

**Daniel Pratt, Shane Hoose & Wellington Gordon:**  
**Transnational Flow in Cloud-based Music Production:**  
**Organisational Communication and Collaboration Between**  
**Australia and America**

Citation

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**Abstract**

In this paper, we take three researchers from different parts of the globe and experiment with long-distance songwriting through a sociological and organizational lens. During this process, we combine production expertise and facilities into a networked recording studio environment with expanded toolsets centred on songwriting production. We investigate a new flow concept that we name transnational flow (TNF). This flow state exists as a form of non-synchronic group flow somewhere between Csikszentmihalyi's (1995) individualist flow theory and Sawyer's (2007) group flow theory. The paper investigates the difficulties of managing multiple flow states in a complex organizational network between Australia and North America. We use Karl Weick's Sensemaking (1995) and Jazz metaphor (1998) theories to form an organizational framework that enables the creative flow process to occur over a complex network with a time difference of seven hours.

*Introduction*

Several digital workstations have implemented collaborative elements to their platforms with varying degrees of success. Questions of stability, consistency, and complexity surround projects when artists collaborate across different counties to produce new music. Rather than focus on the technical aspects of collaboration this paper investigates the communication strategies surrounding a transnational workflow. We take three experienced songwriting producers from three different locations across Australia and North America and explore the interpersonal and technical aspects of group communication and flow. We posit that there is a networked state of non-synchronous flow that occurs in this framework without concrete borders or time restrictions.

In this project, we treated the writing and recording of a song as an organizational exercise informed by distributed creative technologies, communication theory, and group flow theory. All members of the group participated in every aspect of the decision-making including the writing, recording, and mixing of a new song. This full integration enabled us to investigate group interplay from the inception to the conclusion of a project. Due to the logistical nature of a project between North America and Australia, there was a binary interaction of individual creative flow states and socially negotiated logistical decision-making. The creation of the song occurred as a networked flow of ideas, and the organization process to facilitate these flow states occurred in weekly sensemaking meetings. We tested whether it was possible to maintain a state of networked group flow as a songwriting production team without existing in the same space and time zone. Our research investigated how a socially constructed organizational approach reduced factors like distance and time in the creation of new musical content.

### *TNF in the literature*

Transnational flow (TNF) is a networked system of flow states occurring in multiple regions of the globe. It utilizes technology to connect separate flow states and builds them into a group flow interaction. It draws on Csikszentmihalyi (2000) and Sawyer's (2007) sociological work on the subject of flow and group flow. TNF is a non-synchronous hybrid that draws on elements group flow and individual flow, it occurs as a network of semi-isolated flow states; this means that TNF lacks the direct physical interaction that usually happens in a creative collaboration such as jazz improvisation where group members respond to cues in real time. Unlike Sawyer's (2007) group flow theory, TNF is reliant on the analytical sensemaking models and Jazz Metaphor approach of Weick (1995) to facilitate the creation process. TNF differs from Sawyer's (2007) group interaction theory used to explain Jazz improvisation and group interaction in theatre because the networked group is involved in a form of delayed networked flow states. However, TNF is not an individualist form of flow as discussed by Csikszentmihalyi (2000). An example of a more traditional form of non-synchronous flow occurs in recording studio settings where group members arrive at different times to perform parts in a staggered manner. However, in this TNF example, the group members are never in the same location and have no mediating factor such as a shared studio facility, engineer, or producer.

Weick's (1995, 1998) flexible organizational approach allows us to transverse the increased level of complexity derived from working with mixed technologies in multiple regions of the world. This structure establishes a binary of creative flow states (Csikszentmihalyi, 2000, Sawyer, 2007) and retrospective analytical states (Weick, 1995, Sutcliffe &

Obstfield, 2015, Gioia, 1988, Rutledge, 2012, Allan, 2009). As a result, this form of group creative flow follows a model of sensemaking meetings, recording in a non-synchronous flow state, analyzing the process and repeating until the project ends. Thus creating an interactive binary process of analysis and creativity.

