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How the Show Goes On: Using the Aesthetic Experience of Collective Performance to Adapt while Coordinating

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Abstract

Coordinating in action groups consists of continuously adapting behaviors in response to fluctuating conditions, ideally with limited disruption to a group's collective performance. Through an 18-month ethnography of how members of a community choir maintained beautiful, ongoing performance, I explored how they continuously adapted their coordinating, starting when they felt that their collective performance was fragmented or falling apart. The process model I developed shows that this aesthetic experience—the sense of fragmentation based on inputs from the bodily senses—leads to emotional triggering, meaning group members' emotions prompt changes in their attention and behavior. They then distribute their attention in new ways, increasing their focus on both global qualities of their ongoing performance (in this context, the musical score and conductor) and local qualities (singers' contributions). My findings suggest that by changing what aspects of a situation compose their immediate experience, action group members can adapt their coordinating behaviors by changing their heed: the behavior that demonstrates their attentiveness and awareness. The intertwining of attention and emotions helps explain how groups move between heedless and heedful interrelating over time, leading to an aesthetic experience of collective performance as being whole or coherent. My research shows that embodied forms of cognition (what we know from direct experience of an environment) complement accounts of how representational forms of knowledge (what we know from symbols, concepts, or ideas) facilitate real-time adaptation in groups. These insights have implications for a range of organizations engaged in complex action group work.

Keywords: coordinating, action groups, aesthetic experience, attention, emotion

Performing well as part of a group involves adapting to the inevitable surprises or interruptions that crop up while coordinating. This is particularly the case in

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action groups, which are defined by coordinating in time-limited performance episodes (e.g., a concert or a surgery) after periods of preparation (Sundstrom et al., 2000). Action groups or teams are often characterized by their ability to flexibly adapt to rapid changes in their external environments such as warfare, disasters, or emergencies (e.g., Marks, Mathieu, and Zaccaro, 2001; Uitdewilligen and Waller, 2012). But action groups are also characterized by a fluidity in the interactions among their members to achieve the group's goals, as is the case with sports teams, anesthesia teams (Hindmarsh and Pilnick, 2007; Kolbe et al., 2014), and strategy presentation teams (Kaplan, 2011). Whether facing off against dangerous conditions or the challenge of responding appropriately to each other, action group members must coordinate in ways that involve constant adaptation and improvisation.

As they coordinate, members of action groups must continuously resolve challenges. First, in the face of sudden, unplanned changes in task demands (e.g., a choir conductor unexpectedly speeds up the tempo, or a sports team member misses a planned pass), individuals have to dynamically adapt their actions and interactions with group members. Second, at times, action group members have to make such adaptations on the fly, without a break to engage in explicit coordination in which verbal discussion is used ''to articulate plans, define responsibilities, negotiate deadlines, and seek information'' (Rico et al., 2008: 165). Even without the advantage of explicit coordination, action group members must ensure continuous, smooth performance.

Although how action group members manage these challenges is essential for high-quality performance, theorizing about processes by which they do so remains puzzling. On the one hand, individual action group members must somehow adapt their behavior on the fly in a way that still ''fits with extant organizational goals'' (Bigley and Roberts, 2001: 1289). On the other hand, scholars consistently argue that individuals cannot fully comprehend the entirety of a large, complex, and dynamic system (Asch, 1952; Weick and Roberts, 1993; Bigley and Roberts, 2001). How, then, do action group members effectively adapt their local actions in ways appropriate for the global group performance? As organizations become increasingly characterized by interdependence (Adler, 2002) and unpredictability (Cunha, Clegg, and Kamoche, 2006), they will continue their commensurate reliance on team-based work—and on individual team members—to accommodate such demands (Garvey, 2002). Addressing the research question of how action group members continuously perform local adaptations with limited disruption to their collective performance is important for supporting the everyday efforts of work groups.

To address this question, I studied the experience of coordinating in a choir. Like other action groups, a choir involves individuals in specialized roles (e.g., conductor, soprano, alto, tenor, and bass) fluidly responding to each other (Sundstrom et al., 2000), in this case over the course of a rehearsal or concert. In my 18-month ethnography of the Musical Chorus (a pseudonym), I examined how singers adapted their ongoing coordinating in moments triggered by the aesthetic experience of their collective performance as fragmenting. While aesthetic experience is most often associated with art, it more generally refers to the holistic sense of our interactions with our environment, based in the simultaneous inputs from our various bodily senses (Taylor and Hansen, 2005). When they experienced their collective performance as fragmenting, singers

intentionally adapted their attention and behavior to enable awareness and enactment of performance elements such as their own sounds and those of others, which reflected local qualities, and elements such as the score and conductor, which reflected global qualities of performance. By changing how they experienced both the local and global qualities of their ongoing collective performance, singers meaningfully constrained their rapid and continuous attempts to go on when the group's performance felt like it would fall apart.

Examining the role of aesthetic experience in how individuals adapt their ongoing coordinating advances theory in two key ways. First, prior research has inferred that to appropriately adapt their coordinating, group members must integrate two very different kinds of knowledge: the kind derived from stable, abstracted representations, as well as fluid, perceptual knowledge of the changing situation. Representational knowledge refers to what we know from symbols, concepts, or ideas that ''stand in'' for features of our environment and can guide our behavior across various situations (Thomson and Piccinini, 2018). Experiential knowledge refers to what we know about our environment through directly experiencing the concrete, sensory qualities of a given situation (Kolb, 2015). Because current theory privileges the role of representational knowledge in explaining adaptation, coordination scholars have little insight about how action group members effectively integrate experiential and representational knowledge.

To address this, I detail how the experience of local and global qualities of performance meaningfully informs ongoing adaptation in ways that representationally focused theorizing cannot fully account for. This study helps to explain the microprocesses through which action group members shift from potential collective breakdowns to effective, even beautiful, teamwork. It also illuminates the specific mechanism of adapting experience and action through attentional processes in action groups. Prior research on the role of attention in coordinating has assumed that individuals have limited information-processing capabilities but has also assumed that individuals must somehow understand the work of the group as a whole as they coordinate. The mechanisms detailed here resolve these conflicting assumptions by detailing individuals' broader capacity for processing knowledge about the system and system-appropriate action.

COORDINATION FOR COLLECTIVE PERFORMANCE

Anyone who has been part of an action group—as a member of a sports team, musical or theater ensemble, negotiating or presentation team, medical team, or mission-critical team (think SWAT, military, or disaster response)—knows how much of one's experience consists of keeping the collective performance going, especially when it seems to be veering off course. The collective attempt at concerted, mostly physical action in a specific space and time distinguishes action groups from other kinds of work groups. While many other kinds of work groups also engage in collective physical action (e.g., production teams on an assembly line or project teams engaging in frequent meetings), their performance output is often a tangible product (e.g., food products, assembled equipment, or new software) that follows, yet is distinct from, the actions of the group. Action groups' performance is an emergent property of members' interrelated physical actions; the interrelated actions themselves are

the ''product.'' For example, the successful insertion of a breathing tube into a patient is the ''product'' of the tempo, magnitude, and trajectory of the concerted actions of anesthesia team members (Hindmarsh and Pilnick, 2007). More than the performance of other work groups, action groups' performance is composed of how individuals manage their contributions to the ongoing flow of work within the bounds of a specific episode.

Based on this description, action group members must continuously coordinate, or integrate their interdependent work for a collective performance (Faraj and Xiao, 2006). However, the constantly shifting nature of what action group members do and experience suggests that an analytic focus on coordinating—rather than coordination—may be more appropriate for the present research question. *Coordinating* refers to the ongoing, continuous modification of both coordination mechanisms and how people use those mechanisms to integrate their interdependent work (Jarzabkowski, Lê, and Feldman, 2012). *Coordination* mechanisms are the tools, technologies, and arrangements—ranging from plans, rules, and routines to objects and physical space—that help individuals accomplish a collective performance (Okhuysen and Bechky, 2009). A ''coordinating'' framing focuses attention on the microprocesses involved in how multiple actors collectively and continuously ensure coordination unfolds over time.

Coordinating over time requires effectively responding to breakdowns, mistakes, and surprises that challenge the fit of current coordination mechanisms with current and future efforts at integrating actions. As they experience some disruption in their integration of efforts, participants orient to what is missing in the coordination mechanism, and they then create new elements, form new patterns of interaction, and stabilize those patterns until the next disruption (Jarzabkowski, Lê, and Feldman, 2012). Managing disruptions is important because such organizational work is complex and subject to variability. In coordinating, participants create the conditions needed for integrating diverse inputs—namely accountability, predictability, and common understanding, or identifying who is to do what, knowing when to do it, and having shared knowledge of the inputs and broader goals. These conditions are ''under persistent attack by the regular dynamics of organizations,'' such as turnover, mistakes, and lack of collaboration (Okhuysen and Bechky, 2009: 494). Coordinating thus inherently involves continuous adaptation, first of coordination mechanisms and then of how they are enacted (Burtscher et al., 2010).

Most explanations of how teams adapt their coordinating have focused on how teams adapt coordination mechanisms based on shared cognitive understandings, often in the form of mental models or internal representations of a priori knowledge about the team (Burke et al., 2006). To adapt their coordinating, group members have to flexibly and simultaneously draw on what mechanisms might formally prescribe (e.g., role-based expectations and standardized flows of work), as well as the demands and affordances of the situation at hand. This combinatory process is inferred in explanations of how action groups adapt their coordinating in response to unexpected events and volatile conditions. For example, roles represent expectations about tasks and responsibilities, and members of film crews and SWAT teams shift their roles (changing who does what) and reorganize their routines and plans in response to surprises (Bechky and Okhuysen, 2011). This is similar to what members of firefighting systems (Bigley and Roberts, 2001) and medical trauma teams (Klein et al., 2006) do in response to changing weather conditions or patient

health status, respectively. For the sake of effective team performance, individual members ensure that their mental models are both accurate and similar (Lim and Klein, 2006). They do this by monitoring other team members (Weick and Roberts, 1993; Burke et al., 2006; Valentine and Edmondson, 2015) and directly discussing what has changed and what to do next, often in breaks (Bigley and Roberts, 2001) but even during coordinating (Kolbe et al., 2014; Christianson, 2019).

These explanations of adaptations to coordinating present a dilemma to coordination scholars and to action group members because they suggest that, in adapting their coordination mechanisms, teams or groups somehow combine knowledge inhered in stable, mental models with knowledge of fluid perceptions of immediate situations. This implies that action group members combine two very different forms of knowledge, without explaining how that occurs (cf. Uitdewilligen, Waller, and Pitariu, 2013). Based in the parsimonious appeal of computational metaphors for the brain, the idea of abstracted or ''amodal'' representations as key to cognition has held considerable sway in psychology (Barsalou, 2008) and, in turn, research on teams and work groups (e.g., Mathieu et al., 2000). From such a perspective, understandings of ongoing, immediate experience are necessarily interpreted and categorized in terms of reference to stored categories or models (e.g., Burke et al., 2006). Yet ''little empirical evidence supports the presence of amodal symbols in cognition'' (Barsalou, 2008: 620), and mental models in particular have been found to be ''fuzzy, implicit, mostly wrong, vastly simplified, dynamically deficient, broad, and amorphous'' (Klein and Hoffman, 2008: 61). How these ''fuzzy'' and abstracted symbolic forms of knowledge meaningfully accommodate the fluid demands of what groups experience moment by moment remains unclear.

