

*intermission*

*Reflecting on this research journey, as an exciting adventure, I attempted to capture the intent of the study in one sentence:*

*The research set out to explore how the disruption, by refocusing the attention on the complex, interconnected and situational needs and requirements of the user instead of the opinions and perceptions of the designer, can enable transformative learning where empathy and complex design issues are concerned, to determine other design agendas.*

*I reflected on my first attempt and realised that a more specific description is needed:*

*The research explores first, how a productive and deliberate disruption of out-dated spatial design processes can render complexity visible and refocus designers' attention on the interconnected and context specific needs of the user. Second, to establish an enabling and transformative learning environment in which a willingness to deal with complexity and an empathetic approach allows for alternative forms of thinking and practice.*

*After writing this, after reading this, I considered in silence, the vast array of topics I synthesised in this study. Still, I am not an expert, specialising in each of them individually, but I am a facilitator, a strategist on how to combine seemingly unrelated fields within a research through design discourse.*

*Caring for others through design has always been my passion. Let me rephrase, imparting this attitude to students, has been a life-long aim. I realise I have an empathic disposition and that not everyone is like this, however, this study excites me, as I've seen, first hand, how students find a connected voice. Even if it was for a short moment, or internalised into a longer trajectory into a design project. The scale of the impact of the disruption does not matter, as the magnitude lies in the effect the experience has on students as people, within their own being. During this process, I tried to stay as close to the data as I could, with coloured notes and reflective writings as proof. I remember the feeling when I discovered evidence that seemed trivial or inconsequential at first, but with another iteration of analysis, realised the value in the scope of the student's path of development, also the larger context of the biopic investigations.*

*This study was like an expedition, a passage into engaged learning, shifting perspectives, shifting perceptions. Definitely for me, but perhaps also for the participating students, even though they might not have experienced it that way, even if the workshop attitude and approach did not have an immediate impact on their design projects. I do want to believe that the upset stirred something within them, which will keep stirring until it can find an expression for each one individually, even in a small way. One day.*

## Chapter 8 CONCLUSIONS

...with the opportunity to experience making a meaningful and positive contribution to society while redefining what it means to be a designer will surely empower them to play a more empathetic role in improving the way they interact and communicate with each other and within their communities – as citizen designers (Resnick 2016:13).

*Chapter 8* concludes the explorative investigation by raising main points in a critical reflection that relate to the aspects introduced by the research questions. It furthermore highlights the contribution of the research, addressing various scales: individuals as students and lecturer, communities of teaching and learning, design pedagogy, design practice and the relation to a wider society. Last concluding words are presented and opportunities for further research are proposed.

### Critical reflection

The intention of the study was to extend the discourse of critical and creative design engagement by introducing hybrid ways of inquiry in the spatial design studio and by introducing a 'plug-in' workshop as a disruption. Various insights into transformative learning were revealed when the focus shifted to fluid and transient conditions of living that are human related and small in scale. As an exploratory investigation that emphasises an "interactive dialogic approach", the evidence expands the "static domain-knowledge traditional approach" (Salama 2015:6) of spatial design education practices. This study demonstrated what could happen when a disruption is inserted into an active studio project, using established design methods, tools and techniques and upsetting the status quo. Students were confronted to make modal shifts in terms of the ways they engaged with the workshop activities, as well as making transitions in personal perspectives, judgements and bias.

The research questions introduced aspects to the traditional spatial design studio, which are outside the norm. Users and their needs, tangible and intangible, were prioritised by means of a deliberate disruption by using normative dissociation, connected learning, a human-centred approach, empathy and an insider's view to engage with the workshop activities. This disruptive action was seen as a provocation with the intent to establish a connected design engagement as a continuous design approach and attitude. The main research question summarised the broad scope of the investigation, whereas the three research sub-questions focused on three separate, but interrelated aspects. These were all framed as *how* questions, suggesting a focus on process and making meaning of actions, instead of finding facts and answers to problems.

