Playing by the Rules? A Philosophical Approach to Normativity and Coordination in Music Performance

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Playing by the Rules? A Philosophical Approach to Normativity and Coordination in Music Performance

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The committee consisted of Catherine Z. Elgin, Professor of the Philosophy of Education, Graduate School of Education, Harvard University, Daniel Bonevac, Professor of Philosophy, University of Texas, Austin, and Lars Ole Sauerberg, Professor of English, University of Southern Denmark (chair).

Abstract

The purpose of this dissertation is to demonstrate that no matter what level of human interaction we are considering, it is essential for attaining *coordination* that the individual follows norms (understood broadly). By coordination, I understand some ordering of a group's actions that make these actions fit together in some pattern: This could for example be a pattern that distributes an equal opportunity for reaching one's goals, or it could be a pattern that would look 'coherent' or 'aesthetically satisfying' to an external observer. In at least one of these two senses of the word, we usually strive for coordination with other people as we move about in the world.

I have chosen to highlight these points by concentrating on a small society in a specific type of situation as a 'microcosmos' of interpersonal relations in general: the performing music ensemble. To be more specific, I focus on composition-based performances by music ensembles. My main reason for this is that an analysis of the way musicians make choices for a performance based on a composition brings out an interesting example of how there may be an interplay between our personal ideals and the norms that are presented to us externally: A situation has certain, often tacit 'norms' for which actions can take place within it. Similarly, a composition characterizes a field of possible actions through its instructions (and possible prohibitions). In both cases, it is in the meeting between these external norms and the personal norms of the individual that the decisions are made. (As I will touch upon, improvisation-based performances may also have norms external to the individual musician in the form of genre conventions, performance practices etc. Since the composition is often a more clearly delimited entity than a 'tradition', composition-based performances are, however, slightly easier cases to handle in this context.)

My method in this dissertation is to lay out a varied spectrum of schemes that may explain different aspects of coordination in a music ensemble (in general relativized to the context of composition-based music) and show how, in each of these schemes, following norms is an essential component in reaching coordination. Although I also discuss how coordination problems may be solved either 'automatically' through internalized routines or via fast choices between such routines, I focus on the type of coordination problems that prompt rational deliberation on the part of a musician regarding the actions of the rest of the ensemble (for example, deciding which theme-carrying player to follow in a situation where the ensemble is not perfectly synchronized in relation to an initial plan, such as the score). Questions about the extent to which musicians can be expected to rationally reflect upon their actions, or whether a discussion of coordination in terms of communication (interpreting signals from other musicians and acting directly on these) is more appropriate, are subdiscussions.

Before I reach the point of formal analysis, I will devote considerable space to an examination of how we can characterize the composition in terms of rules, and an informal discussion of the interplay between musician and composition in the composition-based performance. This is necessary, because much music philosophy has centered on the ontology of a "musical work", a concept that is often taken to imply a view of the composer's work as a "gestalt", some sort of fixed, objective entity that the musicians try to approximate in the performance, as if they were aptly compared to art students imitating a famous painting or actors retelling a written story. This view of music performance downplays the role of the musicians and very seldom takes the decision processes of a musician into consideration. A subgoal of my dissertation is, thus, to refine a notion of a *composition* as instructions from some composer to a set of possible musicians, or, more precisely, a set of rules conceived of by the musicians as constituting such instructions.

In connection with the latter subgoal, a discussion of what delimits the *interpretation* of a composition from an entirely new composition also becomes relevant. I will point out that musicians do not just follow a set of rules as presented to them, but prioritize these instructions: In situations where they are unable to follow all of the instructions, some instructions are considered more important than others. The same goes for the interpretation: What is kept of the 'original' composition is what the musician considers most important. I conjecture that once the order of priority of instructions (as conceived of by the musician) places instructions derived from new material (that is not part of the original composition) above instructions inherent in the original composition, the prioritized set of instructions constitute a new composition (or, put differently, an act of co-composing is taking place).

Although I argue that the composition as well as any other set of rules for the performance context is always considered alongside some priority ranking, I also consider how these sets of rules are delimited by the musicians, regardless of differing priority rankings. More specifically, I consider how the musicians refine their view of which rules to observe in a performance of a piece (or within a genre) when they experience certain passages as *mistakes* or as *exemplary passages*: Some standards are necessary in order to make such classifications, but at the same time, experiencing a mistake or exemplary passage generate norms for further performances (such as "avoid this" or "strive for this").

The announced formal analysis of selected coordination problems divides into three different models: The first is in terms of the musician assuming some set of rules as *common knowledge* in the ensemble, that is, rules that the musician consider everyone to know that everyone knows that everyone knows etc. This approach utilizes the rich field of *epistemic logic*. A common awareness of a number of basic principles in relation to the composition will indeed help the musicians navigate through the coordination problem. In other cases, however, such common knowledge is absent, and the musicians have to navigate by other means. I therefore introduce a second explanatory scheme, namely explaining coordination in terms of musicians making decisions based on their (statistically warranted) *expectations* of how the other musicians might think in the situation. This approach taps into the field of game theory, particularly the *variable frame theory* of the late Michael Bacharach et al. (2006).

A third modeling scheme, inspired by the recent work by Olivier Roy (2008) in the field of decision theory, takes an important aspect of choice formation in the music performance into consideration: The musicians have goals for their endeavors. Due to the fact that they have a certain set of *intentions* for the performance, they are able to decide on a particular strategy in the first place, at least for their own actions – although they initially hope that everyone else has chosen a strategy belonging to the same "strategy profile." It is only when the musician perceives incongruence with the possible strategies of the other musicians (given their perceived actions) that he revises his strategy in order to achieve a compromise that may satisfy the entire ensemble's possible intentions. Since this process might repeat itself during the performance, if all the musicians think in the same way, they will gradually rule out possible strategies (and intentions) of other musicians, thus effecting step-by-step the heightening of the possibility of agreement on one strategy profile for the entire ensemble.

In each of these schemes, I show that norms are needed in order to achieve coordination: In the model of traditional epistemic logic, common knowledge of a 'rescue plan' is what ensures coordination. In the game theoretical model, it is tacitly assumed that my expectations are not just shaped by my knowledge of the other persons in the ensemble, but also by the limited amount of actions I consider possible in the context of e.g. 'playing the composition' (or 'improvising within a genre'). Finally, in the intentionbased model, the norms of the performance context (the composition, the genre conventions etc.) are what delimit the amount of possible strategy profiles (for the entire ensemble) I can choose from in the first place.

In most of the examples here examined by means of formal methods, I have assumed that the musicians do not make mistakes. I conclude my chapters on modeling with an attempt at characterizing an integrated model that takes the possibility of 'chance factors' into consideration, including the uncertainty regarding whether an unexpected deviation is intended or a mistake. This model will also serve as a rough map of the different levels at which normativity is at play in the coordination process and how it is at play. I also compare the more general ideals of a musician in relation to forming performance intentions, and briefly discuss how these compare to the ideals for normative action in the field of virtue ethics.

Concluding the dissertation, I discuss how the insights from an ensemble context regarding the importance of rule-following and dedication to a plan are relevant for other contexts than the music performance (the workplace, in particular), and for philosophical discussions of normativity in general. Resumé

Formålet med denne afhandling er at belyse, hvorledes interpersonel *koordination* er afhængig af, at den enkelte følger normer (i bred forstand). Ved koordination forstås en strukturering af en gruppes handlinger i forhold til et overordnet mønster: Dette kunne f.eks. være et mønster, der sørger for at alle i gruppen har den samme grad af mulighed for at opnå deres mål, eller det kunne være et mønster, der ville blive opfattet som "kohærent" eller "æstetisk tilfredsstillende" af en udenforstående. I mindst én af disse to betydninger af ordet er koordination noget, vi som regel stræber efter, når vi bevæger os rundt i verden.

Jeg har valgt at demonstrere disse pointer ved at diskutere en bestemt type situation som et "mikrokosmos" af mellemmenneskelige relationer i almindelighed: musikopførelsen. Nærmere bestemt har jeg valgt at fokusere på *kompositionsbaserede* ensembleopførelser. Denne type opførelser er særligt interessante, fordi musikerne på én gang skal forholde sig til deres egne (kunstneriske) idealer og det sæt af normer, som den konkrete opførelse dikterer. (Dette samspil imellem personlige og mere eller mindre "offentlige" normer er tydeligere her end i f.eks. en improvisationsbaseret opførelse.) På samme måde som en situation i al almindelighed har visse – ofte implicitte – normer for, hvad der er acceptabel opførsel (bemærk den etymologiske lighed med "opførelse"), kan en komposition i kraft af sine instruktioner (og lejlighedsvise "forbud") siges at afgrænse en mængde af mulige handlinger for en opførelse. I begge tilfælde – opførelsen såvel som situationen generelt – er den enkeltes beslutninger et produkt af samspillet mellem vedkommendes personlige normer og de normer, situationen præsenterer.

Min metode i denne afhandling er at karakterisere et bredt spektrum af modeller for interaktion i en musikopførelse (med særligt fokus på kompositionsbaserede opførelser) og vise, hvorledes det i alle disse modeller er en forudsætning for at opnå koordination, at den enkelte musiker følger normer. Jeg interesserer mig særligt for den type koordinationsproblemer, der kan opstå i et ensemble, hvor den enkelte musiker er nødt til aktivt at reflektere over de andre musikeres handlinger (f.eks. hvem han eller hun skal følge, hvis gruppen ikke er perfekt synkroniserede i forhold til deres oprindelige plan for opførelsen – så som partituret). Jeg vil dog også komme ind på, hvordan koordinationsproblemer ofte bliver løst "automatisk" gennem internaliserede rutiner, eller via hurtige valg mellem sådanne rutiner. I forbindelse med diskussionen af, hvordan musikere tænker i situationen vil jeg desuden forholde mig til en meget almindelig indvending imod mit projekt: Kan musikere overhovedet forventes at reflektere rationelt over deres handlinger "i kampens hede"? Jeg vil bl.a. forsvare mit forehavende gennem en belysning af, hvordan koordination i termer af kommunikation (hvori musikere løbende fortolker signaler fra andre musikere og reagerer direkte herpå) er afhængig af beskrivelser af musikernes refleksioner i øjeblikket.

Inden jeg kan give mig i kast med selve mine formelle analyser af koordination i ensemblet, er jeg imidlertid nødt til først at definere, hvad jeg forstår ved begrebet "komposition" og diskutere, hvordan dette begreb har relevans for den enkelte musiker i opførelsen. Dette er nødvendigt, fordi der inden for musikfilosofien længe har været en verserende diskussion om det musikalske "værks" ontologiske status. Værket anses ofte for at være en slags "gestalt", en mere eller mindre veldefineret intersubjektiv størrelse, som musikerne forsøger at indfange i deres opførelse, på samme måde som en kunstmaler i sine studieår maler billeder baseret på andre maleres værker. eller som en skuespiller, der skal genfortælle en nedskrevet historie. Et sådant syn på musikopførelsen nedtoner musikernes rolle i forhold til komponistens og tager meget sjældent musikernes egne valg i forbindelse med opførelsen i betragtning. Det er derfor et yderligere mål for min afhandling i stedet at karakterisere et kompositionsbegreb i termer af regler. Mere præcist forsøger jeg at beskrive kompositionen som et sæt af instrukser fra en komponist til et sæt af musikere – vel at mærke de instrukser eller regler, musikerne opfatter som udgørende kompositionen.