Clarifying such a combinatory process is important if we are to understand the processes that constitute high-quality coordinating in action groups. The time-limited nature of their performance means that action groups encounter periods when they must adapt their coordinating on the fly, with no opportunity for explicit discussion. This is certainly the case during an ensemble musical or theatrical performance, a military or SWAT team maneuver, or a team sporting event. While ongoing communication may help action group members to deliberately update their shared representations and behaviors (e.g., Burke et al., 2006; Kolbe et al., 2014; Valentine and Edmondson, 2015; Christianson, 2019), individual group members may face further unexpected changes as they try to enact the revised mechanism (e.g., the other team is surprisingly aggressive or one's presentation partner falters). Talking things out may not be possible, and trying to independently modify mechanisms (e.g., shifting roles on one's own) may lead to disruptive rather than adaptive patterns of interaction. Action groups take on a range of valued tasks for organizations and society, and supporting their work requires further elaboration on how group members combine the necessary types of knowledge needed to adapt their local actions in ways that preserve the overall group goals under challenging conditions.

Current Explanations of Coordination: Constrained Improvisation and Implicit Coordination

Prior research has attempted to address how action group members manage the complications I've spelled out above. The concept of constrained improvisation

describes the adaptation of behavior on the fly, without prior planning or discussion (Bigley and Roberts, 2001). Typically, organizational improvisation has been defined as ''the degree to which composition and execution converge in time'' (Moorman and Miner, 1998: 698). In cases of theatrical (Vera and Crossan, 2005) and jazz improvisation (Barrett, 2000; Weick, 2003), effectively conceiving and executing action in near simultaneity requires reliance on minimal, agreed-upon structures and rules. Similarly, constrained improvisation refers to how some members of wildland firefighting teams were trusted to enact their own revisions to the shared understandings previously developed in explicit discussions with their incident commander (Bigley and Roberts, 2001). These individuals' changes to initially agreed-upon structures and rules were still appropriate for the firefighting system's collective performance in the face of changing conditions.

More recently, scholars have theorized the process of implicit coordination, or team interactions that occur without explicit discussion (Rico et al., 2008). Implicit coordination is enabled by mental representations in the form of team situation models (TSMs): hybrid cognitive structures derived from combining representations of prior knowledge (e.g., mental models) with more dynamic situational awareness (van der Haar et al., 2015). The latter refers to the integrative picture of environmental elements, their meaning, and their projected future status (Endsley, 1995). Ultimately, however, in omitting a description of how abstracted, representational forms of knowledge interact with the live perceptual experience of a changing environment, these concepts do not resolve the theoretical challenge outlined above.

With constrained improvisation, Bigley and Roberts (2001) briefly suggested that only those firefighters with enough expertise were entrusted to autonomously make changes to their coordinating in ways that were unplanned but still mindful of the system-level goals. Yet in their study, the type of expertise and how it is effectively enacted are not articulated. These authors may have been implying that firefighters performing constrained improvisation drew on adaptive expertise, or the ability to successfully adapt learned approaches to changes in the task (Smith, Ford, and Kozlowski, 1997; Kozlowski, 1998; LePine, 2003, 2005; Paletz et al., 2013). What remains theoretically ambiguous is how such expertise can be practiced in ways that are mindful of the larger system of ongoing collective performance. Also, TSMs are theorized to more effectively enable implicit coordination in routine situations (Rico et al., 2008). Because many action groups perform non-routine and project-based work (Bechky, 2006; Edmondson, 2012; Valentine and Edmondson, 2015), TSMs may have limited applicability to dynamic situations. Moreover, while implicit coordination unfolds without explicit discussion, TSMs are developed through explicit talk about the situation (van der Haar et al., 2015). By contrast, action group members often find themselves needing to fluidly adapt their coordinating, sometimes with few opportunities to talk. In sum, these current conceptualizations provide little guidance about how action group members combine the necessary types of knowledge needed to perform under a range of challenging conditions.

An Alternative Explanation: Theory of Collective Mind as Heedful Interrelating

One framework in the coordination literature—the theory of collective mind as heedful interrelating—suggests insights for how action group members

effectively manage these challenges. *Heed* is behavior that demonstrates one's attentiveness and awareness (Weick and Roberts, 1993). Paralleling the constrained improvisation observed in firefighting systems (Bigley and Roberts, 2001), this theory explains how people realize their collective performance by shaping or constraining their contributions with a mind or heed toward a ''social system of joint actions'' that they represent or imagine (Weick and Roberts, 1993: 363). Given individuals' limited ability to understand the entirety of their collective performance (Asch, 1952), heedful interrelating assumes that one suitably adapts coordinating by observing whether others' actions similarly reflect one's representation of the group's collective performance. This monitoring or attending may not involve explicit discussion (e.g., Valentine and Edmondson, 2015), although it may certainly involve it in some contexts (e.g., Hargadon and Bechky, 2006; King and de Rond, 2011). As team members adapt in ways that are attentive to both the imagined ''social system'' and the contributions of immediate interaction partners, the revised interaction patterns should emergently create the desired collective performance (cf. Hutchins, 1991).

The concept of heedful interrelating suggests that individuals rely on mechanisms such as attention to adapt their coordinating. Yet what it means to be attentive in heedful interrelating remains imprecise and unclear. For instance, heedful interrelating appears to involve attending to both the coordination mechanisms (representations) and the experience of how these mechanisms are enacted (i.e., the immediate unfolding of the group's coordinating). However, heedful interrelating is based in assumptions of individuals' limited cognitive capabilities. What capacity should we assume individuals have for managing their attention? How does attention help link different kinds of knowledge? In another aspect of their theorizing, Weick and Roberts (1993) described heedful or attentive action in terms of ''feeling.'' Fighter pilots are constantly ''asking themselves questions like 'Does it feel right?' or 'Is the rhythm wrong?''' (Weick and Roberts, 1993: 363). For these authors, ''it'' or ''the rhythm'' refers to the quality of the joint situation of collective actions, rather than a single discrete person or action. What does it mean to ''feel'' the coordinating of group members, especially as they adapt their coordinating over time? How are attention and feeling linked?

The literature on coordination points to a number of constructs and mechanisms. Action group members need to combine both representational and experiential forms of knowledge to adapt. They must also draw on a certain kind of expertise to adapt or improvise their coordinating. Being heedful of their interrelating involves action group members being attentive to their coordinating with others and adapting based on ''feel.'' At present, these various mechanisms are not well connected, leaving us with a murky picture of how action group members continuously perform local adaptations with limited disruption to their collective performance. To integrate these constructs and produce a clearer theoretical picture, I investigate how action group members—singers in a large community choir—used ''feeling'' to continuously adapt their coordinating in ways appropriate for collective performance.

For singers, this feeling was based in their aesthetic experience of coordinating. Aesthetic experience is how we know situations through feeling (Johnson, 2008). A situation is ''the whole complex of physical, biological, social, and cultural conditions that constitute any given experience'' (Johnson, 2008: 72), and

feelings are our ''qualitative awareness of our sensations and emotional responses'' (Johnson, 2008: 56). Our aesthetic experience or feeling about situations is an emergent quality of the simultaneous inputs from our various bodily senses (Taylor and Hansen, 2005) as they interact with our ever-fluctuating environments (Dewey, 1934). In this study, I find that these qualities of aesthetic experience meaningfully address how coordinating is accomplished through constant adaptations to changes in unfolding performance.

METHODS

To address my research question, I developed an in-depth ethnographic case study of a large amateur community choir—a group of singers I call the Musical Chorus. Why a community choir? With more than one in six adult Americans singing in a chorus (Chorus America, 2019), this is where a considerable portion of the public experiences intensive efforts at coordinating sung sounds. In coordinating for collective performance, singers have to continuously adapt their efforts. Although the Musical Chorus relied on printed scores and a conductor to guide their singing, singers potentially faced conductors' improvised directions, instrumentalists' missteps, and their own and others' performance mistakes. Singers had to continuously adapt to these occurrences without talking about them, since the work of a choral singer is to present a smooth, beautiful performance to the audience. Participating in rehearsals and concerts involved developing expertise in performing specific pieces of music, particularly through adapting to unexpected elements in performance. Part of singers' expertise involved managing their attention to myriad inputs from multiple vocal parts. Additionally, as with other musical groups (e.g., Eisenberg, 1990; Barrett, 2000), a key part of this group's choral performance was the felt experience of the music, be it beautiful, moving, or discordant. The Musical Chorus thus provided access to important processes identified in prior coordination literature such as expertly adapting, and relying on ''feeling,'' while coordinating.

The Musical Chorus is one of about 12,000 professional and community choruses in the U.S., out of almost 270,000 choruses nationwide—a number that includes school choruses and church choirs (Chorus America, 2009). The Chorus is located in a small Midwestern city and, at the time of the study, varied in size from 160 to 195 amateur singers split into four vocal sections or subgroups: sopranos (female singers with the highest voices), altos (female singers with voices lower than sopranos), tenors (male singers with the highest male voices), and basses (male singers with the lowest voices). At the start of the study, the Chorus had 194 members: 59 sopranos, 66 altos, 26 tenors, and 43 basses. When I started my research, I had already been singing with the group for two years. Singers had to audition to join the Chorus and reaudition every other year to retain their spot. The auditions were held by the Chorus' conductor who was also its director. In addition to holding auditions and selecting singers, he would provide verbal and visual cues to guide musical performance, as well as select the season's repertoire. A pianist accompanied the Chorus in rehearsals, but public performances usually involved a full symphony orchestra and soloists. Weekly 2.5-hour rehearsals formed the bulk of the group's meetings, usually for two to four months prior to a single public performance. In the nine-month musical season (September to May), only four public performances—typically of Western classical works—were usually presented.

The Work of Choral Singing

Making music is an inherently complex endeavor. Musicians vary the rhythm and timing of a musical composition to perform their own interpretative expressions for listeners (Schutz, 1951; Palmer, 1997; Sloboda, 2000). In performance, musicians simultaneously use areas of the brain responsible for understanding the relationships between sounds, temporal processing, motor skills, emotional processing, and memory (Peretz and Coltheart, 2003). Performing lengthy musical works as a collective only compounds the challenges of managing multiple sensory and task inputs in an inherently subjective form of performance. In the Musical Chorus we relied on the coordination mechanisms of the score and the conductor to guide our coordinating. Scores are booklets containing the words and their accompanying musical notation, i.e., symbols that specify the pitch, rhythm, volume, and other qualities. The notes and words are arranged on staves (or staffs): lines representing the work of each vocal part, one under the other (Scholes, Nagley, and Grier, 2011). The conductor's score typically includes both the vocal and instrumental parts arrayed in this way. The musical notations in both types of scores are grouped together into small sections marked off by vertical lines into sections called measures or bars, which portray a limited number of beats. These measures are grouped together as movements: major self-contained sections that are usually marked by brief pauses in performing (Bellingham, 2011) and often sequenced to communicate some sort of narrative.

