THE HUMAN FACTOR

TEAM ANGST

We are all taught to believe in the power of collaboration, but what really drives the relationships that create our built environment?

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The networks of people who come together to design and construct our built environment are fragile units — regularly forced apart by egos, power struggles, and even the technology that's supposed to bring them together. Software solutions such as building information modelling (BIM), while ostensibly tools for collaboration, bring with them heightened tensions around intellectual property and liability, and the possibility of established power relations being overturned. At the same time, projects are becoming increasingly global, designed by teams drawn from around the world — teams who may never meet. What does all this mean for the dynamics of collaboration and the way that individual professionals behave? Psychotherapist Naomi Shragai puts the construction industry on the couch.

"A masterpiece without a genius" is how Rem Koolhaas describes the Rockefeller Center in his book, *Delirious New York*. The description neatly summarises the multitude of talents that contribute to buildings, from their conception to completion.

But as building projects have grown in scale and complexity, the need to understand what underpins successful collaboration has become increasingly essential. While much attention is given to the systems and procedures involved in the practice of design and construction, little thought is given to the interpersonal relationships both within teams and across diverse professions.

For people bring more than their professional expertise to the table. Teams comprise of individuals with their own psychologies, ambitions, emotions and interpersonal conflicts, their unique ways of making decisions, taking risks and tolerating complexity and uncertainty — which is why collaboration is potentially such a messy affair.

Beyond the transactional

Collaboration can be successful as long as three factors are in place, according to David Archer of the Socia consultancy, which specialises in helping organisations to work as teams. The first involves the governance arrangements, including the legal contracts, which spell out accountability. The second is about having the correct operational process between parties. The last and most important is about ensuring the right behaviour.

"This is like a three-legged stool," Archer says. "If you have all three, then it's stable on rough ground. If you pull one of those legs away, then it falls over. And often what we see is that people spend a lot of time on governance, quite a lot of time on process or systems, and not enough on behaviour. And that's where the points of conflict often happens."

One reason why conflict can arise is that projects, by their nature, start out as transactional relationships, where there is a clear and predictable agreement about what is expected. As building projects become increasingly complex, such relationships cease to be effective because changing economic and other factors force team members to adapt to new circumstances. "All the things you could have written into the contract will need to be changed, so you need a relationship which is much

"Compromise – the antithesis of synergy – will generally undermine the good ideas of a project and make its experience banal"
Andrew Pressman

more symbiotic in order to deal with uncertainty," Archer says.

In symbiotic relationships, individuals are mutually dependent on one another. This involves tolerating the varied stresses that such relationships inevitably bring. Issues involving trust, dealing with conflicts and working with diversity become crucial. Those who are comfortable with dependency will feel more able to delegate and compromise. People who are anxious about it because they fear, often irrationally, that others will let them down, will struggle in symbiotic relationships. At the opposite extreme, those with more passive personalities, who are overly dependent, may rely too much on colleagues to get the job done.

Collaboration, not compromise

There is a danger that such passivity, and overwillingness to compromise, can be confused with collaboration — a point that Andrew Pressman reflects on in his book, *Designing Relationships: The Art of Collaboration in Architecture*. "Collaboration shouldn't be compromise," he writes. "Compromise — the antithesis of synergy — will generally undermine the good ideas of a project and make its experience banal."

Tensions are an inevitable part of collaboration, and if well managed, often lead to creative solutions. Knowing when to compromise and when to hold steadfast to one's views is essential not only to innovate, but also to prevent "group think". People should ask themselves: "Am I giving in simply to avoid disagreements, or is this for the good of the project?"

This is a particularly pertinent question in construction, where strong personalities and opinions are the norm. Collaboration can be particularly difficult for architects, according to one principal from a leading practice. He says collaboration traditionally goes against the grain of architects' training. "In architecture we are all trained to work alone. Everybody is thinking about their credit, their ego. It's very personal. When you're collaborating you can't bring that expectation to large projects.

"If you have individuals working for a team where it's important to have personal [recognition], there will be a lot of conflicts if they have that need for validation all the time. But if the project comes out well, and it makes the office look good, then we should [all] be happy."

This is an important point — as Pressman points out, it can pay off to

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nurse an ego or two on a creative project. "A degree of narcissism, or confidence and even arrogance, helps to innovate and transcend mediocrity."

Power struggles

Yet when collaboration is undermined, either by a silo mentality, a need for control or a lack of understanding of other people's positions, the project will suffer.

Archer believes that a reluctance to share control is a significant factor that can undermine collaboration — particularly as project teams become dispersed around the globe. "In the construction world the biggest factor in sharing control is sharing risk," he says. "I know if I have control of risks I could manage them. To have to share control with someone who may come from a different organisation, different culture, maybe speaks a different language — am I actually putting myself at risk in sharing control with them?"