Sidstnævnte forehavende leder mig hen til en diskussion af, hvordan vi afgrænser begrebet *fortolkning* i forhold til komposition: Hvor meget kan man ændre i sin fortolkning, før der er tale om et helt nyt værk? I denne forbindelse er det vigtigt at holde sig for øje, at musikere ikke blot følger kompositionens – eller situationens – regler slavisk, men opfatter disse som *prioriterede*: Hvis musikeren havner i en situation, hvor ikke alle regler kan opfyldes, anses nogle regler for mere vigtige end andre. På samme måde reflekterer en musikers konkrete fortolkning af en komposition, hvad vedkommende finder mere eller mindre vigtigt i denne. Mit forslag til et afgræsningskriterium for fortolkning kontra (ny) komposition er følgende: Det øjeblik musikeren prioriterer en "ny" regel for den konkrete opførelse højere end reglerne i den oprindelige komposition, er vedkommende at betragte som "med-komponist" – dvs., det, der ellers ville have været en fortolkning, er i stedet blevet en ny komposition med rødder i både den oprindelige komponists arbejde og musikerens. Selv om en komposition efter min mening *aldrig* optræder som en normativ størrelse i musikerens bevidsthed uafhængigt af en konkret fortolkning (prioritering af regler), er det stadig interessant at se på, hvordan musikerne gradvist indkredser, hvilke regler, der for dem udgør kompositionen (uafhængigt af fortolkningen). Mere specifikt vil jeg give en beskrivelse af, hvorledes musikere gradvist raffinerer deres forståelse af en kompositions regler i mødet med passager, der opfattes som *fejl* eller omvendt som *eksemplariske* (i positiv forstand). Sådanne klassifikationer kan nødvendigvis kun finde sted på baggrund af visse standarder, men samtidig bliver disse standarder hele tiden udbygget eller indsnævret gennem konkrete erfaringer – der dannes nye regler à la "undgå dette" eller "stræb efter dette".

Den annoncerede formelle analyse af koordinationsproblemer falder i tre dele: Den første model, jeg diskuterer, forklarer, hvordan musikere i visse situationer kun kan være *sikre* på at løse et koordinationsproblem, hvis visse regler er "fælles viden" i ensemblet ("common knowledge" – en fagterm inden for den epistemiske logik, som jeg trækker på i denne model), dvs., hvis alle i ensemblet ved, at alle ved, at alle ved etc. at disse regler gælder. En sådan fælles bevidsthed vil utvivlsomt hjælpe musikerne navigere ud af koordinationsproblemet. I andre tilfælde er en sådan fælles viden imidlertid ikke til stede i ensemblet. I disse tilfælde må musikerne forlade sig på andre metoder. En af disse indfanges af den anden forklaringsmodel, jeg diskuterer, hvor musikernes forventninger til, hvorledes de andre musikere vil tænke eller handle i situationen, beskrives ud fra feltet spilteori, nærmere bestemt den såkaldte "variable frame theory" bl.a. diskuteret af Michael Bacharach et al. (2006), hvori den enkelte overvejer med hvilken grad af sandsynlighed, en persons forståelsesramme ("frame") er på en bestemt måde i forhold til et valg mellem muligheder i situationen.

En tredje forklaringsmodel inspireret af nyere forskning inden for beslutningsteori (særligt hos Olivier Roy (2008)) tager højde for et på sin vis indlysende, men ikke desto mindre vigtigt aspekt af en musikers handlinger: Musikerne har mål for opførelsen. Det er disse *intentioner*, der gør musikeren i stand til at vælge en strategi for opførelsen i første omgang – i hvert fald hvad angår vedkommendes egne handlinger, omend han eller hun til at starte med handler, som om alle andre har valgt den samme *fælles strategi*. Det er først i det øjeblik, hvor musikeren identificerer en inkongruens mellem den overordnede strategi ("strategiprofil"), han eller hun forsøger at udføre sin del i, og de andre musikeres faktiske handlinger, at musikeren tager sin oprindelige strategi op til revision: Han forsøger nu at finde en ny strategi, der passer med – ikke blot hans egne intentioner – men også hvad han anser for resten af ensemblets mulige intentioner (givet deres handlinger). Eftersom en sådan proces (identifikation af inkongruens - strategirevision) kan gentage sig flere gange i løbet af opførelsen, vil musikerne, givet at de alle tænker på samme måde, gradvist nærme sig én fælles strategi, idet de for hver "runde" af processen kan udelukke, at de øvrige musikere følger visse strategiprofiler.

For hver af disse tre modeller for interaktion viser jeg, at normer er en nødvendighed, for at ensemblet kan opnå koordination: Inden for modellen i termer af traditionel epistemisk logik er det en fælles bevidsthed om en "redningsplan", der sikrer at musikerne kan løse koordinationsproblemet. Inden for den spilteoretiske model er mine forventninger til de andres handlinger ikke kun afgrænset af min forudgående viden om den anden musiker, men også af hvilke handlinger, jeg finder det muligt, at vedkommende overhovedet overvejer, givet den konkrete opførelseskontekst (f.eks. "at spille et bestemt stykke" eller "at improvisere inden for en bestemt genre"). Endelig er det i den intentionsbaserede model netop sådanne normer for opførelseskonteksten (kompositionen, genrekonventioner etc.), som afgrænser mængden af mulige strategiprofiler (overordnede strategier for hele ensemblet), en musiker kan have til hensigt at følge i det hele taget.

I størstedelen af de eksempler, jeg undersøger vha. formelle metoder, har jeg – for enkelthedens skyld – antaget, at musikerne ikke laver fejl (forstået som ikke-intenderede handlinger). Jeg afslutter min diskussion af forklaringsmodeller for koordination med et forsøg på at karakterisere en samlet model for koordination, der ikke blot inkorporerer de aspekter af musikernes beslutningsprocesser, jeg har diskuteret tidligere, men også tager muligheden for fejl eller andre "uforudsigelige" faktorer i betragtning. Denne model udgør samtidig en grov skitse af, hvordan normativitet i almindelighed spiller ind på forskellige planer i koordinationsprocessen. Jeg vil i denne forbindelse sammenligne musikerens mere generelle idealer i forhold til at definere mål for opførelsen med den rolle, idealer for den normative handling spiller inden for feltet dydsetik.

I forlængelse af min konklusion diskuterer jeg, hvordan mine eksempler fra musikensembler, hvad angår det at følge regler og af at være engageret i at følge en bestemt plan, kan have relevans for andre interpersonelle sammenhænge (så som arbejdspladser i bred forstand) og for filosofiske diskussioner af normativitet i al almindelighed.

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This work is dedicated to my family and friends.

Søren R. Frimodt-Møller Odense, July 2010 A Note on Music Examples: All of the recordings I refer to in this dissertation are commercially available on the Internet and elsewhere. Although the text does not depend on the reader's access to the pieces of music I discuss, I have compiled a CD set of selected examples as an aid to the members of my PhD committee.

Whenever I refer to a work, recording or artist included in the aforementioned examples, I mark this with a \triangleright .

Please refer to pp. 254-256 for a detailed list of the contents of the two CDs. (The tracks on the CDs appear in the order they become relevant in the text.)

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Chapter 1

Introduction

Consider four situations:

- 1. I am sitting in the first violin section of a youth symphony orchestra performing the 5th Symphony by Shostakovich ▷. In the first movement, there is a particular passage that builds up to a climax where a percussionist is supposed to make a large crash on the gong that gradually dies out, blurring the transition into the new tempo that follows it. We are approaching this 'turning point' (a 'catastrophe' in the original, Greek sense of the word), it is a few bars away still, when the unbearable happens: The percussionist hits the gong a bar too early. There is nothing the conductor can suggest to fix this. A different kind of chaos now reigns that lasts for several seconds until a new transition in the movement helps the orchestra coordinate again.¹
- 2. I am sitting in the first row of the first violin section of a smaller, roughly chamber orchestra-sized ensemble. (The section I am in includes about four other violinists.) We are in a church and playing a movement from José Maria Vitier's *Misa Cubana* \triangleright , a work for orchestra, choir and soloists. In a passage, one of the cellists has a solo, but her perhaps slightly imprecise attack on the first notes causes her to find a tempo that deviates a bit from the rest of the ensemble. The conductor tries to conduct her into the tempo he wants (by conducting a bit faster, looking directly at her), but this does not work. The

¹The orchestra in question was Fyns Amts Ungdomssymfoniorkester, abbreviated FAUST (with whom I played from 1999 to 2004), conducted by Lars Jensen. The incident took place at a concert in Nyborg some time in the first half of 2001.

rest of the orchestra has to decide quickly whom they want to follow. The concertmaster (who is sitting on my right) and I simultaneously decide to follow the cellist, and about a second later, we have the rest of the violins with us, a few moments later the entire ensemble. The conductor adapts to the achieved tempo.²

- 3. The progressive metal band Dream Theater is on a stage, performing their song "The Killing Hand." ▷ The singer, James LaBrie, is not on stage he usually does not enter until after the instrumental opening of the song. The moment approaches where LaBrie is supposed to begin the first verse, but since he is not there, drummer Mike Portnoy starts singing the verse instead. (Dixon (2007, "Performances" section))
- 4. Some years later, Dream Theater is again standing on a stage, performing the piece "Metropolis Part I The Miracle and the Sleeper."⊳ During the long instrumental section in the middle of the song, James LaBrie has as usual left the stage. The moment approaches where he is supposed to reenter the stage and continue singing, but he is not there yet. The rest of the band improvises and expands on the passage that precedes the vocal passage, until LaBrie is back on stage and ready to sing. He starts singing and the band continues as originally planned.³

I used to think that these examples all primarily showed something about how musicians relate to a *composition*: In (1), the percussionist has not understood how the gong crash fits into the piece of music (he is counting – and not very well – instead of listening). In (2), the ensemble decides that it is best to support the cello soloist, perhaps because they somehow consider her theme essential to that passage. In (3), it does not occur for Dream Theater to wait for the singer, perhaps because they consider the drive of the opening of the song more essential than a particular voice singing the first verse. In (4), Dream Theater does wait for the singer, acknowledging the importance of his entrance after the very long instrumental section.

²The ensemble I was playing with was a representative part of The University of Southern Denmark Symphony Orchestra, conducted by Saul Zaks, at a concert in Kristkirken, Kolding on May 11, 2008.

³This performance can be heard on the live album Live Scenes from New York, Elektra, 2001.>

In fact, the original working title of my PhD dissertation was The Normativity of a Composition. I have, however, come to realize that situations such as these where musicians consider some aspects of the music they are playing more or less important than other, are not specific to the compositionbased music performance. Regardless of which type of music performance we are talking about, there are always norms being followed, the musicians can show varying degrees of dedication to what they are playing, and coordination problems can take place (although they may be more easily hidden in, say, a free jazz improvisation). I do, however, still think that the composition-based performance is particularly interesting, because it constitutes a situation where there are several types of norms being observed in the same situation, both the personal norms of the individual musicians and the rules that can arguably be derived from the composition. A study of such a music performance provides an excellent opportunity for giving a comprehensive account of the many ways we act according to norms and the ties norms have to coordination. This is exactly what I try to do in this dissertation.

Another reason for concentrating on composition-based performances is that I think a discussion of how musicians relate to the norms inherent in a composition helps to highlight how they relate to norms in their performances in general (composition-based as well as improvisation-based). The norms that guide an improvisation-based performance can be more difficult to grasp, and because of the slightly more "open" structure of such performances, the coordination problems or "conflicts" in the performance with respect to what should be played are more difficult to identify.

I will begin by using the central terms of the main title to give a general overview of the issues I will be discussing.

1.1 Rules

Why do we need rules?

This is essentially the question I want to, if not answer, then at least shed some light on in this dissertation. I should perhaps formulate the question in a more accurate fashion: Why do human beings always seem to need (prescriptive) rules that they can observe with regard to different types of conduct?

Our world is filled with rules that regulate the behavior of people in

relation to each other. The rules of traffic are one example. All sorts of preventive legislation (e.g. punishment for criminals or rewards for students who finish their education faster) are another. Institutionalized rules of religions (which may coincide with the legislation of a country in some cases) also regulate the interpersonal relations in the religious community. Then there are all the *tacit* rules, e.g. rules for what people generally find acceptable or unacceptable in a given social context. These rules also regulate the actions of individuals in relation to each other. It may thus seem as if rules that regulate behavior have the main purpose of promoting *coordination*.

Coordination is, however, only part of the story, which we quickly see if we try to explain what we mean exactly by "coordination." Coordination is some ordering of two or more entities that make them fit together in some pattern – when we talk of one person being "well-coordinated," this definition covers both the ordering of, say, the legs in the act of walking or a drummer's coordination of all four limbs. Coordination in a *group of people* could for example be an ordering into a pattern that distributes an equal opportunity to reach one's goals (the ideal of Western democratic government), or it could be a pattern that would look 'coherent' or 'aesthetically satisfying' to an external observer (e.g. the joint actions of a dance troupe or Italian drivers in Rome⁴). Coordination, or rather, a degree of coordination is, in other words, measured against some sort of standard, some structure that someone wants to achieve in the situation.