Our conductor was responsible for preparing the Musical Chorus and participating with us in public performances. While there is much organizational research on orchestral conductors, and little on choral conductors, many of the insights in the former generalized to our conductor. As is the case with orchestral conductors (Atik, 1994; Marotto, Roos, and Victor, 2007), our conductor used rehearsals to communicate his vision for the collective performance and facilitate deliberate practice, in which we received feedback and guidance about weak spots in our performance (Ericsson, Krampe, and Tesch-Römer, 1993). As in orchestras (Koivunen, 2002; Marotto, Roos, and Victor, 2007), our conductor continuously focused not just on technique (e.g., accuracy in pitches and rhythms) but also on the expressive quality of the music (e.g., asking ''Can that be more beautiful?''). The associations developed in rehearsals between the conductor's physical expressions and our sung expression ideally transferred to public performance. In a successful concert, rather than follow our conductor, we sang *with* him as he conveyed the emotional intent of the music with his gestures and body; see Atik (1994) and Koivunen and Wennes (2011) for parallels in orchestral performance.

The current study focuses on the necessary adaptations in coordinating that occurred while enacting these coordination mechanisms and responding to the myriad fluctuations in diverse individuals' reproductions of particular tones (Ternstrom, 1991). Just as orchestral (Dobson and Gaunt, 2015) and jazz performance (Hatch, 1999; Barrett, 2000) involve constant adaptation among group members, so too did coordinating in the Musical Chorus. This was particularly challenging given that the size of the Chorus made it difficult at times to directly and consciously hear the complete collective performance due to the physical formation of the group (Aspaas et al., 2004). Along with this, singers were unable to explicitly discuss during performance how to adapt coordination

mechanisms (e.g., the score) or how particular singers were enacting their interpretation of the score. Yet the 160 to 195 singers consistently impressed their fellow participants—other singers, instrumentalists, or audience members—with their ability to master these challenges so that they collectively performed beautiful music. Their expertise was marked by garnering three Grammy Awards for Best Choral Performance just before I joined. Not only did the amateur members of the Chorus have a sizeable collective performance to enact, but they were known for reliably doing so at the highest standards of the professional music industry.

Data Sources and Analytical Process

Initial participation and puzzle. My study began as an inductive inquiry into the live experience of individuals coordinating together as a group. Because I had already been with the Musical Chorus for two years, I began the study not simply as a researcher entering an unknown community—as is common in ethnographic work—but as a singer-member. At the same time, I was still a novice to singing as part of such a large group and to the repertoire. I was also still growing in the expertise needed to effectively and simultaneously respond to the conductor's directions; to the pitch and rhythm indicated in the score; and to the tones, pacing, and breathing of the other singers. To learn more about the role of these elements in performance, I began to formally observe and interview members of the Chorus, remaining open to the richly varied aspects of their experience while contrasting them with my own.

Formal participant observation. For two seasons, I developed fieldnotes from overt participant observation of all rehearsals, concerts, and social events. While being intensely involved as a participant, I attended to actions, possible meanings, relationships, and the settings, no matter how insubstantial or irrelevant they may have seemed (Jones, 1985; Emerson, Fretz, and Shaw, 1995). In rehearsals, we were expected to have pencils ready to make notes in our score of the conductor's directives and modifications, so I was able to make brief jottings during breaks in singing, or while traveling to concert halls, and then later expand them into fieldnotes (Emerson, Fretz, and Shaw, 1995). After dress rehearsals and concerts (as writing while on stage was less permissible), I would develop detailed fieldnotes of my observations as soon as possible. These efforts across approximately 233 hours of participation amounted to approximately 250 single-spaced pages of fieldnotes.

Fieldnote data concretized my experiences of the process of coordinating—who did what when, and how (Langley, 1999)—and reflected how much our coordinating was assailed by the demands of the task. This deep immersion in the sensory nature of the task was necessary to understand how aesthetic experience mattered to performers (Gagliardi, 1996). The lengthy choral works we typically sang (e.g., three-hour concerts of Handel's *Messiah* or Bach's *St. Matthew Passion*) involved many lines of text, variations in how each vocal part was to modulate their sound to match the mood and narrative of each movement, challenging rhythmic changes, and often different languages (e.g., German and Russian). Most of the time we spent singing together was in rehearsal, and there the experience of collective performance was often one of

frequent personal stumbles. As we rehearsed, the conductor would frequently and suddenly bring the singing of different vocal parts—and the group as a whole—to a stop if he heard something he did not like. Additionally, rehearsals often involved changes to seating assignments as the conductor sought to perfect the choral sound; this, and the large group size, limited how many other singers one could develop familiarity and friendships with. While rehearsals helped us to develop competence with the music and its challenges, on stage our coordinating was challenged by having to sing together in a different physical arrangement and space than in rehearsal and by having to coordinate our singing with the sounds of the orchestra. Pulling off a beautiful performance meant constantly meeting these challenges while singing.

Formal semi-structured interviewing. To learn about my fellow performers' immediate experience of coordinating, I conducted interviews that focused on what my informants were consciously aware of while coordinating (Smith, 2018). Interviews were semi-structured, and I followed up standard questions with new questions depending on the responses given. I used pilot interviews and feedback from fellow singers and the conductor to refine questions so that they could elicit information about what was meaningful to performers (e.g., feelings of making beautiful music, experiences with conductors) and also address my initial interest about the experience of coordinating as a group. I drew on ethnographic interview techniques to further refine my questions so that I could limit the imposition of my own language and concepts (Spradley, 1979). For example, I opened up the interview with ''Let's pretend that I am a perfect stranger, who has never sung in a choir before.'' Then I asked ''grand tour'' questions about one's overall experience; ''experience'' questions about one's experience of singing as part of a vocal section and also part of a large choir; and ''contrast'' questions about the experiences of making beautiful music together vs. when performance went poorly (Spradley, 1979). The Online Appendix at http://journals.sagepub.com/doi/suppl/10.1177/0001839220911056 contains my interview protocol.

Over eight months, I conducted interviews with 35 participants (including the conductor and one accompanist) who either volunteered or were requested to participate. I sought out a maximally varied sample that was balanced in terms of vocal part, overall singing experience, and tenure with the choir in order to purposefully capture the multiple perspectives of a variety of individuals (Onwuegbuzie and Leech, 2007). The 7 sopranos, 11 altos, 8 tenors, and 7 basses I interviewed are identified throughout the paper by their vocal section and a number, e.g., Alto10. They ranged in age from 19 to 69 years old. While these singers had 26 years of choral experience on average, 3 singers had 5 or fewer years of choral experience, and 7 singers had over 40 years of experience. My interviewees ranged in their tenure with the Chorus from 1 year to 39 years, with 13 singers having 3 or fewer years with the Chorus. The conductor and accompanist had been with the Chorus for 5 and 10 years, respectively, with 50 and 35 years of choral experience, respectively. Interviews lasted 90 to 180 minutes and were recorded and transcribed.

Analysis of interview and observational data. While I used ethnographic methods to collect my data, I drew on a mix of qualitative analytic techniques.

Because I was a novice at singing, I engaged in conversations with fellow singers about my immediate experiences to understand how they compared with others' musical expertise and performance. I also shared with academic peers brief memos of my emergent mini-theories, as well as summary contact forms that described my initial insights from writing, reading, and talking with other singers (Miles and Huberman, 1994). The critical questioning in such exchanges guided my focus in ongoing observations and interviews, and served as a preliminary data analysis.

Next, I used my interviews and fieldnotes to develop a descriptive sketch of the key components of the choral context, including the physical space, the performers and their roles, what they did, how they did it, and why (Burke, 1969). This helped me map out the potential types of meaning in use between performers and the interplay of the various elements involved in the experience of coordinating. This descriptive sketch made clear the group's preference for continuously performing high-quality, beautiful music with limited interruption. Given the desire to express the music in ways that were personally meaningful (Palmer, 1997), singers were motivated to continue their coordinating in order to beautifully present challenging music for audiences to hear. Based on this initial sketch, I began a more focused analysis of the responses to the interview questions concerned with experiences of beautiful and poor-quality moments, as these responses captured singers' motivation to produce beautiful music and the actions they performed to do so.

I open-coded these interview segments line by line, generating labels to summarize the various features of the experience of coordinating in such moments (Strauss and Corbin, 1998). While doing so, I engaged in constant comparison, first between each interviewee's description of their experience of beautiful versus less-than-beautiful moments, and then between consecutive interviewees' descriptions of these moments. The codes that emerged from this process reflected features of the experience of beautiful moments that sharply contrasted with the experience of less-than-beautiful moments in terms of what singers felt, did, and attended to. In the next step, I assembled the open codes into axial codes based on what seemed to emerge frequently across singers' descriptions (e.g., feeling and focusing) and what helped to explain meaningful dynamics (e.g., of striving to maintain beautiful performance; Glaser and Strauss, 1967).

For example, in my initial open coding, I observed that singers described their experience as involving different kinds of ''feeling.'' As I labeled all the different kinds within and between interviews, I could see that some kinds of feeling seemed to reference emotions (e.g., angry or joyful), while others were more about aesthetic experience or perceptions of the form of the group or music (e.g., feeling fragmented or whole). In contrasting their experiences, singers tended to associate negative emotions and a sense that the group was fragmenting with poor-quality coordinating, and they associated positive emotions and a sense of the group working as a whole with beautiful coordinating. Finding these parallel, contrasting features across these descriptions suggested that these features were core aspects of singers' experience. I also subjected my densest fieldnotes to line-by-line open coding and memoing, and the emergent open and axial codes reflected parallel themes from the interviews. Across my data, less-than-beautiful or poor-quality moments were consistently described as eliciting some kind of repair, correction, or adaptation.

As the notion of repair seemed to be empirically meaningful for ensuring ongoing coordinating, I examined the full interview transcripts for descriptions of moments when ongoing coordinating seemed challenged and for how singers responded. Coding these micro-episodes reinforced the initial, emergent framework by further fleshing out the range of features that marked the experience of poor-quality coordinating and the range of responses to that experience.