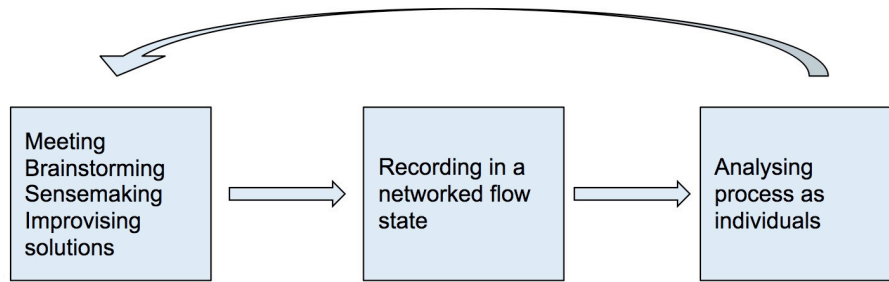


Figure 1. *The interaction of creative and analytical states.*

### *Distributed Creativity*

TNF is a form of distributed creativity that needs an analytical framework coupled with a creative organizational philosophy and a networked central nexus. This investigation represents a non-individualistic creative process that we refer to as distributed creativity (Sawyer & DeZutter, 2009). Sawyer and DeZutter (2009) define the group creative process as “[o]ne that generates a creative product, but one in which no single participant’s contribution determines the result” (p.81). Campelo and Howlett (2013) adopt the distributed creativity model to “refer to situations where collaborating groups of individuals collectively generate a shared creative product”. Brown (in Salavuo 2006) discuss the cognitive diversity of online music communities, referring to the concept of distributed expertise as “individual members possess knowledge of a particular subject, which exceeds the knowledge of the whole community” (2006: p. 255). In music production, a single recorded artifact is produced as the result of coordinated output by skilled experts and machine labor and through collaborative exchanges (Lefford, 2015). Tasks are not accomplished by separate individuals, but rather through the interactions of those individuals (DeZutter, 2009). To sustain this collaboration, experts come together in a shared virtual production, which is delineated by agreement among collaborators. Usually, the context for collaboration consists of a combination of conceptual and physical configurations (Lefford, 2015).

## *Flow*

Flow is a cognitive feedback state that exists as people experience peak mental activity. It is a subjective state where the human brain processes and adjusts in a seamless motion (Csikszentmihalyi, 1990). According to Sawyer (2007), flow is a difficult state to attain and relies on particular circumstances. To reach a flow state a person must have the skills to match the task, clarity of goals, immediate feedback on achieving their targets, and complete concentration on the task (Sawyer, 2007). The knock on effects of a flow state are increased confidence, clarity of goals, the transformation of time constraints and a loss of self-consciousness (Walker, 2010). Csikszentmihalyi (2000) states that flow contributes to the understanding of "enjoyment, here and now - not as compensation for past desires, not as preparation for future needs, but as an ongoing process which provides rewarding experiences in the present" (p.9). In the recording field, this concept of positive psychology is backed up by Howlett (2009) in his discussion of recording session flow and the added benefits that arose from a positively flowing recording session. Flow occurs in creative projects like music recording because of the intrinsic reward that naturally takes place in creative, driven activity. This, in turn, attracts autotelic personalities that thrive on the intrinsic rewards that imaginative invention provides (Csikszentmihalyi, 2000).

Keith Sawyer takes the notion of flow and de-individualized the process. He argues that collectives with an accumulated body of tacit knowledge have the potential to engage in a group flow experience that exceeds the boundaries of mono flow states (Sawyer, 2007). In this sense, groups engage in a synchronization of flow states but with a wider palette of interconnected knowledge. In a collaborative setting, such as jazz improvisation, a diverse base of tacit knowledge increases the potential for creative outcomes. This decentralized form of creative decision-making results in the recognition of, as well as deference to, the "emergent flow of the group" (Morrow, 2012). However, for productive and insightful group flow to occur, collectives need to meet certain conditions. As previously mentioned, TNF borrows from group flow but lacks some of the direct response to cues due to the delayed nature of flow states separated by less compatible time zones. As an emerging theory, TNF falls between individual and interactive group flow states. To set conditions for TNF, we borrow from both Sawyer (2007) and Csikszentmihalyi (1990) but add intersectional organizational elements from Weick (1996). This triangulation of theories allows us to create the conditions to connect individual flow states that interact over vast distances within a technologically sophisticated framework.

### *Conditions for TNF*

1. TNF group members need to have a minimum level of tacit knowledge and skillsets specific to the project.
2. TNF Group members need to have a common shared knowledge base and can have further specialization in certain areas.
3. TNF has no concrete boundaries but combinations of spaces that create abstract conceptualizations of the working creative environment.
4. TNF requires the separation of analytical states from creative states to facilitate the individual flow moments for networking.
5. TNF needs an overarching pragmatic and improvisational philosophy that facilitates and accounts for the unpredictable nature of networked recording sessions occurring over long distances.

### *Sensemaking*

A network of decentralized flow states relies on regular sensemaking discussions to untangle the complexity associated with the creative invention in a decentralized structure. Sensemaking is best described by Weick, Sutcliffe, and Obstfeld (2005) as "the ongoing retrospective development of plausible images that rationalize what people are doing" (p.409). It is a socially driven group discovery mechanism whereby members examine and discuss complexity to increase comprehension and come to a unified understanding (Rutledge, 2012). Sensemaking differs from the usual cognitive looping that producers and music makers encounter when operating as individuals. Sensemaking is more of a "social constructionist process in which people respond to the unusual, the confusing, the unexpected and change by using cues from the environment and their mental maps to construct meaning and literally make sense of events" (Allen, 2011).