The laws of traffic and criminal law mostly have the simple, common goal of preventing people from hurting each other and thus valorize the structure that promotes this goal in the best way, but in many other contexts, the goal is a joint output of a structure involving a whole group of people. In a workplace, such as a surgical ward or a kitchen at a restaurant, there will very often be rules, explicit as well as tacit, for the employees, defined by what the work unit is trying to do – manage 10 patients, a couple of whom need immediate operations, or have 25 different dishes ready at roughly the same time etc.⁵ The same goes for an artistic group such as a theatrical troupe

⁴The 'aesthetic satisfaction' of watching the latter is probably better characterized as an amazement at the skill and mutual responsiveness that prevent accidents from happening more often that one would expect in traffic of such chaotic proportions.

⁵I thank one of the students who attended my talk "Musikalske normer" ("Musical Norms") at University College Sjælland, Roskilde, on April 24, 2009, for coming up with the example of a kitchen at a restaurant as an example of a workplace requiring rational coordination.

or a music ensemble. The latter examples point us toward a specific type of rules, namely the ones that are defined by specific aesthetic ideals: If the theatrical troupe wants to achieve a specific mood in a rendition of, say, a late Strindberg play, this defines a number of rules for how people should behave on stage. Similarly, if a band wants to create a disturbing atmosphere in a rendition of, say, "God Only Knows" \triangleright by The Beach Boys, they are bound by several rules defined both by the original song (in whatever recording or notation the band has as its reference) and the additional goal(s) for the performance they have formulated for themselves.

Artistic goals can of course also define rules for one person's actions in isolation, as when a painter places restrictions on himself to achieve a specific expression. Some artists (painters, actors and musicians alike) may, on the other hand place restrictions on themselves just for the sake of the challenge. Many, if not all of the film directors who have chosen to submit to the rules of the Danish *Dogma 95* manifesto⁶ when making a "certified" Dogma-movie, have done so to challenge their minds and in this way also provoke new ideas. A parallel example from the field of music could be improvisation-based performances where the musicians have agreed on specific rules for the development of the performance (e.g. "only use this or that scale," "change the measure from 4/4 to 3/4 after a number of bars and back again later"). This too constitutes a challenge that – ideally – stimulates the creativity of the musicians.

In most situations in society, we are paying respect to several rules at once - of all the types listed above. We have to abide by the written laws in force wherever we might be, we respect the explicit or tacit rules of the socio-cultural context in which we find ourselves, our goals define a number of rules for our possible choices (e.g. the basic goals such as getting along with other people, or more specific short- or long-term goals, such as buying a sandwich, getting a good laugh from something, or becoming an electrician), and finally we may submit to a some sets of rules just "for the fun of it." On top of that, there are all the rules we follow without even noticing, because these have become internalized in our thought and behavioral patterns. In short, *normativity* is an unavoidable trait of virtually all human conduct.

⁶A list of rules prohibiting e.g. the use of artificial light, wardrobe not provided by the actors themselves, sound added after the actual shoot, and any manipulation of the images beyond shortening a clip. The official homepage of the manifesto is now closed, but the rules are circulated widely on the Internet. See e.g. http://www.martweiss.com/film/dogma95-thevow.shtml.

The concept of normativity is, naturally, derived from *norm*, a word that is often used synonymously with "rule," but tends to denote rules of a more general character, e.g. the basic principles of a theory for what is morally right or wrong, or the basic value-statements of institutions (insofar as these indirectly define strategies for how to achieve/preserve the values). In other cases, "norm" refers to what is "normal," e.g. what is common practice in a society. In many social contexts, this descriptive use of "norm" coincides with the prescriptive in that it is, as a default, expected that you respect the tradition that went before you: You should do as other people do, and not deviate (too much) from "the norm." When I use the word normativity, I wish to cover the general phenomenon of living, creating and paying respect to norms in the more basic sense of prescriptive rules, but I am aware of - and will try to remain sensitive to – the strong ties the word has to the fields of ethics, sociology and, especially in the past decades, to management philosophy (stipulating norms for an institution being an important part of "corporate social responsibility").

As is perhaps already suggested by my description above of the many layers of rule-governed activity in an everyday situation, I regard normativity as a multifaceted phenomenon, one that cannot necessarily be packed into one unified theory that explains the genesis of all individual rules all at once. On the other hand, I do wish to offer a collection of rationales for normativity – for rule-following as well as rule-creating – and show how dedication to rules, as well as awareness of the rule-governed behavior of others, are important for a human being, especially in virtue of being a social being: Rules are important because the goals we form in social contexts are ones that involve more people and consequently necessitate interpersonal coordination – and coordination is dependent on paying respect to rules. I wish to show this through a detailed description of the normative and coordination-related aspects of a particular type of situation in a particular society: a composition-based performance by a music ensemble.

1.2 Playing

In the context of music, "playing" is usually understood as a verb that takes an object: A musician plays *something*, e.g. an instrument or a piece of music. We do, however, also sometimes speak of a musician playing *with* something or someone, as in "who are you playing with at the moment?" or "he came up with this cool riff during rehearsal that we started playing with." In this way, the use of "playing" in music overlaps the use of the word to signify a general type of activity where individuals experiment (broadly speaking) freely or do something together that is somehow separate from their activities outside of the given context, e.g. "having fun" with something or someone. Dutch historian Johan Huizinga has argued for "playing" as an equally defining activity of a human being alongside "thinking." Man is not only a *homo sapiens*, but also a *homo ludens*, hence the title of Huizinga's key text (see Huizinga (1939/2000, xvi)). Huizinga does not intend to define what playing is, but rather, what it means to those playing (Huizinga (1939/2000, 4)). He does, however, present several useful characterizations of playing, a few of which I will utilize here.

Although playing is, according to Huizinga (1939/2000, 3), something we do, at least at the outset, to have "fun" ⁷, the fact that playing is "fun" does not necessarily mean that we find it "funny," and it certainly does not mean that we do not take it 'seriously' while we're doing it: Huizinga (1939/2000, 2-3) ponders at the way people can become so immersed in the activity of playing that they forget (almost) everything else, being fully absorbed in the activity. As examples of Huizinga's observation, one could list not only children playing with dolls, but also teenagers playing World of Warcraft, adults playing a board game at a party or two themes competing fiercely in a soccer match (even though some of the people competing in the field are actually friends outside the playing field). Of course, playing with dolls involves a different kind of absorption than that of actors and musicians who, although deeply involved in their play-activities (the word having a double meaning in both cases), are at the same time aware of themselves and their technique in bringing about e.g. a particular expression. (This point is my rendition of Huizinga (1939/2000, 18).) In any case, however, the involvement (regardless of the degree) in the 'world' defined by the playactivity is closely related to the inherent normativity in playing.

When playing, there are rules that must be followed, although the number of rules, their explicitness and strictness vary across the many different activities that can be called playing. There are certainly codes for correct behavior in the playing of children who act out small, often improvised sto-

⁷Huizinga (1939/2000, 7) also includes competitive sports in this category, although his remark that "there are [...] highly developed forms: regular contests and beautiful performances before an admiring public" (Huizinga (1939/2000, 1)), suggest that he is aware that such play-activities can be professional disciplines.

ries with their toys (dolls, model cars etc.), e.g. codes for how a "father," "Han Solo" or "Barbie" should behave. In computer games, it is virtually impossible to violate the rules of the game, since these coincide with features of what is practically possible (so-called "cheats," e.g. key combinations that automatically gives you extra weapons, "lives" etc. are a point of debate). In 'old-fashioned' competitive games such as team sports, races, card and board games, respecting the rules is, however, a matter of choice. Huizinga (1939/2000, 11) notes how a person ignoring the rules, openly violating them, is considered a "spoilsport" and much more resented than the person who pretends to be playing the game but cheats when (he thinks) no one notices. This is because the former is not taking the "play-world" seriously, or, rather, is not accepting the rules that help define (or are defined by) this 'world', thus ruining the 'project' of the playing group. In my opinion, music performances in general share this feature of demanding respect for the rules that constitute the 'infrastructure' of the situation. Example (1) at the beginning of this chapter should reek of my own intense exasperation of having the 'play-world' I am trying to move within shattered by other people breaking its rules (as I understand them) – whether or not they intended to.

1.2.1 The Composition-Based Performance and the Board Game: an Analogy

A branch of other play-activities that is surprisingly comparable with the type of music performances that have attracted my main interest, namely the ones that are based on compositions, is *board games*. Let me explain this by means of a few examples.

Consider a modern day performance of a piece of early baroque music, e.g. something for a chamber group consisting of two violins, a viola, a cello and a cembalo. In this situation, the musicians will all have note sheets in front of them – the content of which jointly constitute the score of the piece, which they may have studied in advance. The score has several instructions for performance. I am using "instructions" in a broad sense, covering both indications of notes to be played as well as suggestions for dynamics ("forte," "piano" etc.), tempo, expression (e.g. "dolce" or "furioso") etc. In early baroque music, it is quite often the case, however, that part of what the musicians would have been expected to play, is not indicated in the score. The "basso continuo" part from which the cembalo will be playing, may, for instance, have instructions for chords to be played, but not how to structure them rhythmically, viz. whether they should be 'broken' into an "arpeggio," which small figures to use in the transition from one chord to the next etc. So, the rules of the score are not a complete characterization of the rules of "the composition" the musicians are trying to play.⁸ Similarly, the printed rules of a board game are often not complete: I have often experienced the need to add rules to or interpret printed rules that are not quite complete in order to establish a set of rules that would make sense to follow in the game. (It may also be that there are elements of the printed rules that in themselves prompt interpretation, such as mistranslations or strange formulations obscuring the clarity of the text.)

A further, related point, in connection with the score / printed rules analogy, is the fact that the same piece of music may be notated in different ways – in other words, there is more than one possible score. Similarly, a board game can be explained or instructed in several ways. Games such as *Ludo*, *Kalaha* or *Stratego* have multiple manufacturers, and thus more than one possible set of printed rules.

In a composition-based music performance, not all rules the musician try to follow by default are equally important. We see this the moment the musicians are pushed into a coordination-problem, such as example (2) at the beginning of this chapter. They do not stop and demand an opportunity try again, if they are not able to play exactly as they intended to at the outset. Their attitude is rather one of 'damage control': They try to achieve as many of their initial goals as possible given the altered circumstances. In this process, however, some of these goals are ranked over others. In the aforementioned example (2), I think at least some of the musicians, including myself, considered the solo theme of the cello more important than the other voices in the same passage. In example (4), Dream Theater show that they consider a realization of the vocal passage that follows the instrumental section in "Metropolis Part I" more important than preserving the original structure of the instrumental parts throughout the piece. Similarly, mistakes can happen while playing a board game without the game necessarily being completely ruined: A slightly color blind person (such as myself) who has problems distinguishing the brown color from the green in *Trivial Pursuit*,

⁸I am using "composition" synonymously with "work" in the sense of a normative entity being observed by the musicians, but one, the demarcation of which often rests with the musicians. This is one of the things I will be discussing at length in chapters 3, 5 and 6.

may accidentally read someone a question from a wrong category (this may not be noticed at once, if the categories overlap: "Which species of whale was *Moby Dick*?" may be both a question within "Science and Nature" and "Arts and Literature"). The game can go on, even if the mistake is not noticed until after the next move of the player or team who answered the question. Evidently, the general goal of people being rewarded for answering questions is considered more important than whether they answered the *right* questions.

A different angle on the prioritization of rules in both music performances and board games is the case of *creative* interpretation. A composition-based performance may deliberately ignore certain rules of the score, perhaps replacing these with different 'rules' for the performance (agreed upon with the other musicians), and still be considered a performance of the piece the score provides instructions for playing. Similarly, a board game such as *Cluedo* (*Clue* in North America) can be played with "house rules," e.g. whether or not one should have to wait with accusing someone of the murder until he has moved his man by all the connecting squares to the room involved in the accusation (e.g. "the library," if the accusation is "Professor Plum in the Library with a Gun").

The music performance differs from the board game in that the presence of an audience will typically provoke the ensemble or performer to try to continue no matter what happens, whereas a board game may reach a point where so many rules have been broken that it seems ridiculous to continue. Another difference is that the structure of a board game is competitive, whereas the structure of a music performance is not. There may of course be competitive attitudes among the members of a performing ensemble, just as many people do not necessarily play a board game with winning as their only true goal. In fact, I have often been playing a game that was so much fun that it was undesirable to win because it ended the game.