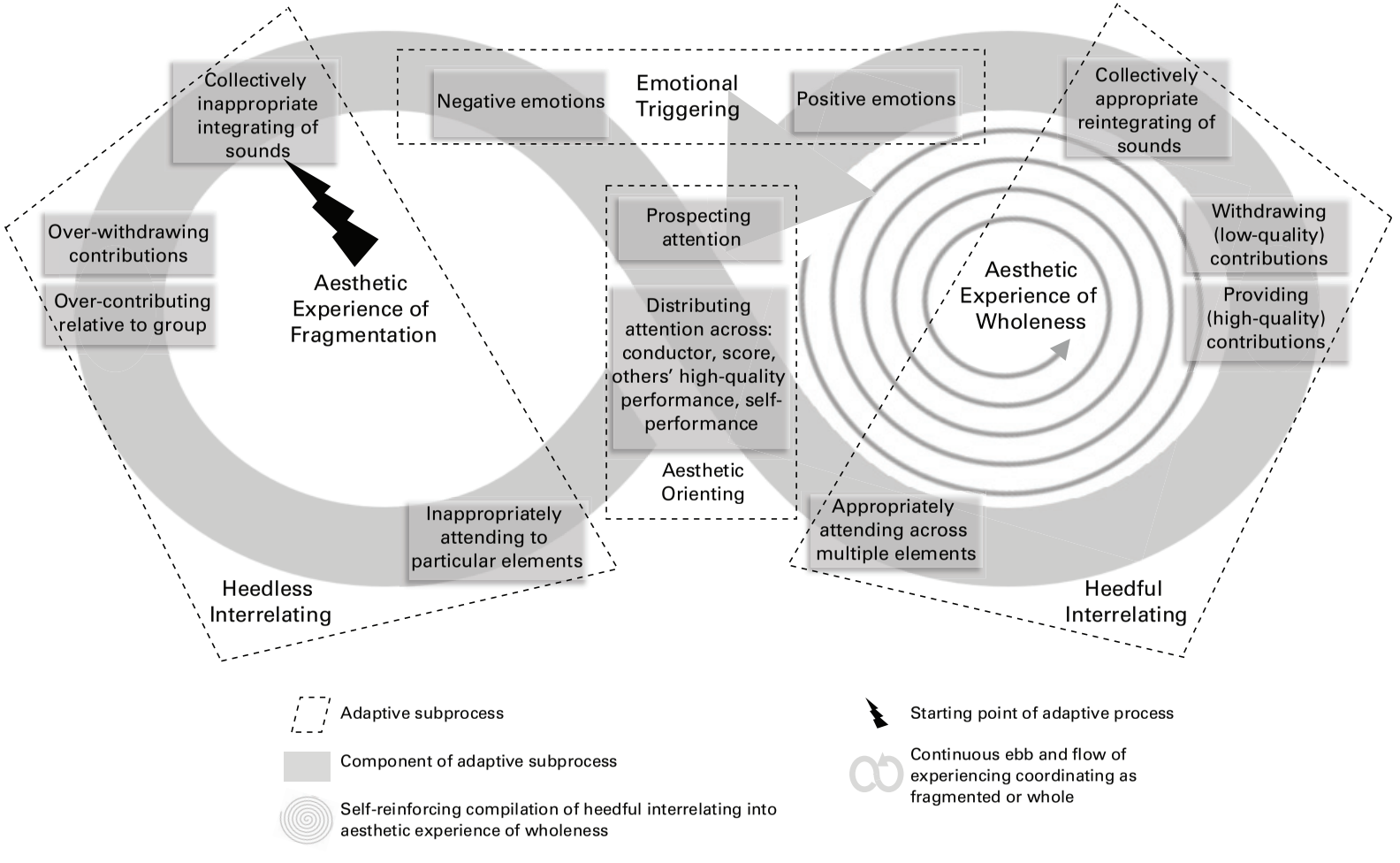
Figure 1 illustrates the inductive process model that emerged from this analytic process. I constructed this model by focusing on which emergent frames were meaningful both for coordinating as a choir and for addressing my research question. First, open and axial codes were recognizably related to either feeling the group falling apart or being a unified whole. These descriptions roughly mapped onto Dewey's (1934) description of an ''esthetic experience''—a sense of equilibrium with one's environment that intensely stands out—and other kinds of experience ''that are disjointed, slack, undirected, or overly restricted'' (Johnson, 2008: 74). Second, extant research suggests that team performance adaptation (e.g., Burke et al., 2006) and coordinating (Jarzabkowski, Lê, and Feldman, 2012) are triggered by cues that signal the need for change in the form of cognitive and behavioral responses. Comparing and contrasting my interpretation of the data with these theoretical frameworks guided my organization of the axial codes and their aggregate dimensions to provide a novel and fitting theorized process. Dewey's (1934) assertion that we continuously move in and out of equilibrium with our environments informs Figure 1's infinity loop design. Yet the induced model advances our understanding of how emotional, attentional, and behavioral processes all compose the experience of adaptive coordinating. While extant models of team adaptation have recognized the role of cognition and behavior, they have not reflected how coordinating could be experienced as a constant oscillation between a sense of fragmentation—or cues signaling change—and a sense of wholeness. This new process model thus organizes data on singers' experiences in ways that integrate extant theory to provide a clearer picture of how action group members continuously adapt their coordinating.

FINDINGS

Figure 1 summarizes the grounded model of the experiential process through which individuals continuously adapted their coordinating to realize their collective performance. The figure is divided into two primary phenomenological qualities—the aesthetic experience of fragmentation and the aesthetic experience of wholeness—between which individual singers' experience continuously oscillated across the span of a performance episode (a rehearsal or concert). Whereas the aesthetic experience of fragmentation coincided with negative emotions, the aesthetic experience of wholeness coincided with positive emotions.

The process began with the felt sense of fragmentation associated with a collectively inappropriate integrating of sounds. This coincided with emotional triggering, whereby negative emotions signaled a need to adapt how one was coordinating. Emotional triggering spurred on a subprocess of aesthetic orienting, composed first of prospecting attention to upcoming elements of performance and then of distributing attention across those elements. Singers distributed their attention across the qualities of representations of their ongoing

Figure 1. Process of adapting aesthetic experience and action while coordinating.



collective performance (e.g., the score and conductor) and the qualities of the fluctuating, discrete behaviors being contributed by both the self and others. Distributing too much or too little attention to either the local or global qualities of coordinating was reflected in a vicious cycle of heedless interrelating. In contrast, distributing attention appropriately across local and global qualities was reflected in a virtuous cycle of heedful interrelating, and maintaining heedful interrelating over time produced an aesthetic experience of wholeness or beauty. Below, I summarize the experiences of fragmentation and wholeness and then explain how particular cognitive, emotional, and behavioral qualities of singers' experience constituted the processual links between these core phenomenological qualities.

Core Felt Experiences of Coordinating

Aesthetic experience of fragmentation. Much of our experience preparing difficult choral works involved a sense of fragmentation as we perceived a collectively inappropriate integrating of sounds. This was apparent sometimes in public performance but most often in rehearsal. In some instances, as when preparing an unfamiliar work such as Bach's *St. Matthew Passion*, it was apparent when the group's coordinating seemed to fragment or fall apart. As Alto4 described in response to a friend's inquiry about our progress, ''He's like, 'How's the Bach coming along?' and I'm like, 'Well, we can either sound beautiful or we can sing the German correctly, we can't do both yet. We haven't been able to get the diction with the music.''' For some singers, the music itself felt fragmented, as Alto5 described:

> I only sang the earlier rehearsals for the Bach. . . . I think I sat in on the first three rehearsals, and even during the first rehearsal, those were gelling because they were pretty easy. They were similar to things people have sung before, even if they hadn't done it. But the parts that were more difficult—it wasn't that they were that horrible. People were getting most of the notes, but the music wasn't coming—the music wasn't there. The notes were there, the music wasn't. There were mistakes, but you can have the music and have mistakes. But it was the actual music—it was that whole thing where some of its part is missing.

Others' descriptions of this experience of fragmentation referenced the sense that both the emergent collective performance (i.e., the music) and the interactive processes among the people producing it could feel fragmented. Table 1 presents illustrative quotes about how singers experienced fragmentation in these two ways. For instance, in our first rehearsal of the *Passion*, we split into two choirs, and it was clear to me that I had no idea which choir was meant to sing which lines when. Our conductor also interrupted our singing to briefly describe that Bach was always telling a story with words and that the two choirs were ''talking'' to each other: one choir would sing ''Whom?'' ''How?'' or ''What?'' and the other would respond with an answer. This sense of ''conversation'' was missing from our subtly disjointed attempts at singing, but all we felt was that our contributions were not being integrated in the ways we wanted and that our coordinating as a group was not progressing toward the collective expression we desired.

Table 1. Core Aesthetic Experiences of Coordinating

Second-order Constructs	First-order Concepts	Representative Quotes, Events, and Fieldnote Entries
Aesthetic experience of fragmentation	Feeling music as fragmented	''[Y]ou know at the end of a performance because you have the euphoric feeling or you don't. You'd know if it was a really awesome performance or if you were all just onstage at the same time. You'd know if you were all together or if you were just all there at the same time. Definitely, I feel like there have been times where we haven't all gelled, it hasn't been that growing organism that we produce and put forth.'' (Soprano4)
		[*Conversation from paired interview*] ''It's kind of a sinking feeling, and also it just feels like the moment is broken. Do you know what I'm talking about?'' (Tenor2) ''The longer that you've gone—it's like it's good and then . . . it's a tension. There's a tension there. It gets broken by the mistake. I mean, it could be a good tension, like excitement that gets broken.'' (Tenor3)
	Feeling people as fragmented	''[I]t's really difficult to not only feed off of what the people next to you are doing, if they're going too fast or too slow or not singing or singing, but to then have to connect with people across the auditorium from you. Or if we screw up, how do they react to our mistake? So, things happen, but it's just that sensation, especially in a performance, of panic like, 'Alright, we can't talk about this, but how are we going to resolve the conflict?''' (Alto2)
		''It's when we don't all know the music better and we still think—we all act as if we all have it right—each have it right, but we each have it different.'' (Bass3)
Aesthetic experience of wholeness	Feeling music as whole	''I think the most transcendent moment we have had while performing or rehearsing with the choir have been times when I've suddenly realized that, 'Oh,' around me there was this beautiful sound coming out. . . . I felt like I was standing to the side and in awe of what was going on.'' (Soprano3)
		''I've found myself fighting back tears because the music matched the words so beautifully. It was beyond an ethereal experience. It was—it's hard to explain. I find a close connection to the music. You're not just singing notes, there's deep value to what you're doing—intentional connection.'' (Alto11)
	Feeling group of performers as whole	''In bar 13, when the basses get to the half-note (long enough for us to feel the note) was 'on,' it was quiet enough (could be made beautiful, not shouty), high enough (not so low I couldn't handle it), with enough vibrato, and with enough simple beauty to it that I could feel myself in sync with the rest of the basses. In fact, we repeated the phrase several times (I think because other sections singing at the same time had to be corrected), and almost each time, I felt like the basses, with the sound coming from behind me (I was in front), were singing out through me.'' (Fieldnotes, Handel's *Messiah* rehearsal)
		''It's very surreal because you've lost contact with wherever you are. It's almost like you become—you're not 200 individual people, you're one person, one entity that's working together.'' (Alto8)

Negative emotional responses. The aesthetic experience of the group members and their performance fragmenting was usually immediately accompanied by negative emotions such as shame or embarrassment at what others might be thinking and feeling about them, and disappointment at how they were detracting from the common goal of singing beautifully (see Figure 1). In the moment, singers also felt frustrated and angry with themselves or others