Karl Weick (1995) grounds sensemaking using seven properties with the intent of placing "boundaries around the phenomenon of sensemaking" (p. 18). These seven properties are the construction and questioning of identity, retrospective analysis, adherence to sensible environments, social inquiry, ongoing examination, the extraction and mapping of cues, and the drive towards plausibility over accuracy (Allan, 2009). In Weick's (1995) own words "This sequence is crude because it omits feedback loops, simultaneous processing, and the fact that over time, some steps may drop out" (p. 18). When applying sensemaking in a practical setting like TNF, it is necessary to divide these properties into either implicit or explicit categories. This separation means we reduce these crude markers into a more practical model that is applicable during a creative meeting. To develop our context-specific model of sensemaking we draw on the adaptations of Rutledge (2012).

To simplify the process into a practical model, we assert that certain properties of sensemaking occur implicitly to our experience of TNF. Firstly, meetings for a TNF project are implicitly social by their nature. Secondly, the framework, tools, and roles occur in a context specific environment. Thirdly, the communication, file sharing, and recording technology coupled with the historical conventions of music production served to direct our environmental boundaries. Our roles and environmental limitations serve to inform our grounded identity constructions. It is when we question these constructed identities that our sense of flow is interrupted and the practical implementation of sensemaking begins (Weick 1995). Understanding the implicit and explicit sensemaking properties that apply we are able to construct a practical model based on Rutledge’s (2009) model of sensemaking.

To untangle a complex problem we begin to "bracket" (Rutledge, 2009) to isolate the interruption that removes us from the the flow of experience. Once outside that flow, we use retrospective analysis to determine and map the nature of the disruption (Weick, 1995). During the mapping process, we try and discard phrases to understand the nature of the interruption. As soon as the mapping occurs, we then suggest a series of plausible solutions. Plausibility is the fundamental criterion of sensemaking" (Weick, Sutcliffe, & Obstfield, 2005) because it removes the debilitating need for precise answers and moves the social group towards action (Rutledge, 2009). The final stage of this social cognitive exchange is taking action and pragmatically analyzing the results of the action. This process is ongoing and it is repeated at every meeting so that the creative vision of the recording session is constantly revised, refined, and updated.

### *The Jazz Metaphor*

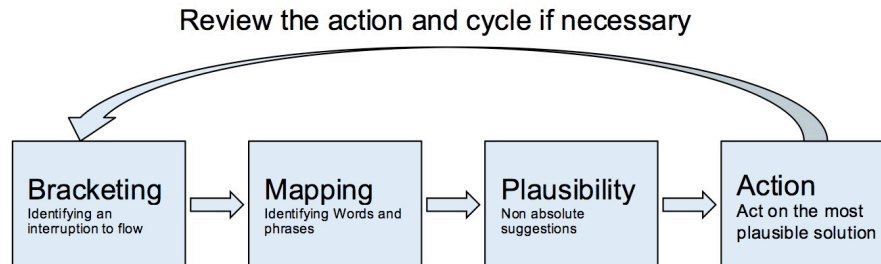


Figure 2. The practical model for sensemaking process based on Rutledge (2009)

Improvisation as a mindset for organizational analysis is part of Karl Weick’s (1998) later organizational communication work which bears similarities to Sawyers (2007) jazz-laden group flow metaphors. Using an improvisational Jazz based metaphor to support organization is hardly a new concept in Organizational theory (See: Senge, 1994; Hatch, 1999; Hum-

phreys, Brown & Hatch, 2003; Moorman and Miner, 1998a, 1998b; Barrett, 2000, Mantere, Sillince, & Hämäläinen, 2007). Weick (1998) presents organization as the antithesis to creative sociology such as flow (Csikszentmihalyi, 1990). He infers that an improvisational mindset for any organization adds flexibility to the structure and accounts for interpretation, embellishment, and variation. Each of these steps is an incremental departure from the original intent of the plan. In TNF we use sensemaking as a methodology for dealing with complexity in the recording process. However, the improvisational mindset enables us to begin our research without a complete plan. "Thus improvisation deals with the unforeseen, it works without a prior stipulation, it works with the unexpected" (Weick, 1998, p.544). Taking this mindset into consideration early in our recording, we experimented with our initial recording setup.

### *Methodology*

To understand the relational, interactive, and process-oriented nature of TNF we employ a multi-qualitative approach to investigating it as phenomena. We thematically organize our data analysis into three examples of networked flow states, sensemaking, and improvisational mindset. We triangulate between recorded meeting data, observational reflections, and treat the song creation as an observable organizational process. The transnational distribution of the project members creates an enforced separation that offers a chance for us to record our sensemaking sessions and observe our organizational method as a separate analytical state while relying on observational data to understand our creative states.