Although there are differences between the two activities compared above, the analogy provides us with several good strategies for clarification of the relations between the rules of the score, the rules of the composition, and prioritizations of these rules, whether prompted by coordination problems or as part of a creative interpretation. I will therefore return to it several times throughout my dissertation.

1.3 Normativity and Coordination

Thus far, I have presented the necessity of norms in a coordinated activity, such as playing together with others, merely as a conjecture. I do, however, think that the connection between normativity and coordination can be made even more plausible by analyzing the requirements for solving a coordination problem in a music ensemble. Coordination is, as stated above, connected to an ideal for an ordered structure in the situation, and this ideal is normative in the sense that it results in rules for what is coordinated and what is not. For the person trying to coordinate with others, the focus is, however, arguably not on the total, coordinated structure achieved by the group as a whole. Rather, the person considers it likely that she will achieve such a coordinated structure, if she has a sense of being 'synchronized' or 'adjusted' to the actions of the others in the moment, or, to be more specific, if she thinks she has an idea of what the others are trying to achieve – an idea she can then balance against her own intentions for the process. In this momentto-moment adjustment process, following norms is still necessary, although it varies from situation to situation which level of the decision process the norms affect.

The methods I employ in my analysis of such decision processes are taken from the field of epistemic logic and decision theory. My affinity for this approach goes back at least to 2002, when Cynthia M. Grund and a handful of her advanced logic students, including myself, attended the conference *Dimensions in Epistemic Logic* at Roskilde University Center.⁹ The conference included presentations by notable figures such as Joseph Halpern, Jaako Hintikka and Moshe Y. Vardi of Rice University, Texas. Vardi gave a presentation on the problem of reaching agreement in situations with unreliable communication. Vardi discussed to which extent "common knowledge" of agreement is required in such scenarios, which it arguably is, if one is to be *certain* of reaching agreement.

Vardi's cornerstone example was the problem of "coordinated attack" (also described in Fagin et al. (2003, 176-178)): Two army divisions situated on either part of a valley must attack at the same time in order to defeat the army camping in the valley. In an attempt to reach agreement on a time of attack, general A of army division a sends a messenger through the valley at

 $^{^{9}}$ This conference is also referred to in one of the first textbooks on dynamic epistemic logic, van Ditmarsch et al. (2007, 40, footnote 2).

night to the other general B of army division b with a message saying "attack at dawn." But because general A wants to be sure that general B has gotten the message, general A does not attack until he has gotten a confirmation message from general B, and general B knows this. But something similar holds for general B: He will not attack until he gets a confirmation message from general A for the confirmation message he sent him, and A knows this. And so on ad infinitum: because of the uncertainty regarding whether a message has reached the receiver or not, there will be an endless need for repeated confirmation of messages if the generals are to be absolutely certain that they will both attack at dawn, or in other words, if they are to reach "common knowledge" of this agreement (meaning that they both know that they both know that they both know...etc. that they agree to attack at dawn). This means, in short, that A and B will be unable to attack if they both require *certainty* that the strategy "attack at dawn" is commonly agreed upon. (In practice, the generals do probably reach coordination, but this will be due to decisions based on a probability assessment regarding whether their respective messages have gotten through.)

Following the talk, Cynthia M. Grund suggested to Vardi and his audience that if a similar problem were sketched in terms of a symphony orchestra (where communication during a performance can be equally unreliable) a consequence within the example would be that it was as good as impossible for the musicians to play together! As I have hinted at above, I have a background as violinist (amateur and semi-professional), and have played in several types and sizes of ensembles. Consequently, Grund's point stayed in the back of my mind in the years that followed. I briefly touched upon it in my Master's thesis where I explored the expressiveness of the music ensemble as an organizational metaphor, but it was not until 2006 when I first started to shape what would eventually become my present PhD project, that I realized how many other discussions the problem entails.

Firstly, it *is* obviously possible for musicians to play together, not only in the performance where everything goes "smoothly," with everyone doing exactly what they have agreed on during rehearsals etc., but also in situations (such as examples (2) or (4) at the beginning of this chapter) where doubt arises among the musicians because someone in the ensemble does something unexpected, e.g. makes a mistake or decides on a different style of phrasing. What happens in these situations? When I relativize the example to a symphony orchestra, some of the default objections from my audience are "what about the conductor?" or "what about the hierarchy of the different instrument groups and group leaders?" As important as these aspects are (I will discuss them in more detail in 2.1.1), they do, however, not explain everything.

Hierarchies of authority and the special role of the conductor as one who gives suggestions to the entire orchestra at the same time are often parts of the infrastructure in a large orchestra, but they do not eliminate all potential performance difficulties. There can still be situations in a performance where musicians need to make fast decisions that do not only rely on paying attention to specific musicians with an attributed authority, but also on what they *hear*, and how they understand the piece of music they are playing: In some situations, a musician may for instance be forced to make a choice regarding which theme to follow, if two or more players are not perfectly synchronized (see e.g. example (2) at the beginning of this chapter).

Since the outcome of the musician's actions depends not only on her, but also on the other musicians, her deliberations often also include considerations of what the *other* musicians think. Perhaps a first response to Grund's point above should be that in contrast to the "coordinated attack" scenario, the risks musicians take, if they make a choice that is not based on *certain* knowledge of what their co-players think, are not as great as the ones a soldier in mortal peril takes. Therefore, given a limited time frame for decision-making, choices are often made on the basis of more or less statistically warranted assumptions (e.g. how this or that player is "likely" to play in this or that situation). That is, if decisions are consciously made at all ¹⁰:

As hinted at above, a performance can also go smoothly, and in these situations a lot of the musicians' behavior is arguably "automatic," in the sense that they simply follow internalized routines. Just as the infrastructure of a large orchestra can sometimes help the musicians adjust to smaller deviations from the original "plan," internalized routines for problem solving can sometimes do the same in any sort of ensemble. It seems that, depending on the situation, there can be several possible answers to the question of how coordination is reached. This dissertation tries to sketch an overview of some of them.

Secondly, a somewhat trivial, but nevertheless important point is ignored in the "coordinated attack" scenario, namely what the generals are fighting

 $^{^{10}{\}rm Of}$ course, a subquestion here is what counts as a conscious reflection and what does not. I return to this in 2.6

for. Of course, they have the interest of winning over the army in the valley, ensuring their own survival to the extent that it is possible, and killing the enemy if necessary. But these goals are all part of basic mechanisms of a war such as the one in which the example takes place. We do not hear about what has initiated the war, that is, whether it is a fight over territory, religion, belief in human rights or whatever, because none of these "justifications" have any direct effect on the decisions of the generals in their attempt to reach coordination. In a music ensemble, however, coordination is always directly dependent on the overall goal: playing the particular piece or type of music being played. It is not just being coordinated with the other musicians that matters, but being coordinated on a line of action that makes sense within the musical framework in which the ensemble is operating. One might say, that the mechanisms of battle in the "coordinated attack" scenario also constitute a 'framework' that defines which actions make sense given the goal of coordination. Yet, although there are different types of war, the same division of soldiers is less likely to shift from one such framework to another during their duty. In contrast, what it 'makes sense' to do in a music performance changes with the piece or type of music being played.

In short, there are always *norms*, constituted by the music being played and how the musicians relate to it, that are in some way adhered to, whether in critical decisions or automatically. In connection with discussions of the extent to which common knowledge is a requirement for coordination in an ensemble, the role of expectation (for the actions of others) in the performing musician's decision making, and the role of goal-directedness (as well as goal-consciousness) in the same process, I will show how norms are not just an important, but necessary part of ensuring coordination in a music performance.

1.4 The Music Performance

There are many different types of music performances, each with their own set of factors affecting the decisions of the musicians, e.g. the size of the ensemble, whether or not it is conducted, the size of the audience and who is in it, the acoustics of the room, the piece being played etc.

Contrary to Theodore Gracyk (1996, 7) who regards produced records within rock and pop music as a type of work on a par with the composition in the context of classical music, Stephen Davies (2001, e.g. 30-31), considers the studio recording as a type of performance as well (Davies refers to this as "studio performance"), thus highlighting the feature of performance as *presenting something to an audience*: Inarguably, releasing an album is presenting something for consideration by a group of listeners. This is, however, not the branch of music performance that has my interest in this dissertation. There are certainly norms guiding the conduct of the musicians in the studio, both norms inherent in the common practices of such a studio and norms derived from the music the band is trying to record, and there may be disagreements among the musicians that need to be resolved, perhaps also with the aid of norms. Contrary to the *live* performance, however, the 'performance difficulties' in a studio recording process can be solved through verbal negotiations, the length of which is limited only by how many studio hours have been paid for and the lifespan of the artists.

Put differently, the live music performance is a flow that can – by default – not be stopped before the music comes to a 'natural' end. In an improvisation-based jazz performance, it may be possible to shorten the performance (e.g. keep it down to a minimum without too many solos), but still, the musicians strive to make the performance a coherent whole. The same goes for a composition-based performance. Only here, because the specific composition-based performance typically (but not necessarily) has a more or less fixed length, 'creative' solutions for stopping early are sparse.

Although the focus of my dissertation is on the performance difficulties on stage during the performance, we should take care not to ignore the role played by the audience at the performance. Not only is it the presence of the audience that causes the artist or ensemble to continue in spite of eventual mistakes, and to strive for some degree of coherence in the performance, in the sense that the audience should be able to 'make sense' of it, e.g. relate it to whatever piece (if any) it has been announced that the ensemble will be performing. The emotional or interpretative reaction of the audience to the performance is also what the performers strive to shape when they have a higher order goal for the performance, e.g. playing a well-known piece with a touch of melancholy.

Since the particular branch of (live) music performance that has my main interest is the composition-based one, two different questions are of utmost importance, namely what a composition is, and how *composing* takes place. As the reader may have gathered from my considerations above, I wish to discuss the composition as a normative component in the performance – as a set of instructions or, to stay within the board game analogy, rules for a

performance. Of course, we may come to expect a certain type of sonic results from performances based on the same composition, but it is a subgoal of my dissertation to separate the idea of a composition from that of a "gestalt" that emerges in the performances. This is no easy task, because several music philosophers and composers have thought about the composition in terms of exactly such a gestalt: some abstract, gestural shape that the performance is supposed to approximate. Or rather, to be exact, they have talked about *musical works* in this fashion.

As Lydia Goehr (1994/2003, see e.g. 179-181) notes, the act of composing has not always been conceived of as producing "works." The idea of comparing the output of a composer to that of, say, a painter is, according to Goehr, a result of composers and musicians wanting to liberate themselves as independent professionals (as opposed to their traditional appointments to the church or royal courts) in the late 18th Century. Goehr (1994/2003, see e.g. 205). Before that, composing simply meant "putting something together for a performance," and there was no clear distinction between the disciplines of composing and *arranging*.¹¹ Today, composing is, in my opinion, an activity that maneuvers between the Romantic and pre-Romantic traditions as Goehr describes them. Although there can be a strong consciousness of the importance of specific parts of an arrangement, composers are more often than not sensitive to and accepting of the multitude of ways their output can be interpreted by other musicians. (In chapter 3, I provide a few passages from interviews I have done in the past four years for the web-based genre magazine *Heavymetal.dk* as documentation for this conjecture.¹²)

I do not think that the concept of a distinguishable "work" of music in a broad sense has lost its relevance completely. Listeners still seek specific types of sound structures that they like, and therefore classification of performances (live as well as recorded ones) as being "of" some piece, is still a pressing matter to the music 'consumers'. I do, however, think that it is mistaken to

¹¹See Goehr (1994/2003, 179-181). Gracyk (1996, 92-93) argues that this attitude still holds among e.g. many rock musicians, and Frith (1988) supports the idea that copyright in 20th century music industry is mainly a means by which the recording companies secure their profit. Davies (2001, 32, footnote 25) still thinks, however, that the rule is that musicians regard a performance on the basis of pre-existing material as a performance of a piece with an established identity.

 $^{^{12}}$ My references to composers from the heavy metal context are given especially to show how forming rules for performances can be done in close collaboration with the musicians who are intended performers of a piece – often including the composer himself.

found a metaphysical theory of what constitutes a specific composition, and how a performance "of" it must relate to it solely on the listener's attitude to what she hears.

