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Introduction

Reports of several researchers stress the importance of actual face-to-face presence of people who participate in non-routine activities (Daft & Lengel, 1984; Nohria & Eccles, 1992). Even companies that take advantage of information and communication technology more vigorously then others, consider face-to-face contacts as being essential for communication. Senior managers of geographically dispersed firms are reported to spend much of their time on the road in order to meet face-to-face with their employees in local units. Especially by people in management positions, the electronic media are seen as a supplement, not as a replacement. The question is: how can this often reported need for face-to-face contacts be explained? Gergen & Whitney (1996, 337-8) have an answer:

> When a communication is abstracted from normal contexts of interchange, it also loses its speech act potential …The performative capacity of a given communiqué is often signaled at the nonverbal level by tone of voice, gestures, and facial expression. One knows the difference between a command and a suggestion, for example, not necessarily by the content of a communiqué but by the imperious tone of voice accompanying the former but not the latter …The reliance on conversational representation has distinct advantages in the face-to-face organization. It is wedded to a particular context or course of action, it is authored by a specific individual and directed to a specific other, it is accompanied by nonverbal signals and personal history, it is potentially sensitive to feedback by the recipient, and it can be directly monitored. In effect, the conversational mode is perhaps ideally suited to the generation of disciplinary power.

Which conclusions can we draw from this? That face-to-face contacts are essential for most coordination processes? That would be a little premature. The function of the described communication is to initiate, as both authors call it, disciplinary power over people. Now one could say that the use of disciplinary power is a typical (if not defining) property of bureaucratic coordination. If this is true, it is the bureaucratic context that justifies and explains the chosen mode of communication and the need for face-to-face contacts. Arguments that underpin this proposition will be presented and discussed in a later section. If the proposition makes sense we can also speculate on the possibility that a different mode of coordination (a post-bureaucratic way is meant) will make new and divergent demands on communication and possibly allows us to drop the demanding face-to-face demands threatening the success of network organizations in general and virtual teams in particular.

Communication: A Brief Review

What is communication more than just an exchange of data? This issue was raised by Bateson (1951) several decades ago. According to Bateson, communication has two aspects: a ‘report’ aspect and a ‘command’ aspect (implying ‘codification’ and ‘valuation’, respectively). In the common sense view an order ticket from Sales to Production ‘reports’ what is ordered. Yet such a ticket expresses more than just this report aspect; it also tells us something about the valuation and decision process. Why is the ‘incoming request for delivery’ categorized as being ‘an order?’; who is involved in this codification process and what role did valuation play? Bateson’s discussion of the codification - valuation issue led to what we now know as semiotic analysis. The central questions are: is the meaning of a message (e.g. the report-aspect of the ticket) determined by the sender (e.g. Sales) - and is it the task of the receiver (Production) to reconstruct the intended meaning - or does the receiver determines the meaning and does each message, because of this, have just as many meanings as there are readings of it? This latter, interpretive view (the receiver determines the meaning) is the received view by now. It states that actors (stakeholders) in different positions, with different interests and values, will attach different, mutually concurring meanings to the same message. This pluralism leaves us with the question as to how communication can ever be successful.

Two possible answers will be discussed briefly. The first is the ‘rational agency’ argument of utility theorists in economics and psychology. Rational agents have, according to this view, conflicting interests but not necessarily conflicting values. The assumption is that all rational agents share the same intrinsic basic values concerning maximizing profit, minimizing costs, etc. That means that it is possible for agents to reconstruct the valuation and interpretation process of other agents rather easily. Shared meanings and mutual understanding are therefore within reach.

The second answer is the ‘institutionalization’ argument. According to this view agents are not driven by universal intrinsic values but behave in accordance with values that are based on conventions of the local community to which they belong. That makes it necessary to study those local conventions. But as soon as one successfully accomplish this, shared meanings and mutual understanding are again within reach.

Although these two solutions look fundamentally different, Granovetter (1992) still sees a paradoxical resemblance. Describing the 'rational agency' and the 'institutionalist' solutions as 'the under-socialized' and ' the over-socialized view' respectively, he states:

> … The apparent contrast between under- and over-socialized views, masks an irony of great theoretical importance*: Both share a conception of action and decision carried out by atomized actors*. In the under-socialized account, atomization results from narrow utilitarian pursuit of self-interest; in the over-socialized one, from the fact that behavioral patterns have been internalized and are thus effected only peripherally by ongoing social relations …The over-socialized conceptions of how society influences individual behavior are rather mechanical: once we know individuals' social class or labor-market sector, everything else in behavior is automatic, because they are so well socialized… Once we know in just what way one has been affected, ongoing social relations and structures are irrelevant. Social influence is all contained inside an individual's head, so in actual decision situations he or she can be as atomized as any *homo economicus*, but with different rules for decisions. (Granovetter 1992, 30).