### *Participant Observation*

Participant observation serves as our primary methodology to engage on an interactive level with our emerging data. Atkins and Hammersly (1994) point out that participant observation is "observation carried out when the researcher is playing an established participant role in the scene studied." This qualitative approach provides us with the ability to develop a deeper understanding of process and relational elements with which to situate our research. Acting from within the system we contextualize and interpret unfolding data of significance to expand our awareness of events (Schwartz & Schwartz, 1995). As participating actors in the process we generate data that can meaningfully add to our collective understanding of human experience (Guest et.al, 2013). Interview data provides opinions on a project in hindsight but doesn't provide insight on the mechanics of process that happen from the perspective of the participant. One of the difficulties that neutral

observation faces is the accusation of participating in a “form of tourism rather than data collection” (Guest, et.al 2013).

In the case of any TNF exercise, we are incapable of allowing ethnographic tourism. Each member must understand the concepts with a depth of insight only possible with an intimate knowledge of recording process. TNF requires a particular type of implied knowledge that sets a minimum standard for participation in a project. Morrow (2007) suggests that for a recording group to experience a cohesive form of flow “the members have to share tacit knowledge and demonstrate comparable skill levels”. Our approach was to assemble a group of researchers that have a diverse enough skill set to enhance our potential for group flow. Each researcher needed a baseline of tacit knowledge appropriate to key recording concepts such as gain staging, equalization, microphone technique, and musical ability. There is an invasive aspect to neutral observation and “studio access is generally open only to those involved in the production” (Thompson & Lashua, 2014 p.749). This means that observers “are considered interlopers, at worst they are obstacles to the recording process” (ibid). The non-participating observer may alter the course of events, even when the observer is temporarily absent” (Schwartz & Schwartz, 1995 p.346).

### *Interaction analysis*

Due to our use of Skype video conferencing we have access a rich source of non-verbal and interactional information to expand the scope of our transcriptions. Interaction analysis provides a methodology we use to analyze distributed creativity—a method of analyzing verbal gestures, body language, and conversation during collaboration. (Sawyer, 2007) Using interaction analysis, researchers explore group creative processes and gain new insights into how creative products emerge collaboratively from groups. Multiple viewings of recorded video reveal the richness of both verbal and nonverbal actions, allowing researchers for the first time to study the rich multimodal nature of human interaction (Sawyer/DeZutter, 2009). Transcription methods vary in detail depending on the researcher’s interest; in some cases, only talk is transcribed; in other cases, nonverbal details such as eye gaze and body position are important and recorded along with speech (ibid).

### *The Technology to Sustain a Creative Network*

The network for this project consisted of recording facilities in three different locations around the globe, Kentucky, Maine USA, and Brisbane Australia. In each location, participants had access to different analog and digital recording equipment. The distribution of tacit knowledge and studio facilities in this project presented a compartmentalised approach to recording



where each member performed specific roles. In a musical sense, participants were specialists, but not solo artists. Drums were tracked in Kentucky, bass was tracked in Maine, and the guitar and vocal tracks were recorded in Australia. This larger abstract recording studio also provided the ability to tap into a global network of performers, opening up project studios to a wider scope of musical guests who contributed to a growing pool of tacit knowledge. Additional musicians recorded overdubs in Kentucky such as theremin, saxophone, keyboard, and tape effects.

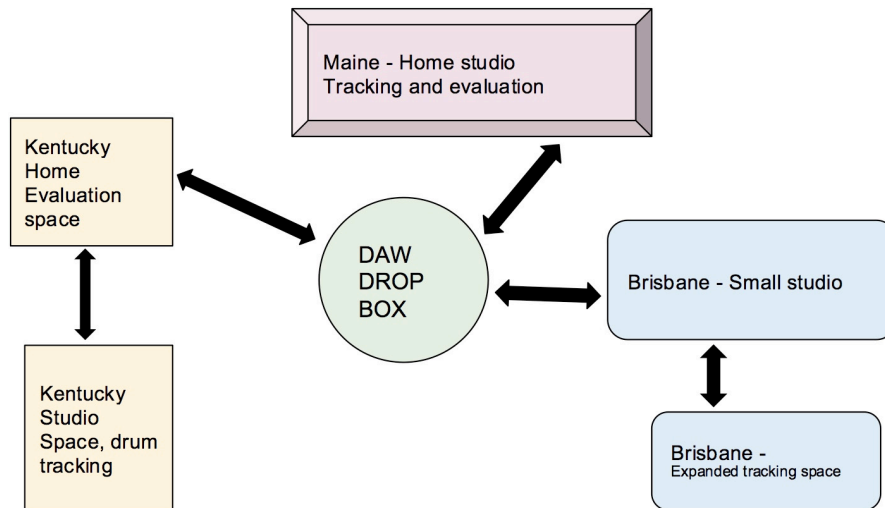


Figure 3. Small networked facilities combine to create one large abstract studio.