This *has* been a widespread tendency in the philosophy of music: In touch with the idea of composers producing "musical works" that can – mediated in performance, recording or sheet music – be received by an audience in parallel to how we view a work of visual art (although with several technical peculiarities), several of the theories I will review place the authority with respect to performance classification with the audience. The performance is only "of" the "work," if the audience recognizes it as being so. This view is damaging for our understanding of the whole circuit of music making. Why not acknowledge that there are other participants in the performance than the listeners, and that their classification of the event may be just as relevant?

Because of my discussion of norms as relevant to group coordination, my focus will primarily be on the role of the performers in the process of generating a music experience, yet with Christopher Small's provocative book *Musicking: The Meanings of Performing and Listening* (Small (1998)) in mind, I wish to remain sensitive to the intimate connections between all parts of the music performance, including (if sometimes temporally and geographically dislocated) the composer, the musicians and the audience. The music performance is not 'just' what happens on stage, neither is the 'essence' of the performance only something that is of the audience's concern. Nor should we regard the composer's own renditions of his work as authoritative: Once the composer has presented something in public space, it is now open for everyone's interpretation. In this sense, I adopt a view of the composercomposition relation similar to that characterized by Paul Ricœur (1981b) between an author and his text.

Following both Small (1998, see e.g. 158-168) and to some extent Huizinga (1939/2000, see e.g. 2 and 14), I regard the music performance as something that is exemplary of more general personal relations. For Small, this means that the music performance (or the event of "musicking," as he would say in order to cover performing and listening at once (Small (1998, 2))) is like a ritual, something we do to celebrate or explore a particular world order, either one that actually exists, one we find ideal or, perhaps (this is my addition), one we fear (e.g. if the music deliberately presents us with an unpleasant scenario, providing a 'catharsis' for our associated negative feelings). For Huizinga (1939/2000, see e.g. 158-162), the music performance, in virtue of belonging to the class of play-activities and through its close (his-

torical) relation to ritual, is also something through which we 'rehearse' or 'explore' relationships in life. Whether it is the case that we actively engage in music performances to 'practice' for real life (much as baby lions pretending to hunt for food), is debatable. I do, however, think that, especially because of the commitment and determination with which we often engage in a music performance, we may be allowed to distill insights regarding how we act among other people, e.g. the role of norms in our decision processes, from performance-based examples.

To sum up, the main goal of this dissertation is to describe how normativity is unavoidable in the music performance, especially as a requirement for coordination, and through this description draw a more general picture of how human beings are dependent on rules in general. As a sub-goal, I wish to redefine the notion of a *composition* in order to fit the way musicians process such an entity. This task involves a detailed critical review of previous ontological discussions of the work-performance relation.

1.5 Overview of the Dissertation

I open the dissertation with a presentation of different species of music performance and the difficulties that can arise in particular settings. I hint at the different ways we may imagine that these difficulties are resolved, but save a detailed, more formal discussion of the coordination schemes for later. I do, however, take the opportunity to address one of the most common objections to my attempts at describing the decision making of performing musicians: whether it is at all possible to read meaning into such decisions. How does it make sense for a person to try to describe the thoughts of a musician while performing, if the describer himself is only an observer? Can we really define the processes taking place in the mind of a musician while performing as "rational"? I argue that we can, and that it does make sense to interpret actions of other people as much as it makes sense to – borrowing, once again a comparison from Ricœur (1981a) – interpret a text written by someone else. These discussions form the basis of chapter 2, "How Can We Describe Decision-Making in Music Performances?"

Next, I narrow my discussion down to the branch of performances that are *composition-based*. This prompts a long excursion through an explanation of what exactly I mean by the word "composition" in the context of a musician's decision-making. The excursion begins where the act of *composing* takes

place, which may be at a desk where a person sits with a pencil and a sheet of paper, in front of a computer with music software, in a group of musicians who are collectively trying out new ideas, or perhaps in a process of refinement of such ideas that may take place over a long period of time (this might be the case with a lot of folk tunes). Either way, in the chapter "Composing as a Normative Activity," I will discuss what the most generic way of characterizing the act of composing is. It should come as no surprise, given what has been said thus far, that I regard composing as a way of stating rules, instructions or suggestions for how a performance should proceed.

A composition is, however, not only a set of rules for how the musicians act, it also shapes a sort of 'standard' by which listeners judge and try to classify the sonic output of a performance. This leads me to discuss what causes the confusion between the standards of a listener in connection with performances "of" a given composition and the composition itself. The purpose of the chapter, "Compositions from the Perspective of a Listener," is to show how on one hand, it is understandable, and in some cases even useful, that we speak of the characteristics we desire in a performance of a specific composition as simply "the composition," but on the other hand, how this identification supports the idea of compositions as "musical works" in the sense of abstract "objects" that the performance somehow has to resemble.

The view of compositions as musical works in the sense of abstract objects comparable to works of visual art, leads to granting the work authority over what counts as a performance of a given piece from the perspective of the audience. If the audience cannot recognize the "work" in the performance, the performance is not of that work. Thinkers before me, such as Jerrold Levinson (1990) and Stephen Davies (2001, e.g. 97), have tried to soften the grip of the audience's alleged authority, e.g. by referring also to the tradition or "musico-historical context" within which a piece appears as co-defining of what counts as a performance of the piece and what does not. It is still assumed, however – also by the two mentioned writers – that a performance that cannot be identified by a 'sufficiently educated' audience as being "of" a given piece, is simply not of that piece.¹³ In chapter 5, "The Composition-Performance Relation," I criticize the demarcation criteria of previous thinkers when distinguishing when a performance is "of" a piece,

 $^{^{13}}$ I use "piece" interchangeably with both "work" and "composition" as covering the same structure to which both terms refer, but without the veiled interpretations of the nature of this structure inherent in the two latter terms.
and suggest that ultimately, it is the presence or absence of an immediate intention of the musicians to follow the composition (as they conceive of it) that settles whether or not the performance is of the composition.

The demarcation discussion does, however, not end here. Even among the musicians themselves, it is not completely clear when *creative* deviations from a given arrangement (e.g. in a score) constitute an entirely new composition, and when they are still 'just' an interpretation of an existing piece. Staving within my characterization of the composition as a set of rules, I argue that the question has to do with the degree of priority attached to existing and 'added' rules in the performance. This order of priority becomes apparent, when the musicians find themselves faced with a coordination problem that prompts them to decide what to 'save' first, or if they deviate creatively, e.g. by squeezing a piece of music into a slightly different rhythmic pattern, or by trying to change chords etc. – the prioritized order of the rules of the composition restricts how much they keep of the original arrangement. My view is that when new rules for the performance (e.g., ones added in a new arrangement) attain higher priority than rules that are part of (what is considered to be) the composition, a new composition has emerged. It is, however, also a problem to distinguish when a 'rule' being added to the rules of the performance context is a genuinely new rule, and when it is merely derived from the rules of the 'original' composition. In a discussion of this, I try to describe how musicians gradually refine *their* view of the rules that constitute a composition, or, more specifically become of aware of norms for their performance when experiencing "mistakes" or "exemplary passages" in a performance. A consequence of the dependence on individual taste or interpretation in the process of 'understanding' a composition is that how the composition is conceived of may vary across time, place and culture. I examine the differences between arrangements, compositions and interpretations in the chapter, "The Fine Line between Composing and Interpreting."

Up until this point, I mainly discuss the role of norms in a) deciding which actions to execute in the performance, b) deciding which actions are more important than others in a performance when confronted with e.g. a coordination problem or when making a creative interpretation of a piece. In the three chapters that follow, I turn to a description of the more specific ways that norms are employed in the *solution* of coordination problems, particularly the solutions that rely on conscious, reflective decisions on the part of the musicians.

In chapter 7 "A Knowledge-Based Model of a Coordination Problem,"

I show, through an analysis in terms of epistemic logic, how *certainty* of agreement is unattainable in a music ensemble, unless the musicians have "common knowledge" of a set of rules for how to behave in a coordination problem – which in the case of a composition-based performance may coincide with a prioritized ranking of the rules of the composition.

Chapter 8, "The Role of Expectation in Coordination" taps into the field of game theory, more specifically, the so-called "variable frame theory" of the late Michael Bacharach (Bacharach et al. (2006)). Bacharach's theories give us a good tool to describe how our expectations for what our co-players are attentive to in the situation, help us make a decision in situations where we do not have certain knowledge (or, for some philosophers, simply "knowledge"¹⁴) of what the other players are likely to choose. I go on to show how, in any case, the expectations for what my co-players are likely to choose are co-defined by the limits of 'the game' – in my example, the rules of the composition (as conceived of by the musicians). I mention the possibility of a game theory-based model here, also because it is an implicit theoretical background of a lot of software that emulates the actions of real musicians (e.g. accompaniment programs). In addition Bacharach provides empirical support for the observation that human beings, contrary to the intuition in much classical philosophy, tend to choose what is best for the "team" as a whole (hence Bacharach's term "team reasoning", see Bacharach et al. (2006, 121-127)), not just for themselves. This makes it even more plausible to transfer insights from reasoning being done in an ensemble (which we may by default expect to be "team reasoning") to the domain of interpersonal relations in general.

Chapter 9, "An Intention-Based Model of Coordination," sketches a model of a musician's decision process, both at the outset of the performance and when encountering a coordination problem, in terms of the goals he or she has for that performance, or, put differently, in terms of his or her *intentions* for the performance. The model rests on the assumption that the individual musician initially assumes that the rest of the musicians have the same strategy for the performance as a whole. Whether or not this is actually the case in real life, the model highlights the importance of sticking to one's own intentions for as long as possible, because it would otherwise be virtually

¹⁴Epistemological skepticist theories typically entail that knowledge does not come in degrees, but is either something a person has for certain, or something he does not have. These theories then go on to claim that knowledge is, in essence, unattainable. See Petersen (2007) for a discussion of some of these issues.

impossible for the musicians to figure out each other's (possible) intentions and thereby better their chances of coordination (assuming, of course, that the musicians are trying to adjust to each other). In a point related to the one I raise in connection with the scope of possible expectations for actions of my co-players, I show that norms for the performance, whether derived from the performance tradition or a composition, co-determine the number of possible strategies I find it possible that my fellow musicians are following.

Integrating the insights from the previous three chapters with my discussions of rule-following and -formation in an ensemble context, in chapter 10, "An Integrated Model of Normativity in Group Conduct," I venture to sketch a complete picture of the levels at which norms play a part in the actions of a performing ensemble musician. As the generalized title of the chapter indicates, I immediately discuss the plausibility of this model being applicable to human action in general, specifically with regard to interpersonal relations. The point of this endeavor is to show that different types of rules and rule-following apply to different levels of decision-making in the group: There is a big difference between the internalized rule that prompts a person to act in a particular way in the face of certain situations (e.g. a fast adjustment to the bowing of the rest of the 1st violin group, or the 'spontaneous good deed' in ethics) and the rule that is *considered* and held up against other rules in the situation (e.g. the active process of prioritizing different rules of the composition when in a coordination problem, or the classic 'conflict of duties' or 'interests' in moral dilemmas). Rules that govern our behavior may stem in equal measures from our upbringing (e.g. musical or cultural tradition) and our personal goals (e.g. for the performance or for our lives as such). I argue that all of these different types of rules co-exist and supplement rather than exclude each other, as some philosophers (e.g. within ethics or behavioral science) tend to think.

The chapter "Conclusion and Further Perspectives" contains a summary of my main points in the dissertation as well as an attempt to show how these are relevant to philosophy of music as such, theories on group coordination and the study of normativity in general. In addition, I also show how the issues I treat are relevant in cases taken not only from the field of music performance, but also from other social contexts such as different types of workplaces. It is of special interest for me to show how the *dedication* of an individual, e.g. to a goal or a set of norms, is something that is seldom given due recognition in society, yet is, especially given my analysis of its role in a coordination process, of extreme importance for the well-functioning of any group of people.

Chapter 2

How Can We Describe Decision-Making in Music Performances?

Before trying to answer the question posed by the title of this chapter, a first logical step would be to define what a music performance *is*. Speaking from personal experience (with previous conference papers), I find, however, that some people are not easily convinced that there are basic conditions applying to *all* performances. They tend to regard different species of music performance as radically different situations that cannot be straightforwardly compared with respect to their goals and internal organization. I therefore save an attempt at giving a generic definition of "music performance" until I have discussed *how* radically performances can differ from each other with respect to their internal organization.

