel free to express themselves that is considered essential to effective work – especially effective knowledge work (Carlisle 2002).

### **The tame team**

Architects too like to be free of dissent, as do clients and engineers. It is traditional in the building industry to associate problems not with issues but with people, and therefore with people being difficult, rather than with any tractable process or debate. “... when problems are acknowledged, the root cause is normally alleged to be with another party!” (Brown 2001) A great deal of attention goes into selecting members of building design teams.

Architects are very careful in the selection of their staff. Not only so that the staff can assist in bridging national and linguistic cultural differences with the client, but also so that the staff forms a willing team. Choosing staff that share the professional values of the principles is a long established practice in design firms. This approach to staving off conflict by choosing compatible employees extends to the choice of other consultants. Architects generally prefer to work with engineering firms with which they have had positive experience in the past. Communication with engineers is seen as depending largely on the selection of compatible engineers rather than on the adoption of particular attitudes and the application of communications skills (Döll 2000).

This same approach applies to the selection of clients. Many architects hold that good architecture is only possible with a “good” client – i.e. a client who is willing to accept the ideas and opinions of the architect in a relatively uncritical manner, a client who is enthusiastic for the kind of architectural art the architect intends to produce (Noever 2000).

## **Manipulation and dishonesty**

Sennett sees in teamwork a kind of fundamental dishonesty on the part of management about the relationships between workers and management, and among workers themselves. Building design teams are not constructed in the same hierarchic way, they are composed of firms that choose to work together for only this project, and neither in a strict hierarchical relationship nor uniquely dependant on each other. Still, issues of honesty and manipulation remain relevant. The meeting of the design team is often an arena of struggle in which different actors attempt to achieve their goals through manipulative strategies involving such things as withholding information and the presentation of red herrings. Stephen Brown's research showed that there was little evidence of "real transparent honesty" in design teams (Brown 2001). Intentions are often veiled (intentionally) or obscured (unintentionally). Desires expressed as questions. Commands expressed as asides. Clear explicit communication is perhaps rare; and implicit and tacit signalling is terribly important "The issue of agenda is at the very core of 'transparency'. Without an appropriate means of ensuring continuing 'transparency' throughout the life of the project, 'secret' knowledge can develop. The latter can evolve into destructive negative power to aid a personal agenda at the worst or simply, at best, contribute to an expectation gap." (Brown 2001)

And yet, this secret knowledge is often cultivated as a means of advantage in negotiation. But even when the members of the design team intend to communicate honestly with each other: "Simple failures to understand the other party at a verbal level stand alongside the baggage of agendas that virtually demands misunderstanding as a commercial negotiating tool." (Brown 2001)

## **False consensus**

Design teams tend towards consensual rather than hierarchical decision-making. This consensus is, presumably, based on a mutual respect for the individual expertise of the design team members. Thus what makes decision-making in design teams difficult is not disagreement over the opinions of the design team members, but the difficulty of making explicit trade-offs between the design features and values supported by the team members. Not all possibilities can be realised at once. But in this process of reaching consensus many manipulative strategies are at work.

Design teams sometimes create coordination problems in the future by arriving at consensus too quickly. Design teams sometimes choose to step over conflicts (letting the sleeping dogs lie) rather than acknowledge them. This seems to be a way of furthering the process, but may, in fact, only postpone conflicts beyond the point where they can be easily resolved. Exercises in naked power, or principled disagreements are not allowed, as these would be seen as threatening to the concord of the team.

"Teamwork ... does not acknowledge differences in privilege or power, and so is a weak form of community; all the members of the work team are supposed to share a common motivation, and precisely that assumption weakens real communication." (Sennett 1998)

Thus rather than face the truth of the underlying structure of relations between the members of the design team, and rather than face the fact that design teams are made up of a heterogeneous groups of actors with different motives, interests and values, the members paper over their differences with a bland consensus that limits the ability of the design team to arrive at any other than banal solutions to problems stated in their most widely acceptable and neutral form.