We used a variety of analog and digital equipment during the recording. Cockos REAPER served as the digital audio workstation (DAW) for this project because it was an easily accessible platform. Using a unified DAW minimized conversion time and confusion when exchanging sessions. The use of analog processing including time based processing like reverbs and delays reduced the need for a unified plugin library. Furthermore, specialised plugins were “printed” into the session to avoid compatibility issues. This combination of unique processing tools allowed us to define our sound.

We saved the Reaper session on the Dropbox file sharing platform. The file sharing platform enabled our session to reside on a server in the cloud, rather than on local machines. File management through Dropbox provided a central nexus for our transnationally distributed creative team. This nexus allowed participants to interact without all having to be present at the same time. Each contributor could upload, download, comment and make changes to a session independently from the other collaborators.

We held regular weekly meetings throughout the songwriting and production process. Using Skype as our communication platform during these meetings enabled us to conveniently make immediate decisions

regarding the musical ideas, direction, and production techniques. These sensemaking sessions facilitated the group flow and assisted the progression of the project. Working in weekly stages allowed us to revise the previous achievements and plan for the following week of creative invention. The sensemaking meetings allowed us to manage any technical or accidental complications proactively. The video platform of Skype enabled us to gauge each other's reaction to ideas reflexively. Having the ability to view and socially respond to nonverbal cues added another level of feedback that is not possible through written or verbal communication.

File naming systems and organization were an especially important aspect of this project. Working collaboratively in the cloud can lead to some potential file conflicts. The numbering system was broken into whole numbers depending on which part of the song we worked on. For example the drum and bass recordings over the first weeks were numbered 1. As we gradually updated the drum and bass parts we included decimal increments to the whole number so that we didn't accidentally create file conflicts. For example 1.1, 1.2, 1.3. If we worked on any significant parts we would also add a descriptor to the numbers so that we could access the session quickly during our weekly meetings.

### *Results and Discussion*

Our study yielded significant examples of TNF conditions in action. The following three examples are thematically organized into examples of Flow and Group Flow in a distributed environment, Sensemaking, and Improvisational approach.

#### *Example 1 - Reflections on the Beginning of the Project*

In this example we extracted the reflective entries of the participants to examine how this process began and where the experience sits in relation to the concepts of Flow and Group Flow and the emergence of the creative network.

**Daniel Pratt Reflection:** This song idea began on a coincidental plane ride with myself and Shane on the way back from ARP 2016 in Denmark. By pure chance, we happened to be sitting next to each other on the flight from Aalborg to Copenhagen. At the time Shane and I had not spoken much, but we immediately started talking about writing music together. It was a vague fun plan centered around connecting two studios and having fun writing a song. After I returned to Australia, we both remained in contact and chatted via Skype about music. One day Shane just sent through a drum track he'd been working on, and it immediately triggered my creative instincts. As a producer, my workflow revolves around bouncing off ideas and adding my

take to things. This drum track inspired me to spend a few hours playing with complimentary guitar lines, and, before I knew it, we had effortlessly arranged a song that had an upbeat, energetic vibe. Wells, joined the group after responding to a Facebook comment and suddenly the three of us were bouncing ideas around and writing a song. This process grew organically, and I became excited to wake up in my different time zone to hear what had happened while the other guys were awake and tracking away. It's a motivating feeling to get up in the morning and hear these great ideas coming from the other side of the world. As the project grew in complexity we decided to start a weekly meeting so that we could plan the song to avoid a haphazard approach and focus our creative energies. (Dan Pratt, Reflection - September 2017)

**Shane Hoose Reflection:** This collaboration began last December—shortly after the ARP2016 conference. I usually practice with backing tracks in a variety of styles at home. Although most of the stuff that I play falls specifically under the "rock" category, I feel that it is important to be able to play the other styles well. Entering into the process, I honestly had no idea where this thing was headed, or if it would even proceed or would be successful. Since I was essentially playing by myself and only with a metronome, I was very careful not to overplay anything from the beginning. Otherwise, the drum part would be too cluttered, and there would not be adequate space for anything else. I figured that it would be best for me to keep things somewhat basic as well because I wasn't necessarily sure what styles everyone else was comfortable with. I aimed for a solid backing track that would serve as a bed for anything else that was added. I remember one of the earliest discussions before we actually did anything was an agreement to use Reaper as the DAW. In other words, we agreed on some specific parameters for the project. If I remember right, all of our communications were by email until Wells joined. It was early February when Wells came into the discussion for the first time. That was when the Skype meetings began. That was an important point in the process. The unique thing about this collaboration for me is that I knew absolutely nothing about anyone's prior musical or production experience or style entering into this. From this standpoint, it seemed like totally shooting in the dark. (Shane Hoose, Reflection - May 2010)

