Loosening ties: Permanently virtual teams and the melting iceberg of relationship

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An enduring theme of my research for the last twenty or so years has been the experience of working in Global, remote and distributed teams (with students and software engineering professionals). But the COVID-19 pandemic has brought the issues to the fore as remote working has had to become an enforced and ingrained pattern in the work lives of many of us around the globe. [At least for those not obliged to be physically present at the workplace everyday!].

The literature has noted the difference between ad-hoc and established virtual teams [6], and the need to refresh links and ties with periodic site visits and face to face events [7]. These face-to-face visits afford chances to converse informally over lunch, dinner, a couple of drinks. My own view is that powerful bonds are formed in such events and related excursions, through sharing personal concerns and casual musings over projects and ideas. These richly compressed human occasions cannot be substituted by the intense structured windows of Teams and Zoom meetings. Moreover, those richer experiences help to build and consolidate ties of deeper friendship and trust. It is this underlying *iceberg of relationship* which helps us bridge the periods apart when our virtual teams lack the affordances of face-to-face meetings – shared taste, smell and feel for instance, subtle cues of facial expression and body language. Creating and sustaining such relationships over digital distances alone is challenging – to say the least!

In this column I reflect upon a few selected experiences and implications of remote collaboration, both personal and with colleagues and students. What do they mean for future forms of teamwork? What are the key combinations of technology, teams and ways of working that are crucial? Have we seen patterns of collaboration that work? Have we seen unwitting assumptions that have given rise to challenges for students that are likely to be enduring? Why have some things just not worked? Why does the online experience still remain an ersatz and only partial version of reality? Importantly, while some teams have worked well, and productivity has been often sustained or improved, will this endure? Or will the ties that bound teams over a critical period, loosen through lack of sustained renewal? Will patterns of estranged behaviour develop and prove hugely disruptive? When the face to face workplace beckons safely again, will traditional patterns of pre-pandemic work resume? Will low trust models of Taylorian management raise their ugly head again, in the enforced presenteeism of 8 hour days at the desk. Or even worse, will AI enhanced forms of surveillance impose themselves over remote home desktops, invading spaces that are not even those of the employer? Or more positively, will we see new jointly negotiated forms of hybrid working and studying evolve?

While I may have been musing over these and other questions for a while, they have been magnified by the experiences and the realities of the pandemic. They pose several questions both for practice and research, which will be teased out in the course of the column.

The ideas in this column crystallised after this year's joint ICSSP/ICGSE 2021 conference took place virtually, in what had been intended to be Madrid. With colleagues we presented a journal-first paper – topically enough on the risks of Global Software Development [1]. The conference had been set up as a co-located event with ICSE 2021, with our talk pre-recorded using the Clowdr[1] platform, and we were available online for a Q&A session directly afterwards. After the talk a separate room had been set up for interested members of the audience to continue the discussion, while the tightly scripted conference ploughed on. Three of the authors and a colleague from the audience were present for the post session conversation – while co-author Ramesh was dealing with the heavy load of his classes as our University, in quarantined New Zealand, coped with losing most of its usual international student cohort. The virtual conversation went well, as we discussed issues arising from the paper and renewed long standing friendships. After loosely planning to write a paper together we said our goodbyes, and wistfully observed on our inability to meet and share the luxury of a G&T or a beer. The virtual platform struggles with such experiences – although John and Sarah had arranged a shared 6 o'clock virtual G&T happy hour every night in the early stages of the London lockdown, [a critical wellbeing saver] until John managed to escape his small single flat to a more accommodating arrangement in Ireland and some more fresh air. All going well we all hope to meet in person next year in Philadelphia!

Yet by contrast, attending the main software engineering conference (ICSE 2021), for which I was registered as a package deal, the following week escaped me. The pressures for me of the daily demands of local life and the regular teaching schedule from the Auckland campus, the scale of the conference, the pressures of global distance [4], (with the 12 hour schedule geared primarily to the Northern hemisphere time-zone, despite the next day replay by mirroring option), the challenges of linking with a more disparate group of colleagues, all conspired against my coordinating a session(s) to attend. So in the end the main conference came and went, without my attendance.

But returning to our conference then, the Keynote by Marcin Floryan of Spotify[5] was thought provoking. Marcin retold a story of the experiences of an organisation renowned as one "Rooted deeply in agile ways of working that rely heavily on colocation" [5], moving to one from March 2020 to May 2021 which had been unable to return to the office for a year, and which they found "*lacking some of the fundamental structures that helped us be effective*"[5]. In response Marcin observed "*After a period of initial adjustments, we have started looking at experimenting with new ways of working. Eventually we discovered we can take advantage of the new reality and accelerate our ambition to provide our employees the choice and freedom to work from (almost) anywhere. Naturally much remains to be worked out*"[5]. The existing globally distributed nature of the organisation helped provide some of the elements needed to work remotely.