#### **main question**

*How can a human-centred approach as disruption by dissociation enable transformative design engagement in the spatial design studio?*

**sq1** *How does the insertion of a disruptive action by dissociation as designer, influence meaningful connection and design action?*

**sq2** *How can the adoption of a human-centred approach expand an empathic understanding when dealing with complex spatial design issues?*

**sq3** *How does the shift to insider perspective transform design thinking in students to reveal other design agendas?*

The interrelatedness of the sub-questions became evident during the detailed biopic analysis and relational biopic synthesis in *Chapter 6*, with one sub-question reaching into the domain(s) of the others, and vice versa. These aspects were therefore integrated, not only in the discussion of *Chapter 7*, but also considering the contribution of the research by addressing the influence on various scales and related conditions, instead of focusing on the individual concepts themselves. The thematic narratives of *Chapter 7* are thus relevant to the seven provocations discussed below, and are embedded holistically within each. They alternate between individual and collective engagement, understanding and future impact. 'Individual' includes students and lecturers, where 'collective' ranges from a student and academic community, to the field of design education, design practice and society.

## Contribution

The findings of the research show contributions that reach multiple scales and various stakeholders, starting small, by focusing on the individual as student and lecturer. It branches out to the various contexts (micro, meso, exo and macro) to represent the social-ecological model of human development (adult learning ecosystems) of Bronfenbrenner (1979/1981). The figure below is an adapted version of Bronfenbrenner's concentric circle model to indicate the circular influence of the different areas of impact that touch designers, communities, and society as a whole. The contribution reaches beyond an interior architectural scope, as the research becomes representative of the spatial disciplines from a holistic perspective. Disciplines operating in silos have become outdated. What is needed is a new mandate for spatial practices that cross boundaries to activate skills, understanding and insight needed for greater complex issues. The study highlights the conflict between accreditation requirements of professional bodies and the changing needs of a discipline, which no longer remain constrained by typologies. The contribution highlights the expanded needs of studios and processes of the future.

The points for discussion are summarised below are indicated in Figure 8-1:

### **Individual student development**

The understanding of a student's transformative journey provides lecturers with an awareness of opportunities for constructive disruption towards engaged learning. Instead of fully understanding someone else's reality, the students become aware of their own transformations during the process.

### **Student in community of peers**

When a student is in the company of peers, an expanded and inclusive learning ecology is created that emphasises the value of critical reflection as a collective. As a result, diversity, multiple perspectives and worldviews are embraced.

### **Lecturer personal teaching development**

Additional development highlights the urgent need for lecturers to integrate learning methods and tools (which could be non-spatial) to disrupt conventional ways that pose critical questions as a productive spatial inquiry.

### **Lecturer in academic community**

Interdisciplinary collaboration is critical in order to address complex societal issues. The academic community is responsible for learning opportunities where students can expand their skills set to include situational and empathetic awareness.

### **Design education / pedagogy**

Connected approaches to design education can reach deeper and directly address complex societal challenges. Design education has a responsibility to formulate an expanded approach for design inquiry for the future, one that combines design thinking (human-centred/practice) and designerly thinking (scientific/academia).

### **Design practice / profession**

Design practice is the place where the integration between design thinking (working with users directly) and designerly thinking (architectural processes) becomes entangled. It is time for action and for spatial design disciplines to remain relevant in a rapidly changing world.

### **Impact on larger society**

When emphasis is placed on process over product, spatial design has the capacity to build reciprocal relationships between academia, the profession and communities, and to create deeper understanding of complex, fluid and hybrid living situations and contexts.