**Wellington Gordon Reflection:** When I first listened to Dan and Shane's track, I was excited. Sonically it bared resemblances of many of my favorite style of music. Shane's drums had a classic Motown vibe, Dan's guitar also suggested a Motown feel but also it's skank like rhythm that reminded me of reggae. Dan's choice of reverb on the guitar and drums also created a sense of nostalgia for me. The combination of the drums and guitar placed the sonic signature close to artists like Amy Winehouse, the Daptone's catalog or Lilly Allen. Dan's voice and accent also gave me a sense of familiarity and reminded me of some alternative British groups. (Wellington Gordon, Reflection - April 2017)

These three reflections provide insight into the reflexive group flow that occurred in the project. They refer to the organic process that built a technological framework around the group's creative invention. Dan, Wells,

And Shane began weekly meetings as soon as they decided that the project had reached a level of complexity that required organization. Each participant noted that the previous recording induced an excitement and focus to their writing process. For example, Wells explained his nostalgia and excitement when hearing the flow states of Dan and Shane for the first time. He explains how this triggered his past knowledge of musical acts that informed his production practice and how they relate to the feel of the song. As a flow process, each member triggered the other into a collective creative state associated with Sawyer's (2007) group flow. Dan noted that Shane's drum work inspired him into an extended flow state. It was interesting to note that the difference in time zones and the distributed form of creativity gave the participants the ability to both influence each other's creative invention as well as to exist in a constant personal state of flow. In drawing conclusions from this analysis we try to avoid leaning on the emotional responses of the participants but we do notice that these flow states occurred as a direct reaction to previous flow states and not of their own accord. This makes it difficult to untangle emotional response to stimuli to the triggering of a flow state. As a result, we claim that these states fall somewhere between Csikszentmihalyi (2000) and Sawyer's (2007) flow and group flow theory and draw from the characteristics of both individualistic and group flow theories.

### *Example 2 - Tape Loops to the Rescue : Sensemaking to Restore flow*

In this example we take three transcripts from the recorded meeting videos to examine a sensemaking process that occurred during a major change to the bridge section of the song. The bridge section was detracting from the individual flow of the group members and caused the creation of the song to halt. These conversations provide insight into how the group made sense of the interruption and how Shane's contribution provided a flow state that restarted the non-synchronous flow of the group. It is important to note that the group cannot use Sawyer's (2007) group flow to rewrite the bridge section in real time by reacting to cues and presenting ideas in a shared space. As a result, the group relies on sensemaking to discuss solutions and restore the flow of the project.

### *Meeting Video #6*

**Dan:** The brass stuff is taking away from the way the guitars bass and drums interacting, and I feel like it's not working. Then there is the autumn leaves section, I'm nervous that we will sound like irrelevant white academics trying to play funk. I was thinking that we might be moving away from the funk and moving towards a more Portishead vibe. Remove the bridge and horns and add maybe street percussion.

*(Dan makes the effort to look into the camera- so that it appears that he is trying to make eye contact- a form of sincerity when offering constructive criticism and new direction to the song)*

**Shane:** What do you mean street percussion?

**Dan:** Roto toms, people clapping and talking, like a street party.

**Shane:** I kind of like the idea.

*(Shane nods and smiles)*

**Dan:** It would be fun.

*(Dan becomes more animated with enthusiasm when continuing the conversation)*

**Shane:** I could get some timbale and other percussion.

**Dan:** Let's change the horns and look towards the keyboardist and see what he can do.

**Shane:** The keyboardist has rhodes, organs, moog synths.

*(both visually show excitement for the new plan)*

### *Meeting Video #9*

**Shane:** Alright. I added some more craziness in. . . *(Dan smiles while listening in response and says ohh yeah)* Just a little bit. I actually came up with one or two other ideas too for this thing. That middle section where it was originally the circle of fifths type of progression where I think that we are collectively thinking that it is going to do something really different there.

*(Shane is more animated than usual when explaining his ideas about the bridge section- showing excitement)*

**Wells:** I am open to seeing where it goes for sure. I wasn't heartbroken that we went different directions or anything.

**Shane:** What would it sound like too if maybe we added some guitar feedback in there too maybe

**Dan:** I'm in. I'll pop that in. I'm about to spend the day rebuilding the studio.

**Shane:** I'm not saying that it is something that we have to use, but it is something that came to mind.

**Dan:** Crowd noise too.

**Shane:** I did get us some crowd noise too this past week.

**Dan:** I'm listening to the crowd noise right now.

*(Dan Smiles while listening to the crowd noise)*

**Shane:** For some reason I stepped outside on Friday night and they were setting off fireworks, and I thought it was a good idea.