As soon as we know someone's organizational task and responsibilities, all 'ongoing social relations and structures' become - according to this view - irrelevant. Because we know their position and responsibilities, we know what meaning people from Sales or Production attach to a specific 'incoming request for delivery'. For Sales it is simply a welcome order, for Production it is something that demands so much work that it can never be profitable and therefore should not acquire the status of 'order' at all.

What now becomes clear is that the real problem is not that meanings - attached by different actors to the same events - are misunderstood. Of course, this can happen but it can also be solved. The real problem is the atomistic and mechanistic approach of communication. In this approach meaning not only becomes a static property (attributed to events, actions, etc.) but also an a priori property. That is, meaning exists before interaction takes place; it is an input to the interaction, not a result of it. Interaction can only lead to changes and adjustments afterwards.

For some time now, Suchman (1987, 1994) supports a different approach to the meaning issue which she (and others) call the 'situated action approach' (for a review see Van der Smagt 1997b). According to this view, it is possible (respectively should be possible) that no meaning issues are decided before the interaction with other team members takes place. Sales doesn't accept the order beforehand, neither will Production reject it. Neither of them follows blindly the rules and procedures inherent to their position and responsibilities. You could say that in this approach meaning is not possessed by individual actors but is discovered between them. However, this is only possible if the organizational context allows it. This context will be discussed in the next section.

(Post-)Bureaucratic Team Coordination

For a proper understanding of the role of communication within teams it is crucial to have insight in the way team relations are organized. In this contribution I distinguish between two types of team organization: bureaucratic and post-bureaucratic (I owe the term 'post-bureaucratic' to Heckscher, 1994).

A key difference between both types lies *in the way team members are evaluated and assessed*. In the bureaucratic type the team member is evaluated primarily on the success and quality of his individual contribution; in the post-bureaucratic type the evaluation of the member is primarily based on the success and quality of the joint project. At first sight there seems to be no fundamental difference between either. One can argue that the criteria for evaluating the success of an individual contribution should be related to the success of the joint project as a whole and actually this will be the case in practice. However, the point is that - characteristically for a bureaucratic organization - not only the tasks (contributions) are hierarchically structured but the responsibilities as well. This means that the management function (the team manager) is responsible for the overall success and decides about what each individual member should contribute. The responsibility of the individual member is limited to the choice of means; his output is prescribed. The effect of this distribution of responsibilities is that an individual team member behaves opportunistically. Because he is assessed on his individual output, a team member is only interested in other team members as far as they present constraints or possibilities which hinder or help him to meet the demands made on him. To worry about the overall success simply doesn't pay off.

Post-bureaucratic teams are organized (in terms of structure and culture) in such a way that feeling responsible for the overall result really pays off (in terms of status, recognition, career, or payment). Simply doing your job is not enough; the main contributors have to participate in finding solutions on the project level *and are evaluated and assessed on that*. This means that the individual contribution can't be fixed and laid down by the management function but is decided interactively among actors.

Ralston and Thomason (1997) synthesize three guiding principles from Heckscher's discussion of post-bureaucracy: 'trust', 'variety of form' and 'dialogue'.

According to Ralston and Thomason *trust* is directly related to 'the belief by all members that others are seeking mutual benefit rather than maximizing personal gain.' I agree with that although it is probably more realistic to say that many are seeking mutual benefit because it is simply the most effective way to maximize personal gain in organizations that value not only individual contributions but also contributions to the overall result. However, no matter what the reasons are, the result is interdependence, that is, 'an understanding by all that their fortunes are bound together.'

Variety of Form follows logically from the fact that the critical tasks in post-bureaucratic teams are performed interactively among workers. "Given the significance of interaction and interdependence, the post-bureaucratic organization emphasizes the reduction of rules with a concomitant focus on the variety of performances and roles workers may enact. In this new interactive environment, workers are encouraged to tailor what they do to the demands of the situation" (Ralston and Thomason, 1997). The focus is no longer on finding the optimal method for accomplishing prescribed tasks. Instead, the focus shifts to the 'ongoing process of generating and enacting a large number of possible alternatives'. The optimality of the individual contribution is replaced by the optimality of the fit with the contributions of other actors. This means for the individual member that he no longer decides for the one best alternative but offers a set of possible solutions (the variety of form!). It is this set that is matched with comparable sets of other actors. Instead of 'confronting each other with decisions', actors 'offer each other sets of alternatives'. For the supplier of the set, these alternatives can be more or less indifferent but for the receiver the same alternatives can be significantly different.