2.1 Different Infrastructures

In any gathering of people, there is an *infrastructure* in the sense of 'a way things are handled': who does what, who gives orders to whom (if any), what the default solution is to this or that problem etc. This is also reflected by the first sense of the word listed by *Merriam-Webster Online Dictionary* (see http://www.merriam-webster.com/dictionary/infrastructure): "the underlying foundation or basic framework (as of a system or organization)." If we look at the infrastructure of traffic, this varies nationally and locally, sometimes because of different, seemingly arbitrary conventions (e.g. whether one should drive on the right or left side of the road), sometimes because of the (physical) conditions of the traffic (e.g. the number of drivers, crossing roads etc.) Similarly, the infrastructure of a music ensemble depends on several aspects of the group's constitution and 'purpose'. Let us begin by looking at some different infrastructures in music performances.

2.1.1 Large Orchestras

In large ensembles, e.g. symphony orchestras, some degree of centralized organization is unavoidable. Outside of the rehearsal space and off the stage, the orchestra may be organized in several different ways ranging from direct democracy (such as the model adopted by the Lahti Symphony Orchestra¹, where decisions with respect to program, soloists etc. are done by an assembly of the entire orchestra and their conductor) over representative democracy (as in e.g. Odense Symphony Orchestra where the members each year elect a few musicians to join the program committee) to autocratic leadership (where an artistic director or board of directors makes all the decisions²). During the rehearsal, however, the leadership of one person is simply a necessity: Too many people are gathered with too little time on their hands for everyone to have their say. The leader here will most likely be a conductor.

Similarly, if a section of the orchestra, e.g. the first violins, rehearse on their own, their group leader (in this case the concertmaster) will decide when the group starts and stops, and suggest bowings, fingerings etc.

The performance itself is, however, a slightly different matter: Here, the orchestra cannot stop to correct themselves, and they usually cannot communicate verbally. Everybody is, strictly speaking, on his own with respect to making decisions. They are, nevertheless, heavily influenced by the instructions they have internalized during rehearsal, and, because of their affinity to strive for a coherent sonic output (something that *appears* well-coordinated to the listener), bound by several practical concerns:

If the musician is part of a section, such as the first or second violin groups, where (more or less) everyone plays the same voice (save for the eventual "divisi" passage where two musicians at the same note stand play different voices), the musician strives for perfect synchronization with the

¹See Wagner and Ward (2002) for a description of this particular case.

²See Fogel (2000) for historical examples of such governance.

rest of the section: The group should not sound like individuals each playing their own rendition of the voice, but as a unified whole, where each tone, each rhythmic figure is (ideally) in near-perfect alignment.³

A section usually has one or two leaders, namely the ones sitting up front, closer to the conductor and audience. Because these leaders cannot easily turn around in their seats during the performance, they cannot react to visual cues from the rest of the group (nods, exaggerated bow movements etc.), and hence it is instead the front row players themselves who give such cues and expect the other group members to observe them. If the leaders of a string group decide on an alternate bowing during the performance, this decision can, if the musicians are sufficiently attentive, spread quickly through the group by a process of mimicking from the front row to the back row. Similarly, each section member looks to the ones in front of him when waiting to enter after a pause in the music, reacting to the subtle movements of the others in order to enter with them at the same time (which may not always be a matter of counting – especially not, if not everyone appears to be keeping time).

In addition, the musicians are of course listening to each other, both within the sections to which they belong, and across the entire orchestra. A musician's ability to hear the others may, however, be dependent on the acoustics of the venue, and how loud his own sonic output is. Because the conductor has the privileged position of being able to hear the joint output of the orchestra and how it is likely to sound, structurally, to the audience, he is not merely a time-keeper for the orchestra, but also gives (and is expected to give) indications of dynamics or expression, either to the entire orchestra or to individual sections or soloists. His geographical position, up front, in the middle, typically standing on a podium, makes him easy for the orchestra to see, and he is one they look to, if they have any doubts regarding the tempo,

³Actually, what creates the sound we know as a string section as opposed to just one string player, or a choir as opposed to one person singing, is, timbre differences aside, a *small* difference in timing between each voice. My brother, who used to work as a studio sound engineer, found that musicians and singers, regardless of skill level, tend to have a surprisingly consistent timing across different recordings. Try to record 10 tracks with the same person clapping the same rhythm, and it still sounds like one person, only slightly louder. He and I had the same experience when we tried to record several layered tracks of me playing the same violin voice – it kept sounding like one violin until I deliberately tried playing it a little bit differently each time. The studio effect called a "flanger" that can be used to make one vocal track sound like two, does something similar: It copies the voice and replays it with a little bit of delay on top of the original take.

the coordination of two or more sections etc.

The conductor is, however, not all-powerful. He cannot control or manipulate everything that happens in the orchestra, and the musicians may still find themselves confronted with a coordination problem that his conducting alone cannot help them solve, such as the ones in the two examples that opened the introductory chapter. In these cases, there are several hierarchical orders of leader-follower relationships in the orchestra, relationships that are adopted successively depending on the severity of the coordination problem. The concertmaster has authority over the other group leaders, but if he fails to direct the orchestra (e.g. in the case where the conductor is imprecise in his indications), a negotiation, or rather, a fast calibration between the other group leaders (and their sections) begins.

Further, the 'jungle law' of the orchestra is 'the louder the instrument group, the stronger the authority', *authority* meaning here that the other musicians accept that they must follow you. Hence, if the brass section in a symphony orchestra decides on a specific tempo, chooses to skip a repetition or something else, the other musicians will typically follow them in their decision. The percussion section can exert equal influence on the rest of the symphony orchestra, but does usually not have as much playing time during the classical performance.

An element of the infrastructure that can be derived from the 'louder means right' rule above is that – again as a default – a player must follow any agreement reached by a majority. Hence, even a concertmaster may have to adapt to his section in the case where more than half of them have decided on a specific tempo (different from his) and stick persistently to it. Such a situation may occur e.g. if the other violinists do not have a level of respect for the concertmaster that borders on blind obedience (in an amateur orchestra, for instance, the concertmaster for a performance may be less skilled than other players in the group because he or she has been appointed by a conductor who does not know the relative skill of the players). Such examples of musicians violating the hierarchical 'rules' of the performance suggest that the main focus of the musicians is not the infrastructure itself, but the goal they want to achieve in the performance – in other words, their focus is on what 'sounds right'. I will return to this trait several times.

I do not have first hand experience with big band performances (as I have with symphony orchestra performances), but intuitively, a lot of the same type of 'power relations' apply there. The conductor's administrative power in the performance is, of course, balanced by the presence of a drummer who will usually share the role of keeping the tempo, at least for those who can hear him clearly. The big band conductor, however, still indicates dynamics, gives cues for solos etc. The ideal is still a coherent sonic output, and hence the members of the individual instrument sections coordinate among each other to achieve a good common expression, 'a sound'.

One might interject here, that the *score* is also a key feature in the coordination process of a large orchestra. This is certainly the case, since the score (and its parts) constitutes (part of) the plan for the performance. In a coordination problem, however, the score itself is of no use: The coordination problems in an orchestra are defined *in relation to* the default of 'just following' the score. Naturally, the coordination problem would be solved instantly, if everyone suddenly decided to return to playing as initially agreed upon, but part of the problem is that this is unlikely to happen by itself. I do, however, think that the musician's understanding of what is *important* in the score plays an extremely influential role in his or her decisions – and I will devote substantial parts of this dissertation to show exactly that.

2.1.2 'One-Player-per-Voice' Ensembles

Chamber music settings, e.g. trios, quartets, quintets, sextets, septets and octets, as well as rock, metal, jazz and soul bands (disregarding big bands) are all examples of performances where there is only one player per voice. In these contexts, the process of coordination is narrowed down to balancing the different voices against each other – agreeing on a tempo, adjusting dynamics between the instruments, trying to synchronize in passages where voices are supposed to share rhythmical structures etc.

If we look at a chamber music setting, such as a string quartet, this typically involves a score, most likely distributed in parts standing on the note stands of the relevant musicians. Unlike in the symphony orchestra performance, the presence of a conductor who has direct access to the entire score during the performance, is not standard here. The process of coordination is therefore a bit like cooperating on solving a jigsaw puzzle: Everyone has to remain attentive to what the pieces of the other players look – or rather, sound like, and how they may fit together. Naturally, the role of rehearsal is to solve this 'puzzle' *before* the actual performance, but in the case of a coordination problem, e.g. if one or more players are suddenly not synchronized with the rest of the group (in relation to the score), the musicians cannot rely on an outside 'spectator' (the conductor) to give them directions. Often, however, one of the musicians, e.g. the first violinist, assumes a role somewhat similar to that of a conductor: He is the one the others look to, if they are unsure what the tempo is, the one who decides how long a general pause should be etc. The same goes for the rock band: There is more than often an implicit 'conductor' or, rather, 'director', in the sense that the person gives the other players 'direction' when they are 'lost', rather than constantly manipulating them to follow his or her strategy for the performance. In a heavy metal group of 4-5 people, the drummer often has this role by default, since he is already helping the other musicians keep time (and even if his sense of tempo is not what it should be, it is arguably more difficult for him to adjust to the tempo of the rest of the band than the other way around).

Even though there may be an implicit or explicit leader of the group, this leader's function does not, contrary to an actual conductor, include giving *artistic* direction during the performance, although he or she may offer such guidance during *rehearsal*. Generally, each player – being the only one on his voice – can shape his expression in the performance without having to agree with anyone else than himself, as long as he remains attentive to the connections between his voice and the rest of the group. Rehearsal may have internalized agreements in the group with respect to expression in such a way that the player is less likely to suddenly deviate creatively during the actual performance, but generally, the judgment of the individual musicians is respected to a much higher extent than in the large orchestra where there are several people playing the same voices.

If we narrow the ensemble down to a trio, coordination is so much a collaborative effort that it can be difficult, even for the musicians themselves, to say who is following whom, if there is any leader at all. In trio rock bands such as Rush \triangleright , King's X or Freak Kitchen, the members seem to take turns to direct each other during the performance, depending on whether a passage is 'driven' by the bass, guitar or drum groove respectively (or a short vocal solo spot for that matter). The same may be the case in classical chamber groups, regardless of size, if the piece of music – as is the case in e.g. the chamber music of Brahms – lets each voice alternately have a prominent theme or merely fit into a chord or rhythm pattern with other players.

2.1.3 The Duo

There are, generally speaking, and regardless of genre, two ways in which two people can play together: One of them can be the other one's accompanist, or they can both, in a certain sense, be 'soloists', striving for some sort of balance between each other's phrases.

By accompaniment, I understand here that one of the musicians is considered "soloist," while the other provides a harmonic and rhythmical background structure for the output of the soloist – the solo voice. The solo voice would (at least in many cases) not be as interesting to hear in isolation, and thus an accompaniment is not necessarily less cherished by the audience, although their center of attention is usually the soloist.

Consider an example: A pianist accompanying a young violinist in Johan Svendsen's *Romance* \triangleright (a piece I have, incidentally, played in public at least four times with different accompanists.) The soloist-accompanist relation here is a delicate balance, because the accompanist has to, on one hand, provide a solid, rhythmical basis for the soloist, yet, given the many rubato and accelerando passages, also adjust slightly to the soloist, especially at the more or less subtle breaks in the piece. An accompanist that adjusts too much to the tempo and phrasing of the violinist may ruin the phrasing of the latter, because the soloist now has to play more stiffly, trying to keep a steady beat for the pianist to follow⁴ An accompanist that just expects the soloist to follow *him* at any time demands a different kind of attention from the soloist that also puts his ability to phrase passages expressively in jeopardy.

In short, soloist and accompanist have each their area of responsibility in the performance, but because of the soloist being the center of the audience's attention, he is – as a default – the one to be followed, in a situation where mistakes, fumbling caused by nervousness or some sudden intentional deviation causes him to get completely out of synch with the accompaniment. This is, however, only a default: There can be situations where the soloist's deviation from the original plan (e.g. wavering in relation to tempo) is so incomprehensible or difficult to follow that the accompanist must choose to play something and hope that the soloist will follow him.