One senior architect describes how on a recent project an inability to share control with a construction team has led to friction. Again, the problems tend to revolve around authorship and ownership of risk: "The people working on it now in construction, they forget where it originated and it becomes their project," he says. "And there's a huge control thing because they weren't around when the first ideas were discussed and developed.

"The way they gain authorship is to gain control on information, like making decisions during construction and not telling anyone else."

Of course, there are myriad other reasons why tensions might explode into open conflict on a construction project. Archer points out that different members of the team may prioritise different outcomes: "In a typical construction project, the various parties will see different priorities — some are completely time-driven, some by the quality of customer care and some who are very focused on cost." There can also be conflicts over capability, he adds — one party doubting the ability of another.

Such a climate is less likely to foster collaboration than anxiety — which can have dire consequences of its own. "Anxiety in a team situation can cause people to act impulsively, or at the other extreme, freeze or clam up," says Pressman. "The impulsive end of the spectrum can lead to an overly competitive situation whereas the clam-up response may bring the task to an abrupt halt."

Individuals who have difficulty tolerating complexity often defend against their anxiety by simplifying or diminishing a problem. By viewing a situation as either all good or bad, or blaming others, they avoid feeling bad themselves. In some extreme cases, they might even deny a problem exists. Although this reduces their anxiety, the danger is that reality becomes distorted and problems are not addressed.

Small sacrifices

So how can individual personalities and traits be harnessed for the greater good rather than the greater harm? One answer is to recognise that good teamwork supports individual freedoms and contributions, while maintaining the overall aims of the project.

The other side of this coin requires individuals to focus on the aims of the project and be willing to sacrifice some personal ambition. Understanding how others think and operate, sharing control and keeping one's narcissism in check are all necessary for both leaders and team members. Much of successful collaboration begins with self-awareness, and then developing a curiosity about other people.

In his book *Collaborative Leadership: Building Relationships, Handling Conflict and Sharing Control*, Archer describes how joint solutions are often more creative and ambitious than those made within the comfort of one's own professional boundaries. "Solving problems jointly takes creativity and courage," he writes. "It means washing your dirty linen in public. It means asking for help when you need it, and offering it where you can. It's easier by far to resort to carping and insularity. However, finding a joint solution speeds things up, and usually saves money."

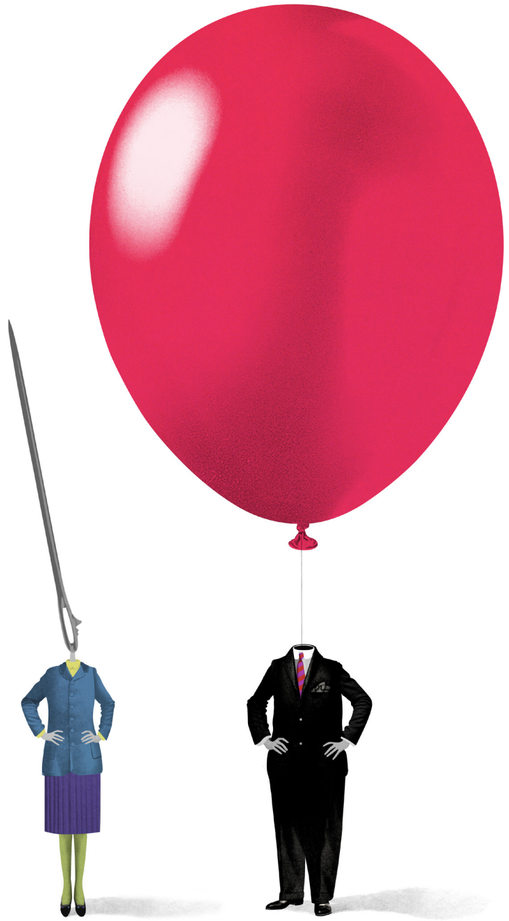
Leading role

Leaders play a crucial role in creating a climate of collaboration. They communicate to their teams how safe it is to make mistakes, to express opposing views, and to feel their contributions will be acknowledged. Managers who fear conflict will inevitably undermine the collaborative process as problems are allowed to fester and grow, while they themselves lose the respect of the team.

Kerry Sulkowicz, a psychoanalyst and managing principal of New York's Boswell Group, a consultancy specialising in advising CEOs and boards, says ideally leaders should act as participants while also being able to step back and observe what is happening in the group to make sure it is productive. "If the leader is perceived as someone who loses his temper or is punitive if someone takes risks and makes a mistake, that is obviously going to inhibit collaboration, because in collaboration you have to take chances, open up - surface new ideas."

He adds that another important function of the leader is to manage the strong feelings, disputes and power struggles in a team by allowing a certain amount of emotion to enter into discussions, but not so much as to overwhelm people — they need to be able to distinguish between different types of friction. The leader must be mindful of the potential for group think and be open to the possibility that the minority, or even a singular view, might actually be the answer.