Table 2. Core Emotional Experiences of Coordinating

Second-order Constructs	First-order Concepts	Representative Quotes, Events, and Fieldnote Entries
Negative emotional responses	Frustration/anger	''[P]robably the things that frustrate me more are the things that are in our control. I don't think you can always control that spark that happens at some performances and some don't, you know. . . . [B]ut things that, that should be in our control if we're paying attention, if we're really concentrating, as far as um, entrances, cutoffs, diction, tempo.'' (Alto6)
		[*Conversation from paired interview*] ''I loved the music, but we had some of the young choir—'' (Alto8) ''Oh the undergrads.'' (Alto4) ''—and it's so frustrating 'cause nobody in that group knew how to sing soft, and there's all these wonderful—'' (Alto8) ''But they're all soloists.'' (Alto4) ''Yeah, and there's all these wonderful dynamics that we're just blowing by, and that irritates me. . . .'' (Alto8)
	Disappointment/shame	''If it's me I would say I feel sort of—it's disappointing, maybe almost ashamed like, 'I'm better than that. I shouldn't have let myself make that mistake.''' (Tenor3)
		''I mean, if you sing this beautiful phrase and then you end on a really horrible chord, it's like that's the thing that's the last thing the audience has heard. That's the last thing you've heard. There are no more performances, so you're like, 'I just blew that. Crap.''' (Bass1)
Positive emotional responses	Joy/satisfaction	''I think it's just the excitement, like everything's coming together, people seem to be smiling, and they're going for it. That, to me, signals happiness or some kind of satisfaction, because if you were really afraid you might not be going for it so much. You'd be a little timid, a little reserved, you wouldn't really be reaching out as much as you could. But at the end of these words, you're just like, 'Yes, yes, they're smiling—the choir is going for it.' I think that's the thing that is universal. If you look around, everybody seems happy. Everybody seems to be really going for it.'' (Bass1)
		''Well, that's what we're there for, and it's triumph and joy. [*Laughing*] We did it right! I mean it is amazing to put all these people and the conductor controlling, bringing music out of all these people—the orchestra is amazing, too. And the choir is so wonderful, to see all these people working together, focused, concentrating to create this thing of beauty.'' (Bass6)
	Awe/amazement	''[T]he Amen in the *Messiah* always—at least always in performance, because there's such a building in there, and I think people—you're at the end, it's so gorgeous, there's such a building, and there's so much interplay between the parts and the line. And I think there's always something more that happens right there, but it's really amazing to me.'' (Alto3)
		''And there was this one time when we were singing . . . and this was this one part, and yeah, exactly, you're like 'Oh my God, amazing!' And I usually don't engage that, and yes I recognize the power of the words and the music together. But I think there was something about when the organ came back in where it was just like, almost unsettling, it was so gorgeous.'' (Alto10)

in the group at getting in the way of producing a cohesive, beautiful collective performance. Table 2 shows how such emotions colored the experience of fragmented performance. Alto11 summed up the experience of such moments in these terms:

> I think when things are going well you just kind of fall into this mode of, ''It's wonderful, and we're going along singing,'' but all of a sudden when things become very tense—the tenseness comes into it it's like, ''Oh my goodness, is this gonna fall apart? What are people thinking out there? Are we horrible?''

Aesthetic experience of wholeness. When asked about the experience of beautiful moments in singing, performers associated a sense of wholeness with the kind of collective expression we aspired to as a group (see Figure 1). Paralleling the experience of fragmentation, singers described the experience of wholeness in terms of the intertwining elements of the music and the group. These features of the aesthetic experience of wholeness are supported by quotes in Table 1. Tenor6 described the fluid, ongoing sensory experience of the music coming together this way:

> Once you reach that point you're not focused on how the notes and rhythm's right. They just are, or whatever. So, you're not focused on the intellectual side of things. I'm probably more focused on new music moving through me, that I'm actually part of the sound and I'm part of the whole experience.

Bass7 elaborated on the sense of the group performing as a ''whole,'' reporting that, in over 30 years of singing with the Chorus,

> on less than two hands I can count the number of moments where it was at what I would call sublime. It's sublime. It is a spiritual connection with the universe, or something, where you just know that everybody is absolutely on the same wavelength. . . . and you feel like your mind is merged, your spirit, your love, your whole being is part and parcel of something bigger than any individual. It's the, you know, I guess one of the words that you use is symbiosis, maybe, or the whole is greater than the sum of its parts, I mean, you know, all those kind of old clichés. But—and sometimes it lasts for, you know, the greater part of the piece; more often it lasts for a movement where everything synchronizes.

Positive emotional responses. The positive emotions associated with the experience of wholeness impressed on singers how well they were executing their collective performance (see Figure 1). In moments of wholeness, singers felt their performance actualizing some meaningful intention or narrative, eliciting feelings that ranged from joy and awe to peacefulness and satisfaction. Data illustrating how these positive emotions featured in performance are presented in Table 2. Bass5 told me he would feel ''joyous, heartfelt, rhythmic togetherness of sound and word, meditative at times.'' Tenor5 explained that in one *Messiah* concert, ''[I]t sounded like out of this world, and almost to the point where it was so fluid it just sort of came out. It had this real sense of peace, there's this real sense of camaraderie actually with the fellow singers actually, just because we're making this sound together, you know?''

Emotional Triggering: Prompting Action to Adapt the Experience of Coordinating from Fragmentation to Wholeness

Singers' experience of coordinating consisted of oscillating between the felt experiences of fragmentation and wholeness across a performance, as described by Alto2:

> There are definitely parts of *St. Matthew Passion*, for instance, that I think are beautiful, but I just don't know well enough. I'm still really struggling, so I can't—I'm hoping that eventually I'll be able to free myself, but . . . it's hard to sustain that level of energy and focus on the piece. No matter how beautiful it is for two hours, I think it's just hard to lock in for that long. So, I think there's natural ebbs and flows of that sensation. . . .

The ''ebbs and flows'' experienced while singing were due to the interplay between the complex nature of the task and the fact that almost 200 individuals with varying levels of mastery and engagement were attempting to perform with enough of a collective quality for audiences to enjoy. While the ease and familiarity of some parts made it possible to synchronize our contributions to produce beautiful music, such moments were often short-lived because the complexity and structure of the music changed over time. Sometimes, performing could feel technically proficient but not be particularly moving. Alternatively, the Chorus could deliver an exciting, moving expression of the music but with several technical errors evident in the performance. At other times, the musical structure could elicit a greater sense of coherence by building on itself or seeming to climax and release.

Providing the high-quality performances that the Chorus was known for meant that when we felt things could ''fall apart,'' we had to respond in ways that appropriately reintegrated our contributions, but without being able to ''go over and help people to move them along'' (Alto11). In the ''ebbs and flows'' in the experience of coordinating, the ''and'' comprised singers' adaptive responses to change their aesthetic experience of collective performance from fragmentation to wholeness. While aesthetic experiences are not necessarily associated with action, the emotions that coincided with the different types of aesthetic experience prompted adaptive actions. I refer to this first step in the adaptive process as *emotional triggering*, as emotions associated with the aesthetic experience triggered attentional and behavioral ''moves,'' or discrete acts that express practical knowledge in interaction (Goffman, 1981).

Both negative and positive emotions provided singers with conscious appraisals of their current situation (Ellsworth and Scherer, 2003), and through these emotions their current aesthetic experience triggered either some sort of adaptation or persistence in the current patterns of coordinating. Paralleling aesthetic experience, emotions are understood as a complex of conscious and nonconscious processes that involve perception, cognition, and behavior (Elfenbein, 2007). Singers' emotions seemed to help them understand the prospective or future implications of continuing to coordinate as they were doing. Emotions are known to activate action tendencies: negative emotions of nervousness and fear signal that the current situation is threatening and can elicit defensive responses (Frijda, 2010), while positive emotions of joy and satisfaction tend to promote continued, open engagement with the environment (Fredrickson and Branigan, 2005). I next explain how the action tendencies associated with the singers' emotions became apparent.

Aesthetic Orienting

Prospecting attention. Experiencing negative emotions created the potential for performers to wallow in their sense of falling short of a beautiful

performance. Singers could remain stuck feeling ''you're not sure where you're at, you're not sure how you're gonna get to the next place'' and questioning, ''What do I do next because I'm not completely in control?'' (Tenor6). But negative emotions can often narrow attention to specific elements in the environment, which is useful in various contexts for assessing threats (Kelly and Barsade, 2001). This narrowing effect was apparent in singers' descriptions of the need to quickly zoom in on the next steps of the flow of music. There was a strong consensus that ''during a performance, you just have to come back fast. I think that's a part of performing. You can't spend time dwelling on what you just messed up because you've got more to do'' (Tenor7).

This process reflects what cognitive psychologists call *prospective* or *preparatory attention*, whereby singers intentionally focused on what was coming up next in the group's singing (Smith and Bayen, 2004; see Figure 1). I found myself prospecting attention in the *Passion* concert when I felt disappointed at joining the singing late but then quickly refocused on the upcoming notes and phrases, adding volume to my choir's sound while remaining musically pleasant, and following the emergent story we were expressing as a group. Singers expressed that singing together was like playing golf or tennis: ''You have to forget the bad shot immediately and keep going or you're just gonna make a mess of the whole round or the whole match. You can't linger on anything. You have to be able to forget quickly and move on'' (Alto9). Table 3 presents illustrative quotes on how singers engaged in prospecting attention.

The positive emotions associated with the experience of wholeness also helped singers to prospect their attention. Positive emotions signaled that their current behavior was rewarding, spurring continued engagement with the ongoing flow of performance. The broaden-and-build theory of positive emotions (Fredrickson, 2001) suggests that they broaden the range of potential thoughts and actions in our repertoire. For singers constrained by the prescriptions of performance (we were not about to improvise on Bach), our felt positive emotions while experiencing wholeness opened us up to the beautiful intertwining of our myriad contributions. Tenor6 described that in beautiful moments he focused ''on the whole experience and not any individual other than myself. Maybe, for example, let's say there's a soloist. I may be focused on that soloist, but I think that I, in general, focus on the whole experience. I really get a sense—my mind really wraps around the whole experience rather than any individual.''