The third guiding principle of post-bureaucracy is '*dialogue*.' Dialogue as a specific form of communication is often distinguished from 'monologue'. In making this distinction, it is tempting to characterize monologue as 'one-way' communication and dialogue as 'two-way' but that can be confusing because a monologue can be two-way too, and still differ from a dialogue.

What makes a dialogue different from a two-way monologue? In the last section we discussed two views on meaning: meaning as an individual possession versus meaning as a discovery between individuals. I think this is the crux for differentiating between the two. In a two-way monologue each side has already decided how to categorize its environment and to transform data into meaningful information. The role of communication is to exchange this information between individuals.

A dialogue is radically different. Communication has no exchange function but a constitutive function. Look at an apparently simple communication like 'product X is ordered' (indeed, the example of the last section). Is it a decision by Sales that can only be canceled with compelling counter arguments of Production (negotiating, negative feedback loops, etc.)? Or is it a first option from a set of equivalent options that can all be chosen after mutual consultation (see figure 1)? Or, as phrased recently by Mandelbaum (1996) in an interesting case study (presenting an empirical interpretation of this distinction): 'Is [the order ticket] a unilateral proposal or a collaborative proposal? The same communication is in the first case a first step in a negotiation process between network actors, in the second case it is a first step in an open dialogue between the same network actors. Both processes have different objectives and obey to different rules. The former is a 'two-way monologue', the latter a 'dialogue'.

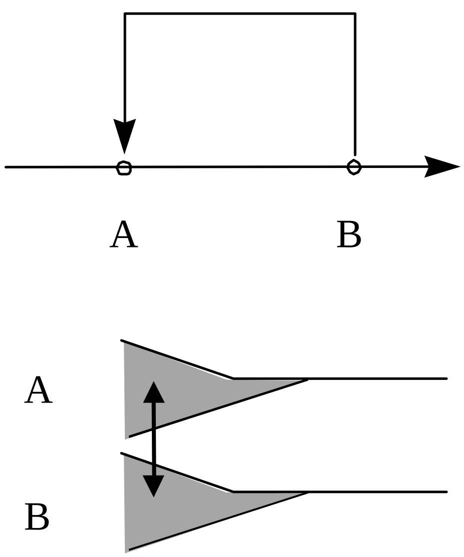

Figure 1. "Two-way Monologue" versus "Dialogue." The vertical arrow symbolizes the matching process

When Are Face-to-face Contacts Essential?

How does the foregoing relate to our main question concerning the conditions that make face-to-face contacts a necessary prerequisite for effective coordination? Both two-way monologue and dialogue make different demands on the conditions that facilitate communication. But understanding these differences is only possible if we relate both to organizational form. If the organizational form is such that there is no trust and teams are coalitions between opportunistic actors, the main task of communication is to collect strategic information about the other parties. It all comes down to sending, receiving and processing information about an objectified (although recognized as human) environment. If you are uncertain about the intentions of other parties you have no other choice than to objectify them, model them and exploit every available indication to a get grip on them. Therefore my claim is that face-to-face contacts (and other very 'rich' media) are most functional in organizations where trust is absent, where the creation of information is an individual matter and where actors experience substantial uncertainty about the meaning attached by other actors. In these circumstances the need for detailed (rich!), strategically necessary information about other actors (in terms of non-verbal cues, body language, etc.) will be essential.

An interesting consequence of dialogical communication is that this need is almost absent. If there is 'trust' between the parties, much of the strategic information about other actors is superfluous. This offers the opportunity to match the choice of communication technology with the specific, from situation to situation varying, demands of the interaction relation. At times the transmission speed will be important, at other times the nitty-gritty of the documentation is crucial. Sometimes the flexibility of the media is most important. However, no matter what is important, the one-sided stress on very demanding 'rich' media (transmission of many and varied cues) has disappeared. A change from two-way monologue to dialogue opens the prospect of less demanding forms of communication and easier implementation of virtual, not co-located teams.

References

References available upon request from author (T.vanderSmagt@bw.kun.nl).