It may be that, as Koolhaas says, you can build a masterpiece without a genius. But you do need to harness the talents of an array of individuals, with their various and complex personalities, ambitions and emotional needs, and to understand the true nature of their relationships with one another and the tensions inherent therein. That, it could be argued, is the really hard part.



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David Archer, Socia

'A GREAT TEAM IS ONE BIG UNHAPPY FAMILY'

Andrew Pressman suggests five realistic approaches to building a team

1

Respect, don't trust

It is unrealistic to trust automatically people with whom you've had little contact - develop rapport and respect instead

2

Beware charisma

Be cautious of selecting more charismatic and seductive personalities. Recruit individuals whose skills are most suited for the project

3

Don't reject too soon

No ideas, even bad ones, should be dismissed immediately, but instead considered, nurtured, then rejected or accepted

4

Leave creatives alone

The group majority voice can suffocate the creative individual. Individuals should work independently as a prerequisite for creating a synergistic product

5

Tension is good

A great team could be characterised as one big unhappy family, meaning that tension in teams can be constructive, "as gasoline that fuels innovation".

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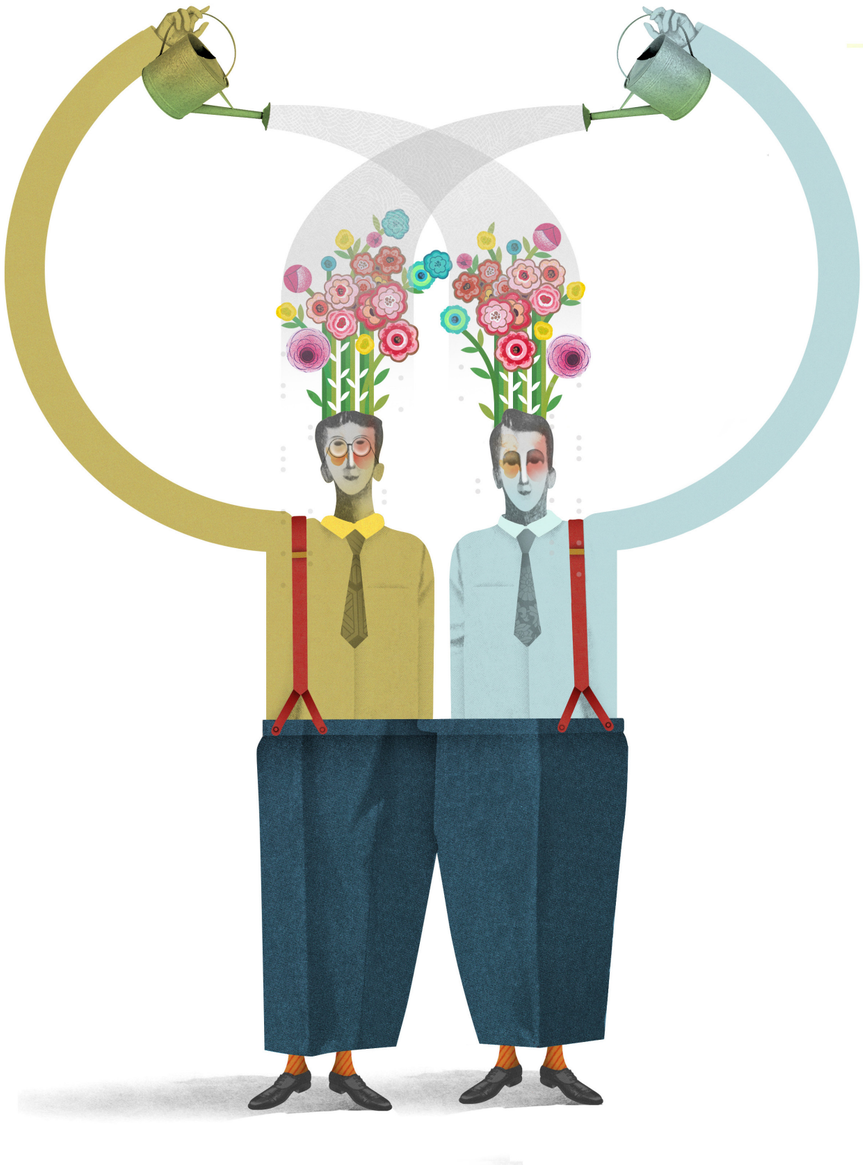

'IT SURPRISES ME THAT PEOPLE IN THE CONSTRUCTION INDUSTRY ARE STILL QUITE IGNORANT OF EACH OTHER'S WAYS OF WORKING'

Sami Paavola is a sociologist and lecturer in the Institute of Behavioural Sciences at the University of Helsinki, who studies the impact of technology on collaboration and learning. Since 2011, he has been part of an international multidisciplinary group researching building information modelling. *The Possible* spoke to him about his work and how BIM is changing the way teams behave.