## Usefulness of conflict

After attacking our notion of teamwork, Sennett goes on to borrow Lewis Coser's notion of the social utility of conflict, and to apply it to the contemporary workplace. Taken together, Sennett and Coser imply that there is another way to look at communication, a way that may lead us to value the effort required to communicate between designers. Let us begin with Sennett's paraphrase of Coser's argument in a short paragraph worth quoting in full: "A more realistic [than the communitarian insistence on unity] view of how communities hold together appears in Lewis Coser's classic essay *The Functions of Social Conflict* (Coser 1956). Coser argued that people are bound together more by verbal conflict than by verbal agreement, at least immediate agreement. In conflict, they have to work harder at communicating; as often happens in labour or diplomatic negotiations, gradually the ground rules of engagement bind the contending parties together. Coser remarked that differences of views often become sharper and more explicit even through the parties may eventually come to agreement: the sense that people learn how to listen and respond to one another even as they more keenly feel their differences." (Sennett 1998) P. 143

Here communication is seen as the activity that binds communities together. It can also be the glue that binds together coalitions engaged in a specific practice – that of designing buildings. More than binding designers together, I would like to suggest that communication, effortful communication, can lead to a more profound and better design process, and better buildings.

We tend to think of conflicts as in need of resolution, most often in the form of a compromise, but sometimes a better solution can be found through the exploration of the nature of the conflict than through an attempt at compromise. Hoang-El Jeng has shown how many conflicts among users lie in a premature fixation on architectural forms (Jeng 1995). These conflicts can be easily resolved by backtracking to the underlying values. The discovery of these underlying values makes possible the discovery of architectural forms that transcend the terms of the conflict. This process can be likened to Donald Schön's concept of *Frame Reflection* (Schön and Rein 1994). Here too, the restatement of the problem in new terms leads to a resolution of the conflict at an alternative level. Peter Galison shows, in his extensive study of high-energy physics laboratories, that some of the most interesting conversations and insights occur at the boundaries between domains scientific, professional and social. Conversations across these margins tend to develop in and with Creole or pidgin languages. These Creole languages are not translations, but expressions of new understandings existing in neither domain. They make possible the discovery of new ways of seeing physical situations, and have led to important scientific discoveries (Galison 1997). Through the differences between background, outlook, expression and domain, problems are re-framed and the possibility for new insights created. This process of re-framing can also take place in design teams, where an obstinate member may force the design to be reconsidered on ever deeper levels until a solution is found that transcends both the problem as seen by the client, and the original intentions of the designer.



Thus one might say that it is *effortful* the process of communication in the face of conflict that brings not only society but also design teams together. If this is so, then it is quite possible that one way in which collaborative design teams fail is by attempting to be too good to each other, i.e., by agreeing too quickly to statements or commitments with which the individual is not in accord.

## **Design Coalitions**

One of the reasons why conflict resolution seems so appealing to us is that we still tend to think of design in terms of abstract reasoning. Alexander Tzonis argues that we are undergoing (or have already undergone) a fundamental shift in our understanding of design (Tzonis 2000). We now see design as a necessarily collaborative activity. Similarly, Schön describes design as being conversational (although he often emphasises that this conversation is interior) (Schön 1983). However, despite the lip service often given to such insights, we tend to fall quickly back on a monotonic understanding of design reasoning. And this monotonic understanding requires, as a logical necessity, the elimination of inconsistencies. If we were to fully adopt the insights that Tzonis and Schön propose, then we would recognise that design is a dialogical reasoning process. One in which many voices strive each towards a solution that is individually rational. Such an understanding of design reasoning does not necessarily require the resolution of conflict. Indeed, given this understanding, conflict is both the glue that holds the dialogue together and the engine that propels it forward.

It seems, therefore, appropriate to suggest another name for, and another concept of, groups collaborating in building design. The word coalition has already been used in this context, and is, I believe, the most appropriate. Design coalitions, then, are groups of firms that come together to carry out building design projects; such groups overlap with larger coalitions that address the building provision process from inception through to facility management. These coalitions form, not because the members have similar goals, but because the members are not able independently to achieve their individual goals. The members of such coalitions can only realise their goals through cooperation with others, in a context in which the others too realise their goals.

In the case of collaborative building design it is fairly clear that the parties to the design project have a variety of goals, not all of which are universally shared. Furthermore, the fact that collaborative building design takes place outside the umbrella of a single company means that either there is no manager to play the innocent leader, or that the manager is tied to the parties in a manner quite unlike that of the corporation. Project managers are more genuinely restricted to the role of facilitator, and much less able to exercise arbitrary power or authority.