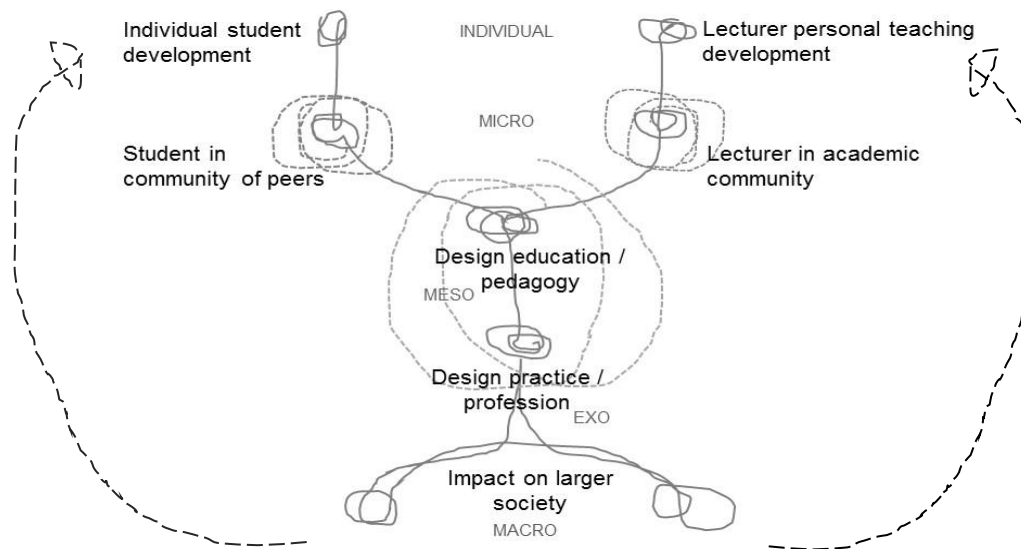


Figure 8-1: Research contribution context

## 1\_individual student development

The contribution of the research in the context of the students' individual development, relates directly to the student's potential for perspective transformation (King 1998), where premises are re-evaluated within the student's understanding of the world. The individual, as pivot for his or her own learning, is dependent on influencing factors within and outside the control of the student. The workshop shows that a disruptive practice awakens thoughts and perceptions previously unknown. It allows the student to re-evaluate a personal position in the design discipline, by being confronted with difficult and troublesome situations. Not all students responded productively, however, the research still maintains the view that the disruption was a shake-up, much needed at the end of the first degree, in preparation for the workplace.

Furthermore, the workshop demonstrated the much debated 21<sup>st</sup> century skills that graduates need for industry, especially making a contribution by extending the awareness of soft skills, such as empathy, awareness, situational understanding and a deliberate focus on the intangible and emotive aspects of design, which are so often disregarded, or not always found within the scope of commercial projects. When students can acknowledge perspectives other than their own worldviews, their understandings shift and they are able to respectfully engage and collaborate with communities. Human-centred values are prioritised to gain a deeper understanding of societal challenges embedded within design projects, by focusing with a micro lens on the relational encounters within complex situations. When this is possible, the insider voice of the student as user is activated, and the opinion of the designer is balanced as an ally or partner and not as a threat or intruder. The potential exists for students to adopt other attributes and other design values to challenge conventional social stereotypes.

## 2\_student in community of peers

The workshop presence within an active design project highlights the microsystem or context students find themselves in during their studies. Peer interaction, reflective and collaborative practices all contribute to graduate attributes. This learning ecology promotes sharing of opinions in a context where it could sometimes be daunting, due to the perceptions and fear of recognition of various voices within a design milieu. The plug-in workshop put everyone on the same platform for interaction, however, it was up to the individual students to actively participate and engage. Within this micro environment for design development, the physical aspects of the studio, the workshop, the design project, are all important considerations for the livelihood of the peer group. Even more so is the emotional and intangible health of the learning environment, as students either flourish or perish, depending on the studio culture and experience of the studio practice. The workshop provided conditions of transparency and constructive learning, although students did not experience it as a positive encounter at first. They found ways to expand their empathetic horizon and to relate to opinions of their peers, which could be very different from their own. In this way, respect and acceptance were nurtured. By reflecting together, they engaged with the process actively and in a connected way, not only with their own process, but also with the potential of another's influence on their own engagement.

The learning ecology of the studio furthermore provided the environment for students to internalise knowledge from supporting modules and sharing that with peers. The overall curricular content forms the grounding for the studio projects as an integrated system. This highlights the notion that design learning and knowing can happen outside the studio too and that interaction with peers and stakeholders as partners are critical to well-rounded designers.

## 3\_lecturer personal teaching development

The 'plug-in' becomes an example of another way that spatial design students can actively engage with complex design questions contained within studio projects. The tried and tested methods and tools are no longer supporting the layered and rich contexts and situations of design. The workshop shows that when students are exposed to other ways of 'thinking', 'making', 'sharing', and 'doing', different responses emerge. In addition, when 'feeling' and 'acting' are introduced, the design inquiry is steered in another direction altogether, by acknowledging a human-centred approach from the outset. Lecturers should thus be confident to explore other methods and ways of studio inquiry, without fear of failure. The workshop showed that disruption of conventional ways could be productive and constructive and could include non-spatial ways to ask critical architectural questions. The research demonstrated that the discipline specific knowledge (studio project itself, *what*) becomes a conduit for the investigation. Therefore, the scope of intervention into the way students engage creatively and critically (*how*) remains open for exploration.