**Dan:** I might throw in some random yelling too. I am working with some high school students on Friday. I might try to get them to do some yelling. Like “yay” and “hey”, stuff like that. The crowd noise sounds great.

*(Both Shane and Wells smile and nod in agreeance)*

**Shane:** I also threw a tape loop in there to see what it would sound like.

**Dan:** You called it “tape loops”?

**Shane:** Yeah.

[Dan listens to the tape loops]

**Dan:** Oh. Dude, that is cool.

*(Dan Smiles in approval)*

### *Meeting Video #14*

**Shane:** I think that the moment that we decided to veer away from the Motown sound and head in a different direction that led us down the road that we ventured down was a good decision in hindsight.

*(Shane looks satisfied as he reiterates how the group's choice to move in the current direction has been a positive experience)*

**Dan:** Yes. It was a really good decision to abandon in than to try to push it. There are things that we do as a collective where Motown is a very good basis for starting, but then it can go somewhere else. And I think that your tape tricks are a thing, and it is a cool thing.

*(Shane smiles and nods in agreement) (Dan has enthusiasm in his voice and a satisfied look on his face when mentioning Shane's approach to using analog tape)*

**Shane:** I thought of that too as I was messing with that stuff, but we all have different tools that we use. But, the tape machine is one of those tools where not everyone has one now, and the people that do have them are not necessarily use them to do unusual things like obliterating things and taping them back together in random order.

**Dan:** Yes. The tape machine as a creative tool rather than a mastering device.

These three transcripts provide an insight into related sensemaking processes. In the first transcription we observe the identification and bracketing of the area that needs improvement. In the second transcription the group reacts to the plausible solution to a problem that halted the creative flow of the group. In the third transcript we identify the action point that occurred as a result sensemaking process. In the first video Dan is communicating an irritation of the senses (Pierce, 1778), causing him to doubt his process and investigate the source of his irritation. Weick (1995) states that the questioning of identity construction occurs when our senses are irritated, causing members to step out of the flow and analyse the interruption that is impacting the creative process. This interruption to the flow causes a member of the group to begin the process of bracketing (Rutledge, 2009), Dan brackets his concerns around a chordal movement in the bridge of the song. He describes this area as the *Autumn Leaves* section. The bridge follows the chord progression of *Autumn Leaves* and the harmonic movement is lifted from a Jazz standard which serves to date the section of the music. This informal naming of the bridge informs the members on the positioning of the disputed area, while at the same time identifies the harmonic problem with the specified segment. The team identifies the context-specific obstacle and adopts mapping phrases to assess the boundaries of the problem before they begin the process of plausible solutions. During the mapping process, Dan uses phrases like *irrelevant* and *trying to play funk* to help identify the issue to the group. He also states that the recording started with a Motown flavor but has since moved into a more modern sphere and the bridge is holding the music back.

After this bracketing and mapping, Dan presents a plausible replacement for the section. The proposition is to remove the Autumn Leaves chordal



Figure 4. The first two stages of a practical sensemaking model.

approach and replace it with a rhythmically focused street party soundscape. This new approach is a reaction to the perceived problems caused by the more harmonically focused writing methodology. Dan and Shane discuss the details of plausible solutions, Shane offers different forms of instrumentation that he can contribute. During this conversation, a more detailed picture of the new approach to the bridge emerges. In this sense, Shane’s new recording of tape loops stimulates the other members of the group and restores the flow of the project. In this reflexive discussion, Dan and Shane are developing ideas that place boundaries around the developing creative objective for the bridge. Setting contextual limits around creativity gives the group the ability to constrain creativity into a more sensible environmental boundary appropriate to the stylistic approach of the recording.

When Dan suggests there is an issue, both Shane and Wells asks for clarification. After this, the parameters were defined, bracketed, and mapped until the group agrees on the boundaries for the problem. Once the mapping occurred the trio begin to plan plausible solutions that move towards action. During this process, there is an action-driven motive emerging through the group dynamic. This outlook displayed by Wells exemplifies the improvisational mindset to the organization of the recording as opposed to constraining themselves to the already established process of ideation. The information generated by bracketing and mapping then informs the presentation of plausible solutions.

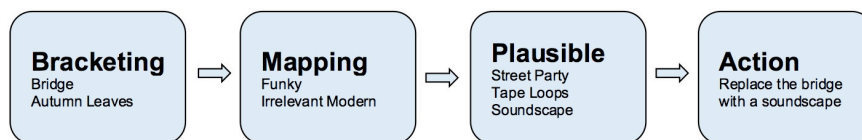


Figure 5. Full sensemaking model, taking action on the bridge.