Further, it is clear that the effectiveness of collaborative building design relies on the ability of the parties to communicate their real goals and needs to each other. Failing to communicate the amount of time or the precise information needed to do a design task will only result in failure to meet expectations. Collaboration in design coalitions can now be seen as a much more dynamic process in which values are always in question, and conflict (albeit of a collegial fashion) continues throughout the project. Indeed, in the coalition, we wish to express and document conflicts in order to use these differences as goads to stimulate the members of the coalition to examine preconceptions and move to more deeply considered solutions.

## **Towards a model of design communication**

It is estimated that up to 80% of a senior architect's time is spent in meetings. Design projects traditionally rely on frequent face-to-face gatherings of architects, clients and consulting engineers, and other interested parties. These gatherings vary from seemingly purely social to well ordered meetings with agendas and specific orders of business. Partners and project architects communicate with clients, contractors, government officials, and consultants. They also communicate with the members of their own firms. Whether the purpose of the communication is to get a design commission, to obtain a building permit, or to give instructions to junior designers, all of this communication seeks assent from the recipient. With few exceptions, the assent sought is in the context of a long relationship (the duration of a project, on an employment contract), and is merely one episode in many. Areas of disagreement may exist and these may be discussed at length, but the final goal is assent. Gaining assent, however, may be difficult. As set out above, collaborative building design is a field of conflict. Thus seeking assent often means exercising power or influence within the coalition. We can therefore say that communication in design coalitions has at least three functions:

1. The transmission of the propositional or command content of the utterance – explicit meaning,
2. The reinforcement of unity and bonding in the design team.
3. Advancing the position of the speaker in the design team.

Each message or utterance will serve some combination of these three functions. An important part of the task facing designers, especially in meetings, is parsing the communications of their colleagues – determining to what extent a speaker may be merely reminding the group of a pertinent fact, may be expressing agreement with the group, or may be asserting authority over a particular decision. For most people, this is a largely intuitive process. In any case, successful parsing of the communication is dependent on context (the factors immediately surrounding the communication) and history (experience of previous communications with the speaker). Attempts to understand communications based solely on their denotative context are likely to be incomplete, especially in respect of bonding or competition within the group. Such attempts may even lead to serious misunderstandings. And, as we have seen, such misunderstandings seem quite common (Brown 2001).

## **Communication within and between firms**

Both the client and the consulting firms are heterogeneous groups with internal difference and dissent in value systems and relevant knowledge. Thus each recipient of a communication – participants in meetings, receivers of phone calls, addressees of emails, faxes or documents – must retransmit the communication to the members of his or her own firm. This process involves reception, filtration, and restatement of the message. The receiver must determine what parts of the message are needed or are useful to which members of the firm, and see to it that these are delivered. If the client is given too narrow a pipeline to the designer, then there exists a possibility that the resulting design will be quite suitable for the client's facility managers but severely unsatisfactory for the client's core operations.

Although it is generally senior designers who attend project team meetings, the information exchanged is often on a very basic level, and could easily be exchanged by

the junior designers who most likely generated and will use the information. The time of senior staff should be preserved for decision making requiring their level of authority and not frittered away in discussions of details. The current reason, however, that this is so is that the flow of information between team members is controlled by happenstance and intuition. A contributing factor is that if all staff members of a design firm are authorised to communicate with outside agencies, then it becomes difficult to manage the intake, storage and dissemination of information.

Another point related to this is that there is a tendency to focus on the principle representatives of the client and the consulting firms. The enormous amount of communication between persons of lesser rank tends to be forgotten. What can also be forgotten is the process of dissemination and decision making internal to the participants. It does little good if the partner in charge has a good feel for the client's value system and the junior designers assigned to do the drudgework of composing plans do not.

Particularly in design, much of the processing of values finds its place in informal relations, encounters and communication between the participants. Architectural programmes and budgets are very abstract and reductive representations of the values a client brings to a project, and are themselves open to varying degrees of interpretation depending on the client's value system.

### **Levels of communication**

The picture is further complicated by the fact that communication is not only verbal. Conversational communication occurs on three levels:

1. Linguistic – the words and sentences spoken
2. Para-linguistic – intonation and non-verbal sounds, e.g. “um”, and
3. Non-verbal – gesture, facial expression and body language.