I gained a more hands-on insight to these elements while co-teaching "Contemporary Issues in Software Engineering" (an advanced undergraduate course) this semester with my colleague Jim Buchan, a gifted educator and committed agilist [8]. The course teaches through a hands-on small team development project that the key elements of agile ways of working involve mastering the key elements of: 1) a Technology Stack; 2)

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[1] https://app.clowdr.org/

Technical tools and process and; 3) an Agile Team Process. So, Spotify similarly has had to work through its mastery of these elements as it adapted from working in a co-located manner. The technology and technical processes have now developed to the level that they can support many aspects of remote development moderately well, but global distance [4] is inescapable. I observed our students using a combination of Microsoft teams, VS Studio and Github when working in distributed mode from their own home locations to develop their software as a team. One team for instance used VS-Code and Liveshare for remote pair programming and mob programming[3], deliberately as a rehearsal should we have to undergo another lockdown. But I also observed teams who initially assumed that an online meeting schedule would suffice for their project, rather than a series of face to face sessions. Eventually they realised that they were not coherent enough as a team to work remotely and needed the strength of mutual support that a face to face session would afford them. The significant improvement in team performance then after one week working together face to face using agile techniques such as mob programming [3], was startling.

The broader human aspects of working in a 'remote from the office' agile team environment cannot be ignored. The challenges for many of sharing a busy home environment with the needs of their workplace, and the realities of a two tier (or more) mix of working environments, as those who had expansive and well equipped home offices experienced working from home very differently than those with shared cramped work environments. In our environment in Auckland I observed students juggling family and shared home workspaces, and the frustration of inadequate internet connections when competing for bandwidth needed by the family for both work and remote study purposes. The relief was palpable when lockdowns ceased, and return to school and the university for individuals and teams was possible.

Marcin also observed that the Spotify experience highlighted the need to view their workforce from a broader human perspective, and manage not just their productivity, but their wellbeing in this highly stressful new reality of the pandemic. Individuals must focus on their daily study and work commitments despite (valid) concerns about families in distant cities or countries, including varying levels of safety, loss of jobs, and even the death of family members and no possibility to grieve together. Spotify looked actively for opportunities to reinforce a sense of togetherness, through shared experiences, shared goals and progress and supporting the increased need to communicate. One concrete action they took was to deliver to each employee a small house plant. This became a talking point and a focus of discussion and shared experience in regular virtual meetings touching on the growth and health of their plant.

So, somehow we have managed through the pandemic so far to differing degrees, but an online experience still does not fully substitute for the physical. Paul Brislen commenting on the New Zealand IT. professional experience and changes in office routines makes an argument consistent with the projections of Spotify in Sweden and globally. He advocates for a hybrid solution which acknowledges realities as he reflects on experiences of those whose: "*home environment is not designed for work and who have to flee daily, if only for their sanity. Seeing one staffer on a video call sitting at his kitchen table with three flatmates all trying to work was a sobering moment*" [2]. But in contrast concludes at the same time that: "*unlike the soggy middle managers who get antsy if we're not sitting at our desks and who are soon out of a job, I reckon hybrid working is here to stay"[2].*

Despite all the rhetoric of remote teams, how long virtual team members will truly cope with being a loose and peripheral part of an organization, is an open question. The reality of relationships depend not on surface contacts, but upon a deep set of underlying connections built up progressively through joint experiences and invisibly like an iceberg. But how fragile is that totality and as it melts through lack of renewal do the connections and the ties that bind our teams and organizations wilt? How we can build an enduring sense of belonging in a virtual team setting remains an open question. Generating truly innovative thinking within remote teams, uniting a sense of shared purpose, finding workable strategies for onboarding new members and mentoring their development are all issues we need to better understand and determine where is the boundary where it is no longer wise to stay virtual. We may find we may boldly go where none have gone before, but none will want to follow!