Now for the other type of relation between two performers: where both are in a certain sense soloists. I say "in a certain sense," because they will usually be attentive to each other's actions in a way that often resembles the relation between soloist and accompanist. Consider a jazz duet between, say, piano and double bass. Here, the pianist as well as the bass player may assume the role of accompanist in a passage where the other player plays an

⁴I have tried performing with such a pianist, which was a quite horrifying experience.

elaborate improvised solo. It might also happen that the two are simultaneously 'soloing' wildly as may happen in a free, bebop-based performance. In either case, they are paying attention to each other, adjusting to the phrasing of each other to achieve a balance between the two voices, both in terms of dynamics and activity level. Especially when timing transitions from e.g. an improvisation section to a joint 'chorus' or deciding when to finish, the musicians have to listen attentively to and take possible visual cues from each other (nods, raised eyebrows, subtle hand gestures etc.)

(There are of course other examples outside jazz of a two-person performance where both voices are of equal 'importance'. In many chamber music pieces, there is no defined soloist. Pieces that are labeled as "duets" are obvious examples, while e.g. a "sonata for violin *and* piano" (as Carl Nielsen has labeled his two violin sonatas) acknowledges the importance of both players in a way that suggests more than a mere soloist-accompanist relation.)

2.1.4 The Solo Performance

When there is only one musician on stage, this person only has to coordinate with his or her surroundings – apart from the eventual presence of stage technicians, this means that the musician's attention, insofar as it is directed anywhere else than at the process of producing sound, is directed mainly at the audience. Further, what the musician coordinates with are the responses from the audience, e.g. little hints of whether they are involved in what they hear, whether they seem like they want the performance to end soon or continue, the mood they seem to be in etc.

The soloist is (disregarding for a moment the role of internalized routines) in charge of her own actions, yet she is not, strictly speaking, 'in charge' of the reactions of the audience. They do not *have* to 'coordinate' with her, e.g. try to make an effort to appreciate what she is doing on stage, although they sometimes do. We would perhaps rather say that the musician *communicates* with the audience: She 'throws something at them', considers their reaction, and throws something else.

This element of audience-directedness is perhaps the common denominator in all performances, regardless of the number of musicians on stage. The fewer people on stage, the stronger their directedness towards the audience, yet even in a symphony orchestra, the presence of an audience adds an extra tension to the music production: Each musician tacitly senses that what she is doing is being observed and evaluated as a performance – otherwise, why would she put so much effort into 'saving' a performance that has run off track?

2.2 What Is a Performance?

Before turning to a discussion of the extent to which coordination problems are solved differently in different performance scenarios, I will try to settle what these scenarios have in common, or, in other words, answer the question "what is a performance?"

There are other uses of the word "performance" that we need to filter out in order to state what we mean by performance in a musical context. "Performance" (for the definitions in this paragraph, I refer to *Merriam-Webster's Online Dictionary*⁵) is sometimes understood as "functioning" (as in "how well does the engine perform?") or as simply executing some action (as in "he performed a series of gestures"). In the context of theater, performance is often synonymous with "the action of representing a character in a play" (as in "he received the award for his performance as Fagin in *Oliver Twist*"). Although none of these definitions fully covers what it means to perform music, they do capture certain aspects of the activity: It is something that requires a certain level of skill, it is indeed executing a series of actions, and in some cases it can be akin to taking on a 'role', especially if the musician is not particularly invested in the piece he is required to play.

If we look at performing arts in general, that is, including both theater and music, the definition of performance as "a public presentation or exhibition" is perhaps the one that best captures the central aspect of performance I have hinted at above: It is something that is presented, that is, something that the performers (the ones presenting) are involved in sharing with someone – this is further stressed by the word "public": **By performing, I am presenting something for someone** – **an audience**.

In music performances, as opposed to, says, certain types of experimental theater, the boundaries between performers and audience are generally very clearly drawn. The audience may, e.g. at a jazz or rock concert, be called for to clap or sing along with a piece of music, sometimes in the form of "call and response" with a singer or instrument, but in these cases, it is still the performers *on stage* who are the center of attention.

 $^{^5\}mathrm{See}$ http://www.merriam-webster.com/dictionary/performance

Small (1998, 19-29) discusses how the architecture of the concert venue affects the relationship between performers and audience. In the modern concert hall, there is a clear barrier between audience and performers, namely the edges of the stage, and the audience is even seated so that they cannot easily transcend this barrier. As a contrast, Small (1998, 28) refers to the Rotunda in Ranelagh Pleasure Gardens in London in 1742 for a venue that encouraged a more free engagement with the music: The musicians were at the center, the audience could walk around freely (or sit down to eat, talk etc.) and pay attention when they felt like it. Still, if we look at the *intentions* of the people present in this scenario, there is in my opinion a clear distinction between the performers and the audience: The performers want to showcase something for the audience, present a flow of music for their aesthetic consideration. Insofar as the audience is attentive to the musicians, the audience is primarily there to be entertained (in the broadest sense of the word) by the musicians.

2.2.1 Contrasts and Similarities between Studio and Live Performances

As I briefly mentioned in the introduction (1.4), Stephen Davies (2001, 5-8 and throughout the book)) includes some studio recordings in the realm of performances. He refers to these as "studio performances" as opposed to "live performances." If we accept Davies' use of "performance" here, it seems that the audience does not have to be present during the actual act of performing (by the performers) in order for something to qualify as a performance: It can still be a performance, as long as an audience is allowed to listen to it at some point. Although I have initially stated that I would focus on live performances, I will allow myself a small digression into a discussion of Davies' concept of a studio performance, because it helps us strengthen our generic definition of music performance.

It is slightly unclear whether Davies would tag *all* sonic products made in a studio as studio performances. When it comes to recordings "of a work" as opposed to recordings of improvisation-based performances, Davies holds that some studio recordings are not performances "of" anything, they are "the works" themselves, namely what he refers to as "electronic works": sonic products crafted by a composer, where the actual sound structure of the recording along with its nature of being 'played back' are essential to the work as such (this goes for e.g. the genre of "tape music" or *Musique* Concrète, as the composer Pierre Schaeffer called it^6).

If Davies wants to maintain that "electronic works" do not entail some abstract "work" (or scored work for that matter) of which the studio product is a specific performance, it seems, at first glance, that he must either disregard the status of the recording as a "work" or disregard its status as "performance." The first option contradicts his concept of choice, "electronic work." Does he consequently think that the electronic work is simply not a performance (disregarding whether it is of something)? Given the discussions in Davies (2001, 5-11 and 228), a more plausible interpretation of Davies' point is that the electronic work *is* in fact a performance of a work, but a work that leaves so little room for interpretation that the studio recording is the only possible performance of it.

In chapter 5, I will be challenging the idea that the composer has this type of authority over what counts as a performance of his composition. For now, however, let us simply adopt Davies' term "studio performance" as covering sonic products made in a studio, regardless of whether these are recordings of a group of musicians playing all at once, or products made by "layering" recordings of one or more musicians, ambient sounds etc.

As I will return to later in 5.3.2, Davies puts an emphasis on the process by which "a work is brought to completion and issued, as opposed to its being circulated in a draft version" (Davies (2001, 97)) as part of bringing the "work" into existence. Thus, an "electronic work," which is a specific type of recording, is, following Davies' general criteria, not really considered by the 'listening public' as a work until its production is finalized and the recording is issued. Part of the production process leading up to the "issuing" must then, it seems, be considered a mixture of rehearsal and composition processes.

If we consider the example of a band in a recording studio, there are not always clear boundaries between rehearsing and performing (because a passage can be re-recorded several times until the musician gets it right). We may, however, inspired by Davies' criteria for when a specific type of recording acquires the status of "an electronic work," pinpoint the exact moment when the studio performance can be evaluated as a performance: the moment where the recording is being released, whether on CD, vinyl,

⁶See e.g. *Encyclopædia Britannica*: http://www.britannica.com/EBchecked/topic/399309/musique-concrete

tape or mp3.

In other words, the criterion for studio and live performances alike seems to be that a sonic product is presented to an audience for their valuation. In the case of studio recordings of a group playing a piece of music or an improvisation continuously, in one take without any overdubs, we may arguably talk of a live performance taking place in a studio (see e.g. the Louis Armstrong example \triangleright in 2.3.1). In other words, it can be described as a live performance without an audience present. This adds to a picture of performance in general as an *intentional activity*, one that has presentation to an audience as its goal, but not the actual presence of the audience as a requirement.

2.3 Difficulties in Different Types of Performance

Fundamentally, all performers (people doing performances) strive for some level of quality and coherence in their output, whether these are studio performances or live performances. In the paragraphs that follow, I will first discuss the issues raised by this pursuit in relation to studio performances as well as live performances, and then move on to discuss how solutions to these problems may differ across different types of *live* performance settings.

2.3.1 More Contrasts between Studio and Live Performances

In multi-track studio recordings, a coordination process takes place when individual sub-performances have to be fitted together rhythmically and with respect to intonation – this is the case both when actual recordings are being done and when these are edited and put together. Musicians working with studio performances have the benefit of being able to communicate verbally about these processes (although there is no guarantee of reaching mutual understanding) and, depending of course on how many studio hours they have paid for, plenty of time to solve any problems. Musicians (two or more) in a live performance, however, have the further complication of restrictions on their communication and a limited time slot to solve their problems (see e.g. Stearns (2002, 57-58)). In contrast to studio performances where there can be a delay between the performance being presented and the performance being received by an audience, the live music performance normally takes place *in front of* an audience. The presence of the audience creates a special tension, because the musicians cannot, or rather, will not stop during their playing to rehearse, discuss how to do better, etc. When the live performance is taking place, the musicians (ideally) try their best.

In a live performance, musicians strive for coherence in the performance (in a minimal sense by "not stopping") and coordination with the other musicians (in order to do as planned, or, in the case of improvisation, reach a good 'sound' – a sufficiently ordered and aesthetically interesting sonic result). This entails that the musicians do not talk with each other during the performance, although there are examples of verbal messages from one musician to another being integrated in the performance. One such example was pointed out to me in a lecture by one of my old music teachers, Stig Hansen, and quoted in Bergreen (1998, 220):

Although [King Oliver's Creole Jazz Band featuring Louis Armstrong] sounds tight on [the recording of] "Dippermouth Blues" [from 1923], they almost fell apart when making it. Baby Dodds, unnerved by the studio and perhaps befuddled by alcohol, forgot to take his solo on the drums – actually, the blocks – and Bill Johnson, in a high voice, called out, "Oh, play that thing!" to remind him. Concerning the distinctive spoken phrase, Dodds recalled that "the technician asked us if that was supposed to be there and we said no. However, he wanted to keep it anyway, and, ever since then, every outfit uses that same trick, all because I forgot my part".

Stylized shouts such as "take it to the bridge" or "horns!" in the funk music of James Brown or Prince may also initially have been intended as 'reminders' among the musicians.

Although the "Dippermouth Blues" \triangleright example shows that a studio performance may sometimes involve coordination problems that need to be solved instantly, while playing⁷, another main difference between studio and live

⁷Of course, this particular recording was done at a time where multitrack recording was not an option, but one will probably be able to find more contemporary examples of 'live performances' in the studio.

performances is the way *mistakes* are handled in each case. Mistakes are an issue in all performances, whether studio or live, but whereas studio musicians can (sometimes) better mistakes in the sonic product before it is issued, a mistake in a live performance cannot be taken back. (Of course, dealing with a mistake requires noticing it in the first place, and studio musicians might, just as well as live musicians, recognize mistakes in their performance, immediately after.)

What counts as a mistake in a performance, that is, how a mistake is classified as such by the musicians, is a different discussion I will return to in 6.5.1. It will suffice here to say that ensemble musicians are generally aware of when a deviation from their initial plan takes place in the ensemble – in particular, they are (again, generally) aware of whether their actions appear synchronized with the other musicians in relation to the initial plan for the performance. (The complicated process of laying out a strategy for the performance will be a focus of chapter 9.)

2.3.2 Possible Coordination Problems in Live Music Performances

As hinted above, studio performances are normally vacuumed of more apparent coordination problems, simply because the musicians have had time and opportunities to discuss and better these problems (through editing or re-recording). I will therefore confine myself for the rest of this chapter to discussing coordination problems in live performances, primarily those involving two or more musicians.