Cognisance should however be taken, that when unfamiliar ways are introduced, students need some background as to the threshold concepts they will be interrogating. In that way, the severity of the

disruption can be minimised and students engage more freely and without anxiety. This workshop serves as an example of how lecturers can expand their personal teaching and learning portfolio in the context of the curriculum, to the benefit of research through design practices and furthermore, geared towards promoting a scholarship of learning.

*Reflecting on my own personal journey, I also changed. I became aware of my responsibility as a facilitator of this approach, because of the unsettling effect it has on students. When they are disrupted to their core, some form of constant should remain, in order for each one to stay confident on their own path of discovery. This is a different 'place' for everyone.*

*Furthermore, I realised that the inner voice I nurture for connection can become part of increased immersive practices in the spatial design studio. This excites me greatly!*

## 4\_lecturer in academic community

The workshop combines various disciplinary knowledge areas. Some are fringe concepts that align with the intent of the plug-in, to promote interdisciplinary learning. Every society has its challenges that influence the way we design. Even more so, today, the complex challenges we are facing cannot be addressed as a whole by just relying on one discipline. We need to collaborate in order to become well-rounded designers, equipped with the skills and knowledge needed. The workshop shows that soft skills embedded within design projects could be supported by other research areas, spliced into design competencies needed currently. For example, how can we engage with projects by only using the cognitive modality as active inquirer? By collaborating with other fields and balancing the cognitive with the affective domain by introducing situational awareness of intangible aspects this engagement can be achieved. This engagement is assisted by understanding the benefits and pitfalls of empathy and by embracing the soft skills required in projects. Here, aspects from psychiatry and health sciences (normative dissociation) assisted with placing the student in the shoes of another person or community. By considering social and educational sciences, transformative learning is emphasised. If a wider understanding within the design community of educators emerges to address design projects from various perspectives, the students will also adopt other views and experiences in their personal processes. This was clear, considering the role of the researcher in her own studio, as compared to the other studios where she was experienced as an outsider, stranger and ever intruder.

The opportunities for collaboration could provide a platform to share and investigate other critical and creative practices that have not been seen in the spatial design studio. This explorative study intended to uncover possibilities in order to develop the discourse of design learning into another direction as design research or design science. The main aim should always be, within this learning context, to make a difference in the lives of users and the lives of students. By sharing, across different schools of design, new thinking, new actions and emerging developments of engaged learning can be highlighted within an educational community of inquiry. Integral to this is the sharing of insights (Shea in Resnick

2016:21) and presenting of new discoveries within the design studio, to supplement and complement the conventional and traditional methods.

## 5\_design education / pedagogy

If a design community in higher education embraces connected and hybrid ways of design engagement, the influence on design pedagogy could shift and refocus on aspects of human-centredness, situational awareness and social innovation. When disruption is seen as a constructive action, and not as a process detrimental to the development of students, new concepts can be introduced to initiate other discourses about social and human behaviour to become a part of a daily design approach. Here, the relationship and entanglement between theory and practice become noteworthy, considering real-life scenarios as sites for projects. But, what happens if there is no access to these sites, or users as inhabitants? The workshop shows the value of embracing interdisciplinary concepts, such as normative dissociation and empathy, as activators, to increase understanding and insights, although it might have some shortcomings. This is even more relevant now, where the impact of a global health pandemic in 2020 resulted in a society subscribing to social distancing and isolated working conditions due to social restrictions.

Design education is dependent on ways to find active and connected relational understandings, also in these unprecedented situations. So, when students can recollect a related embodied experience, or imagine a fictional one, the link to the project becomes much more real and convincing. In this way, new situations can be conjured up, other contextual meanings constructed. Design pedagogy should not be blinded by ways of engagement that become too universal or generalised. Spatial design education is after all embedded in contextual and social richness and complexity which cannot be ignored. The design profession itself is already incorporating other ways into its practice.