Thus it is not only the context and history that must be taken into account in order to understand colleagues, but the manner in which their utterances are delivered. Especially when the pressure for consensus is high, dissident members of the design coalition may express their dissent through the reluctance of their consent rather than through outright disagreement.

To these we need to add that members of design coalitions usually combine conversational or written communications with reference to visual materials: drawings, models, computer imagery, etc. Many verbal utterances would not be understandable without reference to the imagery referred to. This reference occurs not only in meetings but also in the coordinated use of telephone and fax, where one person will send a fax to another and then discuss it with him or her over the telephone. ICT instruments also make it easy to associate written communications with imagery. This means that it is essential that we understand design communication as a form of multi-media in which verbal and visual communications are coordinated.

### **Formal and informal communication**

Design communication also occurs in both formal and informal modes. There are two senses in which the formal-informal dichotomy can be applied to design communication. Communication can be formal in the sense that communicative episodes occur both within a formally established scheme of regular meetings and the exchange of contractual or formal documents and informal in the sense that other episodes occur spontaneously on the basis of needs arising out of the momentary concerns of persons

working on the project. Such communications may still have legal consequences but cannot be said to reflect official positions of the firms for which these persons are working. Indeed, often what are sought are advanced details of design work not yet formally completed. It should be noted that in this sense it is often one person or set of persons from a firm (partners or project architects) who does the formal communication and another set of persons (junior designers) who do the informal communication.

The second sense in which the formal/informal dichotomy can be applied is the sense in which the content of a meeting is divided between the explicit exchanges of information and decisions taken by polling the members of the coalition, and the conversational exchanges that are not recorded, and which while still serving one or more of the three functions mentioned above, do not appear in the minutes as they are not considered as being worthy or appropriate to record. These informal exchanges vary from inquiries into the health and activities of persons families, to discussions which must take place “off the record” for legal reasons. Recording only the explicit and formal content of a meeting will leave out much information essential for the continuance of the project.

In summary, we can see that the representation of communication requires a large number of variables. Without the complete list of variables the complexity of communication among designers will lead to misunderstanding and confusion.

## Conclusions

The desire, so current at present, to use ICT to support design coalitions stretching across the globe is laudable, and the ability to use the various modalities offered by ICT will certainly enhance the possibilities for communication among the members of such coalitions. However, the notion that ICT could fully-replace face to face communications is misleading (Line 1997). The aspect of communication most urgently needed by global design coalitions is precisely the aspect that is least well supported by ICT technologies – the informal. Of all the modalities that design coalitions use to communicate, it is the meeting that is the most important, and the meeting that is most at risk in distant collaboration. Meetings facilitate the construction not only of formal, but also of informal networks among the members of the coalition.

One response to the loss of quality (impairment of the full range of verbal, para-linguistic, and non-verbal) in communication due to mediation by ICT would be to be more explicit in one’s communicative habits – to say precisely and explicitly what one means. Yet in many cases, this would exacerbate the problem. The potential for misunderstanding due to poor phraseology in email is well known. When dealing with persons from other linguistic cultures this potential is even greater. In many so-called shame cultures the expression of outright disagreement is very upsetting. To disagree with someone is to show a profound lack of respect. Open disagreements would present significant disruptions in the process of collaboration. Such cultures have very subtle manners of expressing disagreement, while maintaining group bonds. Conflicts may well exist, persist, and be given expression, but such expression will be muted.

It is therefore in conflicts having to do with the design process itself that one can expect the largest number of conflicts, and the greatest number of misunderstandings between the members of the coalition.

Thus it seems that we can conclude with Lars Line that “... communication technology will not replace social proximity and this type of proximity will still be needed to

establish trust and confidence in social and face-to-face surroundings.” (Line 1997) Face to face encounters will remain important. What ICT can offer is to support the maintenance of networks established during the infrequent opportunities for such contact.

ICT tools themselves may offer many valuable new modalities for communication among designers. However, at least as much attention must be given to how ITC tools are used in design coalitions, both local and global, as to how they are developed. But, careful implementation, practice and perhaps even training is necessary. Thoughtfulness is required in communication, especially across national linguistic and professional differences, and no tool can guarantee that.

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