Distributing attention. Tenor6 noted holding both the individuals involved and the ''whole experience'' in focus during beautiful moments. With so many elements in play while singing, it was never enough to focus on just one thing at a time. Moving on from the negative feelings of fragmentation consisted of redirecting attention across the different elements that needed to be integrated to produce the collective performance: one's self-performance, others' singing, the score, and the conductor (see Figure 1). Soprano6 described that in those kinds of moments,

> I think you go back to your score, definitely. Or you realize you just screwed up because you were too much in your score, and then you don't take your eyes off [the conductor] like, ''Save me, save me, save us, save us, bring us together, I'm here,

Table 3. Aesthetic Orienting

Second-order Constructs	First-order Concepts	Representative Quotes, Events, and Fieldnote Entries
Prospecting attention	Limiting attention to sense of disruption	''I'm just gonna keep it moving . . . in chorus you have less control of that, but you stand and you feel like you're alone and naked on stage. You think about it like, 'Oh, how can I keep it going?' And there's no way the performance is gonna stop because I made one wrong note.'' (Tenor6)
		''It's horrible to focus on the mistake. You have to just let it go and accept the fact that you made a mistake. It happens, but you're doing this because you love it, not so you can be perfect or sing every note.'' (Bass1)
	Focus on maintaining the flow of performing	''So at that performance, I think it was more a question of staying on top of everything in the piece, because my body's telling me, 'You'd really like to go to sleep right now.' . . . But my mind says, you know, 'No. You have to focus on the music and make it just [as] beautiful as possible.''' (Alto5)
		''You just have to keep fighting, even if a performance is going horribly and it seems like nothing is going right. You just have to keep striving to try to let the music survive. You can't really focus on the mistakes, then you make more.'' (Bass1)
Distributing attention	Redirect attention to conductor	''You have to be watching the conductor's baton and praying that everyone else is, too, because what you're hearing and what you're seeing may not match up. You have to trust that the stick is gonna be the arbiter there. You almost can't trust your ears sometimes.'' (Tenor)
		''Well, the less well things are going, I think I focus more on myself and the music and [the conductor].'' (Soprano5)
	Redirect attention to score	''So, I'd say if it's going bad, depending upon what was going on—if the note was wrong, I'd be looking a little bit more at the score. . . .'' (Bass4)
		''And then I kind of have to tell myself, 'Focus on what you are supposed to be doing.' I have to overcompensate is what I'm trying to say. So, 'Okay . . . make sure you're watching. Make sure you read the notes you've marked down on the page.''' (Soprano3)
	Redirect attention to others' high-quality contributions	''[W]ho you know, like who's a stronger sight reader, and who's a stronger singer, who's a more lyric singer. Like you just pick out, you know who's stronger in different areas, and you start listening for these people.'' (Alto10)
		''[I]f someone comes in confidently you have this sense that they know what they're doing. So, then everyone just follows them.'' (Bass1)
	Redirect attention to self-performance	''[I]f I clearly am flat or not doing something properly, I always check myself before I check someone else.'' (Bass4)
		''I was slightly late for two entrances, but then quickly focused on trying to sing as loudly as possible, while remaining musically pleasant, to boost Choir I's volume.'' (Fieldnotes, Bach *St. Matthew Passion* concert)
	Over-attending to a given element	''You've got to watch the conductor. I understand that we can listen to what's going on around us, that's really an important thing, but if you wait until somebody else comes in, you're half a beat behind.'' (Tenor4)
		''I think when you start getting focused on the elements [notes or rhythm] . . . you get nervous, and I think you tense up without realizing it. And I think when you tense up, you close off to the emotion. . . .'' (Soprano1)

> I'm here. Let's fix it. Take us, take us, we're here waiting.'' Or if it's a note issue, you just stop singing and listen and hope you can hear it from someone else and then you can come in.

Her interview partner emphasized the simultaneity of attending to these foci, saying, ''Yeah, I think that's true. I think you go to all three of those sources, I don't think it's just one'' (Soprano1). Table 3 summarizes the variety of targets across which singers would distribute their attention.

By distributing attention, singers were able to take in information about multiple, simultaneous elements of their collective task (Awh and Pashler, 2000). Some philosophers refer to this distributing of attention as ''aesthetic'' attention (Nanay, 2016), observed in art experts' distribution of visual attention across the features of a painting to perceive its dominant themes (e.g., Vogt and Magnussen, 2007). The process of distributing attention across multiple inputs was at the core of determining which direction a singer's adaptive moves took them.

Appropriately distributing attention consisted of shifting the balance of attention to capture more of one quality and/or less of another at the same time in ways that seemed to helped singers gain an aesthetic sense of fitting in with the ongoing collective performance. This shifting into the right-hand loop of Figure 1 was evident, for example, in shifting the balance of the self–other ratio of sound (Ternstrom, 1999) toward the self, as Alto10 found:

> I definitely remember in that first *Messiah* performance that I did that I was very, um, almost second guessing myself about certain things. Like entrances, I just wanted to really not be one of those crazy things and freak out, you know what I mean? Like there are some certain points of the *Messiah* where it's just like, it has that where you build and you build and you build, so if you miss it you're like uh, ''AHH! That's really bad!'' So I just wanted to make sure I wasn't one of the loud entrance crazy people who's off.

In parallel, listening more closely to others helped singers hear how others' sounds aligned with theirs. When Tenor1 felt like he was ''screwing up personally,'' he described how he would ''question myself and then stop singing the same way I'm used to singing. I kind of lower my volume, try to get back on track and listen harder to the people around me. . . .''

At the same time, redirecting attention to what was in the score and being displayed by the conductor helped individual singers align their contributions with what was visible to everyone in the group. The score displayed who was responsible for the upcoming part, as well as the printed and modified notes, rhythms, and words involved in each person's performance. The conductor continuously displayed with his face and gestures the currently emerging musical expression (Ladkin, 2008) and the ongoing flow of anticipated performance (Koivunen and Wennes, 2011). Attending to both helped singers get back ''on the same page'' as everyone else.

Yet singers could also find themselves *inappropriately distributing attention* (shifting into the left-hand loop of Figure 1). This could consist of over-attending to a particular element of performance at the expense of attending to the qualities of all the other elements being integrated in coordinating. Inappropriately distributing attention often involved keeping track of the score versus the

conductor. While the score helped all singers know ''what you are supposed to be doing'' (Soprano3), it could also differ from the dynamic gestures and expressions being displayed by the conductor in the moment. Alto5 contrasted a concert in which we were ''singing the notes with the text, with the right rhythms'' that still ''sounded like rehearsal one month prior'' with the concert the following day, when she felt ''like even pitch and rhythms were more accurate, that we were able to look up at the conductor more. . . . And that helped us blend and unite better as a group.'' For her, it seemed as if we were able to overcome our over-attending to the score and to finally distribute our attention across both the score and our conductor in order to focus ''both on the pitch and also on the emotions that [we] were creating with the music'' (Alto5). Alto10 described managing her own over-attending:

> Especially, I think though when things are going wrong I try to look more at [the conductor] than the score. Because usually when things are going wrong it means we're all buried in the score almost. Like he'll be like ''Okay, look at me,'' like ''Hello I'm up here, not here for my own amusement.'' You know, like ''Not just to wave my arms, like someone has to look at me.'' So I think when things are going poorly I look more at him. I try to more actively bring my score to the sight line [i.e., to be able to see both the score and the conductor].

Embodying Aesthetic Orienting: Heedful and Heedless Interrelating

Heedful interrelating. The above examples demonstrate how shifting attention to distribute it across the properties of one's own singing, others' singing, the score, and the conductor was inextricably tied to adapting behavior. Because the manner of attending both shaped and was shaped by behavior, I refer to the revised patterns of coordinating as reflecting more or less *heed*: behavior that demonstrates attentiveness and awareness (Weick and Roberts, 1993). Appropriately distributing attention was associated with heedful interrelating (see Figure 1) during which singers and the conductor could appropriately provide more high-quality contributions and withdraw low-quality contributions. Table 4 presents data on how group members enacted heed in different ways. In their efforts to sound like a unified group expressing a meaningful story, singers could provide more high-quality contributions to emphasize the desired musical effect of the moment:

> The person on my right is very confident, so I can like listen to him more, and if I notice the person to my left start slipping, I'll try to like make note transitions more prominent to like exaggerate my tuning, but like if I know he tends to be slightly low . . . I'll go like slightly high and just encourage him up, and you listen to the people around you but you have to make sure you're not sticking out while doing that. (Tenor1)

In minding one's own contributions, one could also indirectly model the desired effect for others. One of the older basses described this when I asked how he would ''correct'' the music while singing:

> For one, the conductor's told me during auditions—he told me, ''You have a powerful voice, and if you sing it wrong the rest are gonna sing it wrong. But if you sing it

Table 4. Embodying Aesthetic Orienting

Second-order Constructs	First-order Concepts	Representative Quotes, Events, and Fieldnote Entries
Heedful interrelating	Providing more high-quality contributions	''If I can be one to help some people get to that place a little bit quicker, great, then I've helped. But there are some people that have helped me to get to places quicker too. So, it's kind of a big group effort, and I'm just a piece in the puzzle.'' (Bass2)
		''I'm a very good sight reader, and I know when people are following me. We hit some more complicated part, and it's not as if we've ever talked about it like, '[Tenor7], you gotta pull us through this part 'cause we don't know it,' but it's almost like you can physically feel—some people will drop out and other people will sort of lean in like—and it's not only me, there's three of us who lead the tenors through the wood patch, kind of thing.'' (Tenor7)
	Withdrawing low-quality contributions	[*Conversation from paired interview*] ''And it can distract you from everything else because from that point on you're second guessing yourself. From that point on you're like, 'Oh my God, I better not mess up again,' and then you're more likely—'' (Soprano4) ''You totally shrink back.'' (Soprano1) ''You retreat, yeah.'' (Soprano4)
		''I've had a couple instances where I end up screwing up personally, and I don't know if it's heard, I don't know if other people notice it, per se, but I know I notice it. And I actually—it ends up tainting maybe the next five to ten [seconds] of music for me where I'll sort of question myself and then stop singing the same way I'm used to singing. I kind of lower my volume, try to get back on track, and listen harder to the people around me.'' (Tenor2)
	Conductor adapts gestures and expressions	''There was one part where he slowed us down immensely. We had to watch him intently as we realized the tempo was changing. He pointed at a particular instrument (the horns??) as that was the instrument playing the tempo he was setting. We went from being on auto-pilot to all of a sudden going slower than anticipated and having to be very mindful about our singing.'' (Fieldnotes, Verdi *Requiem* concert)
		''You can see so much about how a conductor feels about your performance by his face. So, just thinking about these moments, especially in catastrophic moments—and part of that guilt feeling is seeing a panicked look or, 'Ugh.' You know what I mean? Something visually on the conductor's face that says not only did we screw up, but we disappointed him, or something like that. But I think so much of that can be also overcome if you look and continue to see a feeling of, 'Alright, we can get over this together.' It's all conveyed on the conductor's face. . . .'' (Alto2)
Heedless interrelating	Over-contributing	''And that's why it could be catastrophic, because you could get a situation where two people who are complete—who think they know the music, don't really. So, if a section doesn't come in, this one courageous person takes the plunge, but then so does this other person, and they're not together. Then . . . it just falls apart.'' (Bass1)
		''I don't overdo it. So, I'm not going to do my best artistic interpretation if that's gonna stick out or make people look bad. I'll sing along, but I think that my tendency is to—in that situation—push, help people be better.'' (Tenor7)
	Over-withdrawing	''I think it's not just about caliber, but I think it's about the fact that there's so many of us that even if like 10, 20, 30 people stop singing, people, other people keep singing. And there's something about that that is very reassuring. So, I mean, the negative of that is people get lazy—they're just like, 'Eh, I've missed my entrance, who cares?' you know, a hundred other people got it so it's fine.'' (Alto10)

(continued)

Table 4. (continued)

Second-order Constructs	First-order Concepts	Representative Quotes, Events, and Fieldnote Entries
		''[W]hat would slacking off entail? Well, I think you think about the . . . runs in Handel *Messiah*. I mean, some people technically just may not be able to—I think I used to handle those melismas better in my younger years. I haven't been handling them as well as I used to be able to, but that sort of thing could be considered slacking off. I think if you decided that you were only going to hit every other note in a melisma rather than trying to do the entire run.'' (Alto9)

right. . . .'' And again, you can try to make sure that you're doing it to the best of your ability. And if you do have a voice with leading tones that brings others to whatever you're saying, then that's what you do. (Bass5)

Singers could also withdraw low-quality contributions in order to attend more closely to other singers and the conductor. By lowering their volume or not singing at all, singers created a chance to regain a sense of what they and their section were meant to contribute. Like a jumper gauging the feel of a rapidly turning rope, singers could sense where they could jump back into the sequence of the group's singing. As Alto3 described,

> usually what happens is that if there's something and that's off in the sound, I'll stop singing for a moment. If I think something is off and it could be me, I try to either pull back, or sometimes I think I also automatically match because if I'm not sure and I don't drop out, I might just match what everybody else is doing, which then could be wrong. Maybe I'm the one person that's right, but probably not.