The study furthermore demonstrates that other ways of engagement in the studio contribute to hybrid ways of knowing that expands students' understandings. Multiple intelligences are revealed to support and enable an inclusive learning environment. These actions are not necessarily architectural in nature and include approaches from the arts, health sciences and discursive design practices. In this light, the research motivates for a new language of representation to complement the traditional drawing and model building as spatial communication. By revisiting a visual language that is non-spatial, architectural questions can be elicited with more intent and criticality and also speak to a larger audience other than designers, and in that way engender wider insights. This is not only a decolonised approach, but also a way of eliciting empathy, care and relational understanding for all design scenarios. The emphasis is not on the idea of doing things differently, but to become inclusive and holistic as part of an everyday design practice. This study becomes meaningless if translations cannot be considered in alternative ways, in order to have meaning for the user. Perhaps it is time to question the traditional plan, section, elevation and perspective by opening up the representation of spatial issues. The challenge remains the parameters and restrictions of accrediting bodies and professional expectations that guard activities in academia.



## 6\_design practice / profession

This study speculates that with increased research through design projects in design education, focusing on real-life scenarios and human-centred matters, the design profession will experience a positive influence by graduates making their way into the workplace. With a shift in design thinking and engagement, design pedagogy prepares students for increased work readiness, by introducing hybrid methods. Critical and creative inquiry by students in higher education means acute experimentation of ways of engagement that are hands-on and direct as this study illustrates, but could also include technology and related social media applications to address wicked problems in ways not yet considered. The workshop opened the door, first causing anxiety, but later tolerance, or acceptance of unfamiliar practices, for which several students were grateful.

A further benefit of the workshop highlights an awareness of students' own judgements and bias, exposing them to other opinions, perspectives and views, different from their own. Design ethics, respect and responsibility of a designer as an agent in service to others are values that come to the fore. Design education does not only introduce abstract concepts to students, but also prepares them with intangible skills. Even more so, the workshop inserts unfamiliar considerations that students can choose to utilise to the benefit of the design profession at large. This understanding of an expanded architectural practice is important, because change happens slowly. Just as the discipline and profession of architecture and design is slowly transforming its white male-domination, we see how much "decolonizing effort" is required to rebalance histories, educational agendas, and those narratives that we import into the academy.

## 7\_impact on larger society

When students address issues that lie close to their heart, they make different choices in design: they engage in a connected way, they relate to users on deeper levels and in this way develop into citizen designers (Resnick 2016:12). They are differently equipped for complex design challenges, they are responsive, they advocate for inclusivity as active citizens for "massive small change" (Campbell 2018:276). The 'plug-in' opened the door to asking design questions in different ways, to asking difficult questions, or reframing the same concern in a different way. The study hopes that continued practice into making positive change will further stimulate research through design and become a way to address the challenges facing societies and facing designers today. The study shows that through connected engagement and empathy, increased understanding can be found. This is only possible as a reciprocal relationship between the design academia, design profession and communities. It cannot be a one way street. Mutual respect and insight into other worldviews, realities and perspectives are key to harnessing kindness through design. By forging links between academia and the profession, critical connections between different stakeholders can be established for a shared better future.

## Future research

Concepts and themes emerging from the discussion relating to interdisciplinary study are highlighted as future research topics. In addition, the scope of the study excludes some aspects in order to delineate the focus, which can now be considered for future research. It proposes to extend the use of the plug-in workshop into different directions by considering the opportunities presented below. Lastly, it highlights future research potential into new directions.

## Interdisciplinary themes

The study introduced interdisciplinary research overlaps that provide opportunities for further research in the context of research-through-design projects.

- Relate learning styles to the transformative development in the context of the 'plug-in' disruption;
- Further investigation into transformative learning theories, considering a linear or hierarchical understanding to a non-sequential manifestation;
- Focus on modes of engagement, emerging from the biopic investigations as related to the affective domain verbs in this study: 'feel', 'act' and 'be';
- The effect of time on the students' transformative development as an argument of disposition to design practice in the context of critical self-reflection, normative dissociation and empathy;
- Investigation of 'solution-led goal analysis' in comparison with 'dialogue with the situation' to obtain the impact on the epistemological transitions and ontological shifts of students, in light of a 'scenario-led potential analysis', instead

## The 'plug-in'

### **Quantitative research methodology using the same plug-in insertion in the spatial design studio**

The study uses a qualitative research methodology in order to uncover the fuzzy, messy, rich and engaged qualities of the investigation as a speculative study. By introducing a quantitative approach, a comparison can be made between the nature of the data and its interpretations in order to extend the academic rigour of the exploratory research.