### Example 3 - Different Worlds Collide

Weick (1998) presents a binary of organizational structures in his improvisational approach that is counter to the musical framework. He asserts that the constrictive nature of organizations serves to repress creative invention rather than nurture it (ibid). His Improvisational mindset maintains an attitude of detaching from rigid structures and adopting an receptivity to organizational leaps. In this example we investigate the improvisational mindset producing unexpected results in TNF.

### Meeting Video #3

**Dan:** When you did a bassline on a conflicted track on Dropbox. Rather than looking at that as a problem, we started playing around with the two conflicted copies and I started copying and pasting things over and all of a sudden



we had a new vocal line and a bassline that never would have happened any other way. Meeting Video #3

**Wellington Gordon Reflection:** At the point that I started to collaborate with Shane and Dan- I was still a bit disoriented with the recording process and file management system that they had put into place. Unknowingly, I opened the wrong session, which looked like the appropriate one. I recorded a bass part based on the arrangement of the drums, guitars and scratch vocals. When we reviewed the work I had done, we soon realized that I had opened the wrong session. Dan, being an optimistic person, tried to make due with the situation. My perspective was that the song's form and arrangement was still being determined/flushed out- so there was a sense of improvisation and flexibility given to all of our ideas. In some ways I felt that Dan was still familiarizing himself with Reaper's capabilities, pushing Reaper's editing features and this was an opportunity to see how he could manipulate and work in this platform. The transformed and resulting arrangement was created by Dan's vision while Shane and I offered positive feedback in support of his musical instincts.

In this example, the group encounters a phenomenon that frequently occurs in the writing and recording of music. A happy accident. However, the unique conditions of TNF lead towards consequences that are unlikely to occur in a traditional recording environment. While recording their parts in the verse, Wells (bass) and Dan (vocals) accidentally recorded on different sessions. The consequence was that they both contributed musical lines without influencing each other. Fortunately, due to the agreed labeling system and the added security that Dropbox saves conflicted files, it was simple to merge the two recordings into a new session and listen to them interact. Dan notes in the transcript that this could not have happened in any other way. This single interaction became integral to the atmosphere of the verse and continued to reshape the whole approach of the song.

This outcome highlights the fifth TNF condition of a pragmatic and improvisational philosophy. Members of the group kept an open-minded approach to the benefits that accrue when organizational leaps transpire. Weick (1998) frames these organizational leaps on a continuum of "interpretation, embellishment, and variation" (Weick, 1998, p.544) using terminology lifted from Jazz improvisation. This is an example of variation which is the most transformative of the three organizational leaps. The music transformed in style and approach due to the accident of opening the wrong file and recording two flow states independently without any form of interaction. In this example, the change worked because Dan and Wells had no affinity to either idea. To account for the shift in direction Dan re-recorded the vocal line to remove minor clashes and the organization of the future instrumentation was modified to account for the new musical direction. The group embraced the nature of an improvisational mindset, which expanded their compositional options to consider mistakes as possible

advantages. This ethos kept the flow of the writing process fluid and responsive to creative leaps.

### *Conclusions*

This project demonstrated varying degrees of TNF as defined by our literature support, methodology, and research design. As a result, we created a new song, it is about a used car salesman attempting to fix his soul to sell it to The Devil.<sup>1</sup>

The results of this study determined that collaboration and networked creative flow states can occur between Australia and North America and that it is possible to maintain a state of networked group flow without being in the same locality. It also revealed that creative use of abstract facility networks expanded the scope and roles within the context of our constructed environment. The group engaged in both individual and non-synchronous group flow states as well as sensemaking and organizational improvisation in the music production process between Australia and North America. TNF relied on regular sensemaking discussions to untangle the complexity associated with the creative invention in a decentralized structure. In this pilot study we employed sensemaking sessions as well as an improvisational approach to organize the writing and assist in the creative flow of the group.

Our first attempt at transnational flow was a successful pilot, however, more research is required to expand the narrow scope of the project. We used this pilot study to develop models to enhance our organizational and creative flow but we need to test this on a more far reaching project. Our next aim is to record an entire album and increase the managing complexity of the project in order to test our strategies. We intend to push the boundaries of our transnational group flow to see if it is capable of adapting to greater complexity. We also need to facilitate an environment with more time pressure. There were no behavioral issues that required management which would be an interesting outcome for the research but each member of the project contributed a positive outlook. It is impossible in this sense to create conflict for the sake of writing an exciting paper. The obvious drawback is that manufacturing disagreement is disingenuous and there is no way to achieve this without coloring the research. Additionally, Australia and North America share cultural commonalities which reduce the complexity of the exercise. More cultural and gender diversity must occur to develop a more inclusive sensemaking model.

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<sup>1</sup> Unfortunately, The Devil isn't buying please click the following link to listen to the song: <https://www.dropbox.com/s/s6a8n1ehkicc0db/Soul%20Man%20Don%27t%20Know.wav?dl=0>

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