In heedfully interrelating, our conductor also adapted his gestures and facial expressions to provide more directive guidance to the group. ''Conductors help, because they know the score. . . . So, if they know you're supposed to be somewhere and they see that you're lost, they'll do gestures and things like that to help you along, to let you know that, 'This is where you're really supposed to be''' (Bass1). Sometimes, the conductor's contributions in such moments were subtler:

> You can always tell . . . when things aren't going well for [the conductor] because there's also this sense of panic in their eyes that goes from this focus to this—they're looking at you suddenly and it's like the raised eyebrow. It's like, ''Okay, now I'm gonna focus on you because we need to get you back together.'' So, you can always tell when the conductor—or they may choose, in another case, that they're just gonna let it go and they're gonna move on. And that's usually the case, but they'll always give some nonverbal cue—just a look, that's all it takes—an eye in that direction, but that's all it ever takes to let—that they know that you messed up. (Tenor6)

Heedless interrelating. When singers inappropriately distributed their attention, they over-contributed relative to the group or over-withdrew their

contributions (see Figure 1). Singers often sing louder when in the presence of other loud sounds (Tonkinson, 1990). Without proper instruction in modulating one's voice for the purpose of musical expression, loud background noise can distract attention away from one's own singing, resulting in over-contributing: singing louder than others in the group. Our training in rehearsals limited how much over-contributing other singers reported and what I experienced or performed. In rehearsals, our conductor pointed out when he felt we were over-singing or when certain vocal sections were upsetting the polyphonic balance he desired. Moreover, as a novice, I did not think I had the expertise to sing out over more experienced singers if I experienced fragmentation. Tenor3 illustrated how singers did their best to adapt their own contributing when experiencing others' over-contributing:

> People get excited and then they sing louder just because they think, ''Well, it's a concert so I'm gonna sing louder,'' and I've been really frustrated in a few of the concerts. That hasn't happened lately, but this was maybe four years ago. I don't remember the piece and I don't remember the concert, but I definitely remember being—I was being sensitive and I was really almost not singing and everybody around me shouted. ''How can you be shouting? Stop shouting.'' You can't yell at them to stop shouting, just stop singing so loudly. I mean, I guess you try to set a good example and you hope that they notice that they're sticking out, but it can be agonizing because there's nothing to do to fix the problem with the people around you. It's not in your control. Well, it's only in your control in the sense that you be as accurate as you can and hope that they hear you being that.

Over-contributing did not occur often, and likewise, reports of over-withdrawing were limited, likely due to the emphasis on our individual responsibility for beautiful group performance during the intensive training we received each week. Table 4 shows the few pieces of data describing both forms of heedless interrelating. Alto11 abstractly described not wanting to be next to someone who was giggling at mistakes in performance rather than trying to immediately focus on making the upcoming notes beautiful: ''everybody sitting there is really putting their heart and soul into something good, and you get a couple of people that think it's funny and it's not serious.'' Alto9 described how one might ''slack off'' with difficult-to-perform sections of a piece, e.g., ''if you decided that you were only going to hit every other note in a melisma rather than trying to do the entire run.'' However, she described how her own disposition, and the conductor's high level of preparation for rehearsing and performing, influenced her desire to ''be putting in as much as I possibly can during rehearsal and in performance. I don't feel really satisfied if I haven't put in as much effort as I possibly can.'' With this sensitivity to inappropriate behavioral qualities, the Chorus as a whole tended to limit the continued experience of fragmentation through continuously adapting their attention and behavior in appropriate ways.

Regaining the aesthetic experience of wholeness. Through heedfully interrelating, members of the Chorus could experience their coordinating as a collectively appropriate reintegrating of sounds. Getting back on track as a group could not be guaranteed by any one individual; it was accomplished only by heedful interrelating being performed across the group. Performers

had to distribute their attention across their own contributions, other singers' contributions, the conductor, the orchestra, and the score. In distributing their attention, each person dynamically provided their own contributions that served as points of focus for others while attending to their own singing and to others' contributions. Withdrawing contributions allowed singers to more easily attend to others' high-quality contributions. The conductor attended to the gestalt choral sound, as well as the various elements it comprised; based on what he heard, he contributed gestures and facial expressions to draw singers' attention and thus influence their singing.

This ongoing reinforcement of attending and behaving in collectively appropriate ways is reflected in the loop on the right side of Figure 1. The spiral drawn within that loop illustrates how the continual reinforcement of heedful interrelating over time could potentially compile into an aesthetic experience of wholeness. The sense of the music coming together and the group performing as an indivisible whole emerged for Tenor3 in a *Messiah* performance he recalled:

> To sing every note and to be singing your part and then have a large group of people matching your timbre—if they're a tenor they're matching your pitch. If they're not a tenor they're matching their own pitch, but it's within a chord that's prescribed by the music. And it's like every—the longer it happens without noticeable interruption or error or odd behavior, the more exciting it almost becomes.

In Alto5's descriptions of her experience of moments of beautiful music, hearing and participating in such a large group of individuals sustaining a heedful interrelating of sounds reinforced the sense of wholeness and transcendence:

> ''[W]hen you're part of a group making beautiful music and getting it right on, it's so fulfilling, because you know that you're a member of this group. That we're all in it together . . . singing in such a large group, when we perform or even make beautiful music in rehearsal, when we have things spot-on, it's just so great. There are so many of us, and to know that all, or nearly all, of us are doing that well toward a common goal just feels great.

DISCUSSION

In this ethnographic study, I developed a process model of how action group members continuously adapt their coordinating in ways appropriate for collective performance. Prior research has suggested that when action group members experience disruptions to their coordinating, they adapt coordination mechanisms and enact those mechanisms based on the unique demands and affordances of the situation at hand. Yet it has been unclear how action group members revise coordination mechanisms and their enactment to combine both abstract representational knowledge and concrete experiential knowledge about changing situational dynamics. This study builds new theory from a fine-grained account of how individuals simultaneously access and integrate knowledge of the local and global qualities of their coordinating through their bodily senses.

Through aesthetic experience, singers were able to perceive the global qualities of the group's collective performance. When performance felt fragmented,

through emotional triggering and aesthetic orienting, singers distributed their attention across the global qualities of ongoing performance presented to them by the score and conductor, as well as the local qualities of singers' contributions. This process describes coordinating as a more dynamic, continuously fluctuating process than previously understood. It suggests that by changing what aspects of the situation composed their immediate experience, singers could adapt their coordinating behaviors, contributing to either heedful or heedless interrelating. This embodied perspective complements the dominant representational perspective in the literature, and my findings suggest that the intertwining of attention and emotions helps explain how groups can move between heedless and heedful interrelating over time.

Adapting Coordinating by Adapting Experiential Knowledge

At times, coordinating can involve participants' orienting to their broken patterns of interaction and what is missing from their coordination mechanisms (Jarzabkowski, Lê, and Feldman, 2012). In parallel, members of action groups are known to revise their coordination mechanisms in the face of surprises or situational changes, e.g., role shifting, authority migration, or reordering the work plan (Bigley and Roberts, 2001; Bechky and Okhuysen, 2011). Yet some action groups face less-mutable coordination mechanisms imposed on them by the organization. Examples include the imposition of rigid mechanisms like electronic medical records (Pine and Mazmanian, 2017) or predetermined work distribution (Valentine, 2018). In such cases, action group members still face disruptions, surprises, and mistakes in their work, but without the ability to change the coordination mechanism, they must engage in considerable extra-role efforts to keep coordinating. Similarly, members of the Musical Chorus faced constant challenges to their singing while coordinating but had to adapt without being able to change their coordination mechanisms, e.g., by switching leadership roles, adjusting the formal distribution of work, or developing new mental models through discussion. The accounts of Musical Chorus members suggest that, in such situations, action group members may need to adapt their experience of their coordination mechanisms—rather than the coordination mechanisms themselves—to maintain fluid coordinating.

Experiential knowledge refers to what we know about our environments through directly experiencing the concrete, sensory qualities of a given situation (Kolb, 2015). This kind of knowledge often takes the form of an aesthetic experience, when we know the holistic qualities of situations through feeling (Johnson, 2008). In turn, these holistic qualities are the context in which we can discern discrete parts, objects, and relations (Dewey, 1934). Since aesthetic experience is based in our bodily interaction with our environments, to a certain extent we have the capacity to adjust which sensory inputs we attend to or not. Adapting how one distributes attention across qualities of the group (e.g., felt synchrony) and its discrete members (e.g., individuals' speed or precision) provides a rapid and flexible form of modifying one's contributions when coordination mechanisms themselves (e.g., the choir's score and role relationship with the conductor) are less adaptable. For example, if the physical restructuring of emergency rooms is not possible, then doctors and nurses working in teams can perhaps adapt where they ''look over'' and which features of the emergency room they ''keep track of'' in order to know who is

on their team (cf. Valentine and Edmondson, 2015: 410). By providing a capacity for knowledge of the overall system of work, aesthetic experience addresses how action group members can appropriately shape local adaptations for ongoing collective performance under key environmental constraints.

Complementing Representational Knowledge with Experiential Knowledge

By focusing on how action group members adapt their experience, this study's findings suggest that appropriate adaptation relies on a more complementary relationship between experiential and representational forms of knowledge. Prior theory on adaptation and coordination drew on the more traditional and dominant ''computational'' approach to knowledge (Niedenthal et al., 2005), which assumes that team members draw on abstracted internal representations such as mental models to redescribe and make sense of experienced perceptions. While these cognitive models or understandings can be developed through rehearsal prior to performance (Bechky and Okhuysen, 2011) or updated through explicit discussion in breaks in performance (Bigley and Roberts, 2001; van der Haar et al., 2015), they cannot specify every potential action that may be required by changes in the situation that emerge in between these breaks (Wittgenstein, 1958). As was evident in the Musical Chorus, even using a highly specified external representation of the group's collective work—the musical score—could not guarantee continuously appropriate performance.

Acknowledging the complementarity between experiential and representational knowledge would better align current research on groups and teams with well-established perspectives in cognitive science (e.g., Clark, 1997, 1998). It is possible for individuals to draw on internal and external representations to guide action (e.g., mental models, a musical score), but constant adaptation depends on whether those representations are actionable and ''lead to desired end states in experience'' based on what is going on in the immediate situation (Kolb, 2015: 119). Thus we can better understand how constrained improvisation in a given moment is possible; firefighters not only have to ''size up'' the situation in their heads but also have to constantly validate and reshape their mental picture based on their ongoing sensory experience. This dialectic between experience and representation also elaborates on current explanations of team knowledge in dynamic situations, such as team situation models (TSMs). As hybrid cognitive structures, TSMs are theorized as combinations of intersubjective representational and situational knowledge, developed through explicit discussion about the changed situation (van der Haar et al., 2015). Without appreciating that individuals are capable of simultaneously drawing on both aesthetic experience and representations, TSMs are insufficient for individuals who must constantly adapt their coordinating without explicit talk, as suggested in prior theory (Rico et al., 2008). Acknowledging the constant corroboration between ongoing experience and representation would also explain how individual action group members manage to move forward in less-routine situations, with low team-member familiarity, when prior understandings and expectations of the situation are less rigid and applicable (cf. Rico et al., 2008).