***TP:* How does a sociologist come to be studying BIM?**

SP: I had been studying the use of technology in higher education, and in 2011 I was asked to join a multidisciplinary research project on building information modelling. They wanted someone who was interested in trying to understand the affects of technology on our working lives. There are different approaches to social science, and I take this kind of practice-based approach.

***TP:* What does your research involve?**

SP: My main focus has been on designers – architects and engineers in specialist fields – and the approach is to go and look at how people actually use these technologies. We have done interviews, but we have also been following design meetings.

Within our research group, there was collaboration between people from social science backgrounds and people from engineering, and that has been really valuable. We have started to merge our approaches and I wish that there were more projects like this. There is an expectation that social scientists come and say how people behave and how they are organised but it's not that simple. We need to think about it from different angles and try to merge these perspectives together.

***TP:* What can the social sciences teach us about BIM? What insights does it offer that other approaches don't?**

SP: Both engineering and social sciences try to understand development and change but it is somehow different. In the social sciences, we want to understand what people are really doing and how things are happening. Engineers are constructing solutions, whereas in the social sciences we are trying to problematize things more... I think that our goal is the same but we do it from a different angle.

I think the usual approach to BIM is about looking at novel solutions and how to implement them and educate people to use them. Whereas our approach is more oriented to the specific challenges and problems that people have. We need to understand the viewpoints of different partners within construction projects, and build new solutions for their specific problems. It's typical for research that when we interview people or we go and look at what they're doing, we realize that reality is different to the promises that are made in the literature. Our point is that we should look at these situations more realistically and then build new solutions and new technologies based on those.

A good example is the use of BIM in the maintenance phase of projects – the literature on BIM gives the impression that BIM models are used in the maintenance phase, but it seems to us that it's hardly used at all in reality.

***TP:* Why is there this gap between how BIM is supposed to be used and how people are really using it?**

SP: One way of looking at it is that it's quite a natural process. It takes quite a lot of time to develop new technologies and tools in such a way that they are really useful. For example, maintenance is a complex area and there are already quite advanced software tools, so it's not easy to replace established technologies. It takes time to develop technologies and tools and people's ways of working, especially when the old ways seem to be working relatively well.

***TP:* How has BIM changed the way design teams interact?**

SP: It has changed how their work is organised so more people need to collaborate in earlier phases of the project. Pre-BIM projects were leaner in a way – a few people did something and then they handed the information over to the next person or organisation. Now collaboration is more intense in various phases and it takes a lot of organising so that people are not sitting unnecessarily in meetings.

***TP:* How were the teams you observed coping with this?**

SP: Typically, within this kind of research project, we are looking at partners and firms who are already interested in developing their own ways of working. But it is difficult because they are trying to find new ways of working all the time and construction projects are typically very time-constrained.

***TP:* How does BIM change interpersonal relationships and the way people behave?**

SP: There are many changes because it gives people new means of collaboration. But the basic things are still the same. It's much easier to share plans and models and put them together than it was with paper drawings. People don't need to be in the same place – they can share information by Skype. On the other hand, it seems that they need to have these face-to-face meetings when they look at how the plans fit together and where the design problems are.

Most people I have seen are welcoming this new technology because they see so clearly that it helps and that it's a technology for the future. There are some specific things – the technology does not always work well and they can't do everything that they would like, but I don't think designers are resisting it. It's different if we talk about people within maintenance – they don't have much link or connection to this BIM technology.

***TP:* What are the most important factors for successfully implementing new technologies or ways of working?**

SP: One should understand the complexity of the process. You need to have people from different levels, representing different roles. You need to have guidelines, and education and also some kind of policy within the industry because many organisations are involved. It requires time too, always. We cannot change everything at once, so we need people who are interested in developing the way they work and experimenting on projects.

I think the biggest barriers are when the change is brought only from above, and when people do not have enough resources. My experience is that people are actually quite willing to develop their own work if they see the rationale and how it helps their own work, if they have the resources. So you need to have trust and support for this kind of change.

***TP:* What are the greatest misconceptions about BIM?**

SP: There's this phrase "BIM utopia", this hype around BIM. In a way, it's needed in order to get people interested. But the biggest misconception is that the same data and model could be used throughout the building lifecycle. It's more like there can be interconnected data, some of it used by different partners, but people need to add information, so it's not as smooth as the impression that the "BIM utopia" gives.

Another misconception is that people are just resistant to change and that it's just because of this ignorance and resistance that BIM is not used more. We think that there might be good reasons for this resistance in some cases, so it's not just about ignorance.

One thing that has surprised me is that people in the construction industry are still quite ignorant of each other's ways of working. People understand their own area, but they have difficulty understanding each other's problems and challenges, even if they work with these other types of designer all the time.

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