References

1. Beecham, S. Clear, T. Lal, R. and Noll, J. Journal-First: Do scaling agile frameworks address global software development risks? An empirical study, *in the Joint 15th International Conference on Software and System Processes (ICSSP) and 16th ACM/IEEE International Conference on Global Software Engineering (ICGSE)*, (Madrid, Spain: [Virtual], 2021).
2. Brislen, P. Brislen on Tech: Hybrid working is the answer. *ITP Techblog*, https://techblog.nz/2581-Brislen-on-Tech-Hybrid-working-is-the-answer. Accessed 11 June 2021.
3. Buchan J. and Pearl, M. Leveraging the mob mentality: An experience report on mob programming, in *Proceedings of the 22nd International Conference on Evaluation and Assessment in Software Engineering* (Christchurch, New Zealand: 2018), 199-204.
4. Clear T, et al., Challenges and Recommendations for the Design and Conduct of Global Software Engineering Courses: A Systematic Review, in *Proceedings of the Working Group Reports of the 2015 on Innovation & Technology in Computer Science Education Conference*, (New York: ACM, 2015), 1-39.
5. Floryan, M. Into the Unknown: From the Office via Home to Anywhere. Experiences from Spotify [Keynote Presentation], *in the Joint 15th International Conference on Software and System Processes (ICSSP) and 16th ACM/IEEE International Conference on Global Software Engineering (ICGSE)*, (Madrid, Spain [Virtual]: 19 May, 2021). https://conf.researchr.org/program/icssp-icgse-2021/program-icssp-icgse-2021/?date=Wed%2019%20May%202021. Accessed 15 June 2021.
6. Mennecke, B. and Hoffer, J. The Implications of Group Development and History for Group Support System Theory and Practice. *Small Group Research, 23*(4) (1992), 524-572.
7. Noll, J. Beecham, S. and Richardson, I. Global Software Development and Collaboration: Barriers and Solutions. *ACM Inroads, 1*(3) (2010), 66-78.
8. Pivac, L. Agile It! Profile # 5: Jim Buchan, in *Agile It! Profile # , 5* vol. 2021; https://medium.com/agile-it/agile-it-profile-5-97490cfea93e. Accessed 11 June 2021.
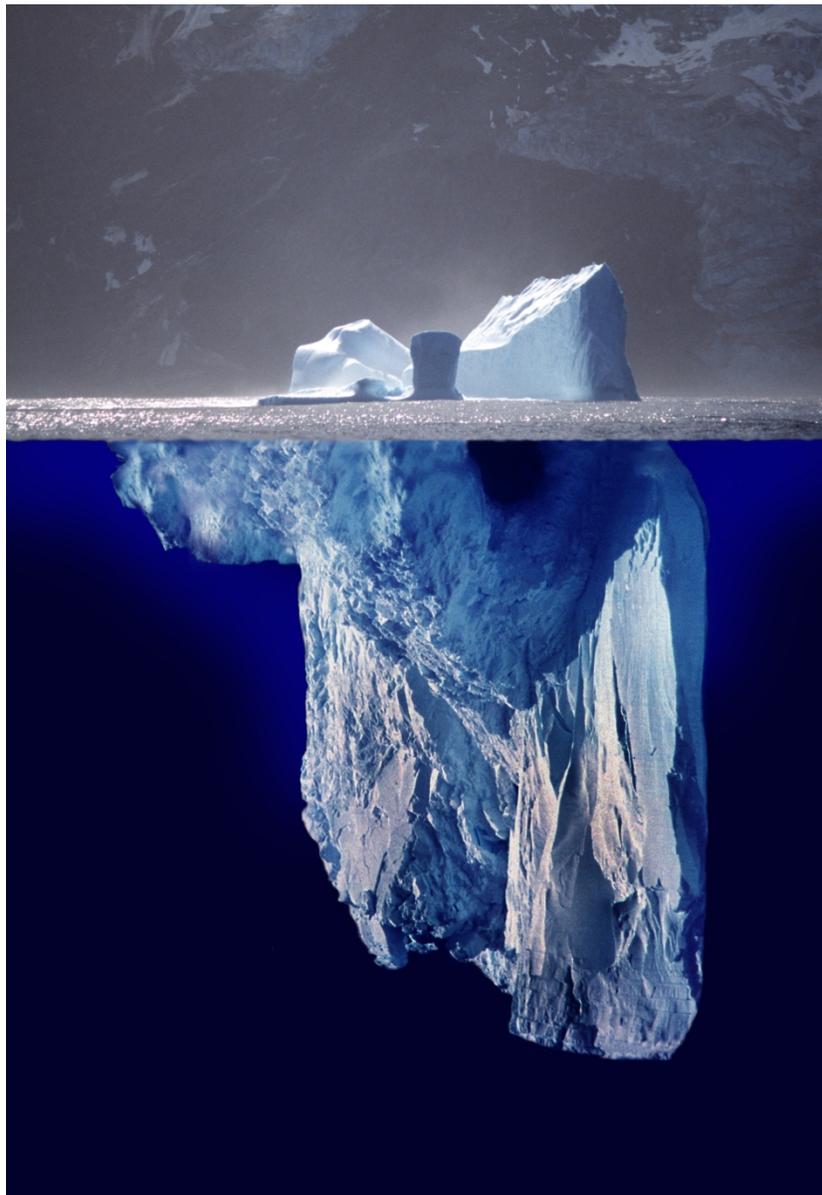
The Melting Iceberg of Relationship

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