Moving between Heedless and Heedful Interrelating through Attending and Feeling

A third contribution of this study is the revelation of the attentional and emotional mechanisms by which a group moves from heedless to heedful interrelating. In their original conceptualization, Weick and Roberts (1993) described what composes heedless or heedful interrelating but not how a collective persistently oscillates between the two forms of coordinating to execute a successful performance episode. Arguably, any action group faces surprises, interruptions, errors, and changes in their internal and external environments while coordinating, but prior to the current study, research tied to heedful interrelating had not explained how group members actively and intentionally adapt their heedfulness in real time (cf. Weick, Sutcliffe, and Obstfeld, 1999; Hargadon and Bechky, 2006). My findings illustrate the how and why of adapting such attentiveness: attention is redistributed, and the patterning of distribution is shaped by emotional valence. This suggests new conceptualizations of attentional qualities and an appreciation for how heed involves attentiveness to one's emotional experience in our theories of coordinating.

Prior research typically treated attention as a mechanism for selecting some stimuli and excluding others (e.g., Metiu and Rothbard, 2013). Attention in organizations is often focused by various organizational role holders or structures (Ocasio, 1997), such as leadership (Daft and Weick, 1984) or the division of labor (Vuori and Huy, 2016). In addition to being a spotlight on some (but not other) stimuli, attention in organizations has been characterized by a number of other qualities. For example, attentional stability refers to the extent to which attention remains focused on an object to enable ''total awareness,'' and attentional vividness refers to the richness of the details directly perceived about a focal object through stable attending (Weick and Sutcliffe, 2006: 518). Stability and vividness enable adaptation because there is more accurate knowledge about the situation to guide adaptive moves. In his work on attention in dynamic work settings, Dane (2013) conceptualized another quality, attentional breadth; this is similar to the concept of distributing attention because attentional breadth refers to casting attentional focus across a broad range of stimuli.[1]

The current findings suggest that theorizing about attention as a spotlight is insufficient for explaining how groups can adapt from heedless to heedful interrelating. We can better explain how individuals attend to their holistic or ''joint'' situation (Weick and Roberts, 1993; Heath and Staudenmayer, 2000) by understanding that attention can be distributed across coordination mechanisms that reflect the local and global qualities of collective performance. At first blush, it may seem that this describes scattered rather than stable attention; rather, it calls for uniting the concepts of attentional stability and breadth. A stable-and-broad attention is needed to effectively adapt while coordinating, as individuals attend to the gestalt of the group's performance by being simultaneously mindful of multiple aspects of that performance (Nanay,

[1] Dane (2013) also conceptualized a quality he called attentional ''integration,'' referring to how the lawyers in his study knit together events and elements into a persuasive story for the sake of influencing courtroom dynamics. This seems distinct from the binding together of sensory inputs into aesthetic experience and thus less applicable to the current study.

2016). Extending Dane's (2013) work, the parameters of attentional breadth may be further specified: attention is most adaptively deployed by action group members when it simultaneously captures information about the parts and whole, or the local and the global qualities of the unfolding situation. At the same time, this stable-and-broad attention enables vividness in the sense of direct perception of more elements of the situation, which ultimately ensures greater appropriateness of reintegrating efforts.

While stable-and-broad attention describes the ''how'' of adapting heed while coordinating, emotional valence explains the ''why'' behind the redistribution of attention. In the few instances when emotions have been described in prior coordination research, they have typically been treated as signals about how we feel about other group members (e.g., Bechky, 2006; Rosen et al., 2011). But emotions may be essential to theory on adapting coordinating, because emotional valence seems to be associated with motivating how action group members redistribute their attentional focus in particular ways. Negative emotions guide the prospecting of attention toward ''What's relevant here for getting out of this mess?'' and away from current, maladaptive behaviors. By contrast, if an aesthetic experience of wholeness follows from adaptive moves, then positive emotions ensue, whose intrinsic appeal triggers further adaptive moves. This motivational quality suggests that how and why group members respond in certain ways to breakdowns in coordinating may be more driven by emotion than information (cf. Jarzabkowski, Lê, and Feldman, 2012). Group members faced with errors, surprises, or changes to coordination mechanisms initially create new, provisional patterns of coordinating (e.g., Bechky and Okhuysen, 2011), but these may not fully resolve the breakdown (Jarzabkowski, Lê, and Feldman, 2012; Pine and Mazmanian, 2017). Emotions may be helpful for motivating group members to persistently iterate their attempts at adaptation until they feel a fit between their improvisational actions and the emergent situation they are creating with others. Our theories of coordinating need to account for how well group members are aware of their own emotions about their ongoing performance as they ensure that the show goes on.

Future Research Directions and Boundaries

The three sets of theoretical contributions outlined above suggest a number of future research directions. First, research is needed to understand how experience supports the continuous adaptations that compose coordinating. One area ripe for such research concerns how the integrating conditions for coordinating—accountability, predictability, and common understanding—are continuously reestablished in real time and how they relate to each other (Okhuysen and Bechky, 2009). Scholars may consider how the felt, embodied experience of individuals' changing, improvisational behaviors (e.g., Madden et al., 2012) and other environmental features (Clark, 1998; Warren, 2006; Johnson, 2008) enable self-organizing patterns that continuously reestablish common understanding of who is to do what when. Because it is still unclear just how the integrating conditions interact (Okhuysen and Bechky, 2009), scholars could investigate how individuals use attention to coordination mechanisms that combine conditions, such as how role structures provide both accountability and predictability. Alternatively, future research could examine

whether individuals proactively fill in what seems to be missing in the group based on their direct experience, for example, by substituting accountability for common understanding.

Second, such research would require more precisely capturing how experiential and representational knowledge complement each other. Researchers could combine motion-sensor data about real-time behaviors and movements (see Schmidt and Richardson, 2008, for details) with qualitative methods like interviews and participant observation to identify how participants experience interaction patterns along with their internal and external representations of the group. Future research should consider how action group members use embodied or ''intercorporeal'' knowledge to not only smoothly interact and adapt to each other with little talk (e.g., Hindmarsh and Pilnick, 2007) but also to validate their representations of how to appropriately respond to a changing situation. For example, medical personnel seem to change their coordinating based on how their direct experience of the group's work contrasts with certain expectations of how the group should be performing, e.g., feeling nurses working more slowly (Valentine and Edmondson, 2015) or the trauma team running ''horribly'' (Klein et al., 2006: 601). Foregrounding the ways such experiential, embodied knowledge is used to corroborate and validate how protocols and routines are practiced should provide fruitful research on how action group members continuously adapt their critical work.

Third, future research should focus more closely on the emotional and attentional processes that emerge in the course of coordinating and how they shape subsequent adaptive or maladaptive behaviors. Emotions may be more amenable to research because they may be more accessible—and legitimate to discuss—than aesthetic experience for action group members in non-artistic contexts (Taylor, 2002). Future research could also draw more precise connections between coordinating theory; triggers for adaptation; and frameworks such as affective-events theory, which suggests relationships between work events and emotional states (Weiss and Cropanzano, 1996), and the affect-as-information model of how people draw on their felt experience as a source of information (Schwarz and Clore, 2007). Coordination scholars might now assume a larger individual-level attentional capacity and thus examine what people perceive as gestalt objects or ''wholes'' in their team environments, because levels of perceptual focus can vary (Chong and Treisman, 2005). Researchers will need to consider how attentional processes are disrupted or maintained in the face of complexity, which is especially true in cross-occupational work, where a sense of gestalt, collective work may be easily disrupted (e.g., Bechky, 2003; Pine and Mazamanian, 2017; Bechky and Chung, 2018). Lab experiments that manipulate group and subgroup identity, as well as the presence or absence of objects that shape top-down attention, can help identify which attentional behaviors coincide with complex interdependent work.

While pursuing these future opportunities, scholars should also be mindful of the boundaries to transferring this study's findings to other groups. For example, given the tight link between coordinating and performing, adaptations in performative action groups like a choir may tend to be in response to the group's internal functioning, moreso than its external environment. Yet any group needs to adapt its internal functioning to formulate an appropriate response to external conditions, and this study presents a close-up view that may not have been possible in more volatile environments. Other groups such

as service, management, and project teams may be more sensitive to changes in both their internal and external environments (Ancona and Caldwell, 1992). Across such group types, however, the aesthetic experience of members' coordinating may help individuals know the impact of external changes. Adapting to both internal and external cues may involve the cascade of processes depicted in this study, as well as prospecting and redistributing attention across the work of myriad other groups and even external organizations. This may require supporting structures over and above those found in a choir, such as the elaborated role and communication structure of an incident command system (Bigley and Roberts, 2001).

Certain features of a group and its work may shape whether and how group members easily access the experiential and representational knowledge described in this study's model. Groups that preclude the use of explicit discussion to adapt coordinating (e.g., those that present public performances or for which the ability to talk is challenged or even dangerous) may require greater sensitivity to aesthetic experience than groups that allow for ongoing dialogue while coordinating (e.g., conducting a surgery). Members of large, rather than small, groups may find they need to rely on both experiential and representational knowledge because they have less direct contact with all other members and thus face greater potential for breakdowns in communication and coordination (Bigley and Roberts, 2001; Davison et al., 2012). To the extent that the task and group size allow for breaks and explicit discussion, some groups may be able to lean more heavily on explicit, representational knowledge. For example, some health care emergency teams may exercise in-action team reflexivity, meaning they very quickly evaluate past actions, current options, and future plans in seconds-long bursts of discussion that punctuate ongoing coordinating (Schmutz et al., 2018). Crisis management teams can use external representations to update shared understandings as a group, e.g., with discussions around a whiteboard (Uitdewilligen and Waller, 2018). Ultimately, though, all such groups must also engage in periods of fluid, ongoing coordinating involving experiential knowledge. To flesh out the contingencies of the applicability of this study's model, scholars might develop a continuum that describes the extent to which certain dimensions of groups coincide with certain mechanisms for accessing different types of knowledge.

Conclusion

This study revealed how Musical Chorus singers drew on aesthetic experience to adapt their ongoing coordinating in ways that were appropriate for their desired collective performance. Aesthetic experience matters in our everyday lives (Saito, 2013) and is part of our experience of discerning meaning in organizational work (e.g., Fine, 1992; Cook and Yanow, 1993; Taylor and Hansen, 2005; Koch et al., 2018). My study establishes how aesthetic experience is an important form of experiential knowledge in the effortful collective accomplishment of coordinating. Examining experience helps to unpack the psychological mechanisms behind the practice of coordinating, such as the aesthetic orienting to global and local qualities of performance and the embodied cognition that comprises heedful interrelating. I hope that future researchers examine the importance of the felt, immediate experience of coordinating in the pursuit of collective performance of all kinds.

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Supplemental Material

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