### **'Plug-in' workshop insertion in other design disciplines and or human-centred project contexts**

Determining the value of the plug-in within other design milieus can determine the robustness of this speculative approach, as a stimulus to engaged learning in other disciplines such as graphic design, fashion design, multi-media design, eating design and design for social innovation. It could prove a possible wider impact where the user is prioritised in fluid and transient situations to deepen understanding for better framed projects.

### **Exploring other activities of critical and creative inquiry within the same spatial design focus**

By inserting other activities into the plug-in workshop to promote modal shifts in perspective and modes of engagement, besides the ones used in this study (problem statement, keywords, vignettes, peer interaction, critical artefacts and reflective essay), it could reveal other threshold concepts and reflective moments. This approach can be used to test validity of expanding the tools and techniques for engaged learning, beyond the traditional, conventional design inquiry, whilst keeping the workshop intention the same.

### **Disruptive action of various duration and frequency**

Exploring the use of the disruptive principle can determine how engagement during disruptive practice can be sustained over time and still have a productive influence. Perhaps the introduction of a series of small disruptive activities, accumulating to a larger project, could track the transformation over time. If the workshop brief was created with a fluidity and flexibility between various types of activities, the disruption could perhaps be sustained for a longer duration, deliberately shifting focus according to the scope and context of the investigation. This notion of duration can also be explored to investigate the effect of disruptive exposure as a longitudinal study in order to gather data across different student groups, and could include a variety of design disciplines.

### **Discursive design in the spatial design profession**

This study shows small, but significant shifts in the biopics, in a discipline where traditional or conventional investigations primarily have solution or product driven outcomes, due to the professional focus of delivering buildings. This recommendation proposes ways of deepening the understanding by obtaining insight into users' unspoken needs and requirements, beyond the focus of static architectural design. In this way, familiar architectural processes can be extended to be more than an emphasis on design of building and buildings as objects, to refocus on the engagement with users, obtaining complex understandings, internalising and translating affective experiences, creating contextual meanings and adding value in intangible ways.

## **New research directions emerging**

The speculative approach to the study brought to light three bigger questions for consideration. The time for critical discussion and much needed action on issues of transformation, representation and immersive learning in spatial design pedagogy, is now.

### **A relational spatial design pedagogy for transformative learning**

Considering design development from a linear or sequential trajectory is short sighted and cannot sustain the nuances of transformative learning. A fluid and relational approach to spatial design can inform not only students' personal development, but also new directions for curricular design.

**Representation and discourse**

A more sophisticated language is required, both in discourse and in visual media / representational format, to make relational complexity and emerging concepts of time and space visible.

**Immersive studio practices**

The introduction of multi-modal explorations (both critical and creative) can enable more immersive practices in the design studio and reveal multiple intelligences. The collaborative nature of this type of design inquiry can potentially lead to new formats of studio culture.

## *epilogue*

*When I started this journey, three years ago, I had no idea where it would lead, what the actual questions would be, or how its development would unfold. Looking back, what would I change if I had to do it again? Nothing. This journey was truly an aleatory\* investigation. At the time of my initial research proposal presentation, I was captured by this approach. I found it difficult to articulate what I intended for the study. Yet this is exactly how the process unfolded. I knew that the journey would reveal itself, that the nature of the inquiry would become clear and that the focus would come into view. I was right. Over the last three years, I found my voice, my research voice.*

*Little did I know that by shifting the focus from 'what' to 'how', that I would also be transformed. I often tell students that when you study design, you change; your life will never be the same again. How I have more insight into what that means today. I too, am not the same person anymore.*

*This study is only a start, and not the end, in this investigation. My hope is to open secret doors into the discourse of design pedagogy (or any discipline for that matter). I want to see what happens when the status quo in the spatial design studios of architecture and interior design is disrupted. If students can adapt to other ways of engagement. My own experiment at the outset proves to me that realization, at least, is possible and I will continue this endeavour for more connections, deeper understandings, better relations, meaningful associations, and overall, engaged learning.*

\*Aleatory is described as "... indeterminate applications of chance ... performers-users ... ever-changing scores ..." in *Architectures of chance* (Manolopoulou 2013:xxiii).

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*let us continue  
the conversation  
over a cup of tea  
or  
barefoot under a tree  
– this study has just begun*