It is an open question whether coordination in the context of ensemble performances (with two or more musicians on stage) should merely be understood as something that makes the performance *sound* as if the musicians are attentive to each other's actions, the rhythm and the chord structures of the music, or whether coordination also entails the musicians *actually* giving each other and the music this attention. I argue that the former understanding of coordination is a minimal ideal for the *successful* performance (success thus being measured in light of the response from the audience), whereas the latter is an ideal for musicians:

As a violin teacher of mine once commented while working at bettering my occasionally quite uneven vibrato, it is not enough that what you do sounds well, you must aim at being able to *control* that feature of your playing. Similarly, the ideal for the ensemble is not only to achieve a performance that 'incidentally' sounds well-coordinated (by sheer luck), but to be in control of the coordination process. While musicians probably sometimes achieve a fairly coherent sonic output simply because they are 'lucky' (I have interpreted certain of my own performances with amateur orchestras that way), they cannot count on luck to help them solve a coordination *problem*.

Of course, coordination problems are less likely to happen in an ensemble where the musicians are, in the first place, attentive to what other people are playing, and whether things are proceeding according to the plan (how ever minimal). Coordination problems can, however, still occur, because even professional musicians can occasionally be forgetful or have accidents that bring them out of synchronization with their original strategies. When coordination problems happen, it is the musicians' attention to each other, or, more specifically, their interpretations of each other's actions that make it possible to solve the problems.

This is another important aspect to note about the coordination process: A specific musician's actions can be interpreted in several ways. Just because the musicians may have agreed initially on some overall plan for the performance, they can still have differing intentions with respect to certain details in the performance. In my opinion, it is not a requirement for coordination that the musicians have completely *aligned intentions* for the performance, as long as they remain attentive to how they may satisfy (what they take to be) each other's intentions (how ever simple these may be).

To make this discussion slightly more accessible, especially to nonmusicians, let us for a moment consider some of the coordination problems musicians can encounter in a performance (and quite often do encounter). Although I have suggested in 2.1.4 that there is also a coordination process going on between the soloist and his audience, I limit myself to a consideration of the problems that can occur with more than one artist on stage. The following list is by no means complete, and the numbering does not suggest any order of significance.

- 1. Competing elements in a composition who do we follow, if someone gets behind (in relation to the score)?
- 2. Rubato or not rubato? How do the musicians agree on an interpretation of tempo and tempo changes in a performance?

- 3. Was that a mistake? (Especially relevant in contexts with less strict compositions)
- 4. Agreeing on a different character of phrasing

Regarding (1), this can be a problem, even in an ensemble of highly trained musicians. Imagine, for instance, a symphony orchestra where the musicians, as a default, try to follow the structure for a piece of music as approximated by the score and individual note sheets. Striving to do 'as planned' in rhythmical time does not mean that the musicians are inattentive to the development of the music as such, that is, its different parts, themes, ideas etc. and the order of these. If a musician who is to play a certain melodic theme does not commence this theme exactly as planned, the other musicians must decide whether they will continue playing according to the score, or whether they will wait, possibly repeating one or more bars until the theme-carrying musician enters. The decision problem gets even more complicated if there is more than one theme competing for the attention of the musicians (and the audience) in the situation.

(1) can be connected to (3), the problem of deciding whether a player deviating from the general plan is doing so on purpose or not. If the deviation is deliberate, the other musicians will ideally want to consider adjusting their own playing to the deviating musician, trying to adapt to his possible intentions. If the deviation is involuntary, the other musicians will (again, ideally) try to ignore the deviation – and not allow everyone to be 'dragged down' with the deviating musician.

Of course, musicians cannot always *decide* whether something is a mistake or not. Consider a situation in which an oboe forgets to enter as planned (in relation to the score) in a symphonic piece. She may now have to decide whether she will commence her theme, hoping that the rest of the orchestra will follow, or if she should continue according to the score and assume that the rest of the orchestra continues as planned. In this situation, the question whether something was initially a mistake or not is bracketed. Instead the question is whether what is played (or, rather, not played) should be *treated* as a mistake to be dismissed in the pursuit of the original strategy for the performance, or if it should be taken seriously as prompting a new interpretation of the passage.

(3) is, as hinted at in the list, also extremely relevant in other contexts than classical music. In a jazz or rock performance, for instance, where a larger scope of actions may be allowed by a composition (if any), deciding whether or not something is a conscious act of creativity (to be followed up on by changes in rhythm or harmonization), or if it should be disregarded as a mishap in the flow of music, can be an issue. Again, what matters is often whether the musicians *choose* to regard something as a mistake or not:

In conversation, Dr. Remko Scha, professor in computer linguistics at the Institute for Logic, Language and Computation (ILLC), Universiteit van Amsterdam commented, from his own experience as a musician and composer of often improvisation-based music, that a common strategy for the improvising musician is "if you make a mistake, repeat it." Once you repeat the passage, it sounds as if it was deliberate in the first place. In other words, a deviation that *is* actually a mishap, may occasionally be interpreted as something to adjust to, rather than just discarded.

(2) is a problem that is perhaps more likely to occur in 'one-personper-voice' ensembles. It is often a matter of tradition ⁸ or individual taste whether one would choose to stick to a strict tempo throughout a passage (if it is e.g. notated with a suggestion for possible metronome numbers), or whether one is allowed to play gradually slower or faster within a passage as a means of expression. The latter strategy often referred to as *rubato*. In larger ensembles with more than one person per voice, disagreements over tempo within a group tend to be evened out, partially because of the mechanisms described in 2.1.1, but in a small group such as the ones discussed in 2.1.2, a musician may sometimes enforce a new strategy in his own playing during the performance.

As with all other performances, the more the musicians have rehearsed in advance – the more they have internalized specific ways of playing specific passages – the less likely is the occurrence of coordination problems, in this case, disagreements over interpretation of tempo. When such disagreements

⁸There is e.g. a contrast between interpreters of certain types of baroque music that have a lot of rhythmical changes in them (say, Vivaldi's violin concertos, e.g. "The Four Seasons") regarding whether one should emphasize the dramatic expression in the pieces by approaching the music as if it had been written in the Romantic period, allowing rich use of rubato (this is the choice made in Herbert von Karajan's rendition with the Vienna Philharmonic Orchestra and a 16-year old Anne-Sophie Mutter as soloist (EMI, 1984)), or if each segment should be played with a strict, almost mechanical rhythmical pace (consider both so-called "authentic" performances of "The Four Seasons" such as conductor Andrea Marcon's version with the Venice Baroque Orchestra and Giuliano Carmignola as a soloist (Sony Classical, 2002) or the slightly 'jazzy' interpretation by violinist Nigel Kennedy with the English Chamber Orchestra (EMI, 1997).)

occur, which they do (perhaps because some ensembles rehearse less than one might imagine), they prompt individual considerations of how to adapt to each other's playing, considerations that will often be based on *expectations* regarding the behavior of specific musicians. These coordination problems can also become quite nested, if, for instance, the musicians must at the same time consider whether the other players are adapting to *their* interpretation of the tempo or not.

Especially in larger groups (4) can be a problem, but one that is often surprisingly well overcome. As described in 2.1.1, a change in bowing or articulation by the violinists positioned closer to the conductor in a symphony orchestra is often quickly copied by the rest of the group. This does not necessarily mean that coordination is the result of a given hierarchical structure (in this case from front to back in the group). A just as important part of the infrastructure of the group is the 'louder is right' principle, which should perhaps be reformulated as 'persistent is right': it may, for instance, be that the group leaders are making a mistake, and musicians in the group who notice this are able to confidently mark what they consider to be the correct strategy and swiftly drag the rest of the group with them.

In other words, the coordination processes of large ensembles can be *decentralized*: they are patterns of small, local coordination processes involving perhaps only a few musicians, something comparable to the biological concept of a "swarm." (Strictly speaking, this also goes for one-person-per-voice ensembles where the individual has a higher degree of responsibility for his own playing.) These processes are, as I will return to in 2.4, typically coupled with internalized routines – in other words, where the musician may not really be *choosing* between different options, but is almost automatically following a specific line of action. Nevertheless, coordination problems similar to (4) can often occur combined with other types of problems demanding more than dependence on routines – e.g. if the violinists need to agree on whether or not to follow the theme-carrying instrument in the example related to (1).

Section 2.4 discusses, informally, different schemes for describing and possibly explaining how coordination problems in an ensemble can be solved in general. I will try to justify how all of these schemes are relevant in all of the different basic types of performances I have considered (save perhaps for the solo performance). Before I continue with this, I would, however, like to address some common objections I have faced when explaining the impact of the coordination problems listed above.⁹

2.3.3 How Much Help Is Provided by Infrastructures?

Not all people, in fact, not even all musicians, grant that there are any grave problems in group coordination save from having to work with badly trained musicians: It is a common view that if everyone has practiced in advance and pays attention to the score (if any) and the infrastructure of the ensemble, things work out fine. Coordination problems are, according to this view, due to a lack of understanding or technique. That coordination problems often have to do with a lack of understanding in some sense of the word, is certainly a point I agree with. It is because I do not understand what certain other musicians are thinking in a given, critical situation that I have trouble coordinating with them. But regarding coordination problems as mere mistakes due to bad technique of individual musicians misses a basic feature of group coordination: It is something taking place between, or rather, involving more people.

If coordination problems in the ensemble are mistakes, they are mistakes on behalf of the entire ensemble, and although individual, incompetent musicians can sometimes trigger a coordination problem, the triggered problem will be a problem for everyone in the ensemble, including the competent musicians. That coordination problems can also arise among competent musicians who just do not have the same intentions for the performance is, although formal evidence of this would support my case, of lesser importance than looking at how musicians, competent or not, solve these problems, once they occur.

The hierarchy in a symphony orchestra with the conductor typically at the top, followed by different instrument sections and their group leaders in orders that can vary (depending on the piece of music), is a default that is followed in most cases, as described in 2.1.1. Conductors and group leaders can, however, also occasionally be wrong, and some coordination problems occur exactly *because* the infrastructure of the ensemble does not function as intended (e.g. if people do not pay attention to the conductor, or if people are suddenly in doubt who the majority of the orchestra is following). There will, hence, always be possible instances of coordination problems in an ensemble

⁹These are objections that have more or less occurred in every talk I have given on ensemble coordination since 2005.

and their solutions cannot solely be explained in terms of the infrastructure the ensemble.

Several writers as well as conductors have pointed out that the idea of the conductor as a musician whose instrument is the orchestra is not well supported by reality. Conductor Simone Young has said in an interview that

Der Taktstock [...] macht keine Musik, er zeigt nur, wo und wie ich die Musik hören möchte. [...] Es gibt kein Mittel, das Orchester zum Spielen zu zwingen. Man packt das Orchester mit dem Willen zu musizieren. (Roelcke (2000, 29))¹⁰

The conductor cannot control everything that happens in the orchestra. He is not a 'puppeteer'. What he does is, paraphrasing the article by Fischer and Jackson (1997) "Towards a Vision of Mutual Responsiveness: Remythologizing the Symphony Orchestra," give suggestions and inputs to the musicians, impulses that they may or may not react on, and similarly, he reacts to the feedback he gets from the orchestra. In that sense, he is actually a musician, but one *without* a physical instrument – he functions as a *part* of the ensemble, not in virtue of producing sound, but in virtue of actively engaging in coordination processes with the musicians.¹¹

The conductor's special status relies (as briefly discussed in 2.1.1 on the fact that he can be seen by everyone in the ensemble, and therefore be able to mediate coordination between dislocated groups of musicians that would otherwise rely only on what they hear (which might not be an advantage in certain settings with devious acoustics). His role relies, interestingly, on giving visual signals, simple or complex, which are then interpreted by the musicians, much as musicians among themselves sometimes interpret small cues, like nods, dramatic breathing and other gestures, as invitations to do

¹⁰ "The baton does not make any music. It only shows where and how I want to hear the music. [...] There are no means by which one can force the orchestra to play. You handle the orchestra with your will to make music." (My translation)

¹¹Throughout her dissertation on leadership in symphony orchestras, Niina Koivunen (2003) makes the simple, but powerful point that although there is a hierarchical power structure in a large orchestra, typically with the conductor at the centre, both "sides" need each other because of the sonic output depending both on the efforts of individual musicians and on the logistics that synchronize and balance these efforts. I agree and do not intend to argue against the necessity of a conductor in a large orchestra. I do, however, intend, at a later point, to make a general statement about the role of individual strategies in *all* ensembles, regardless of size, which is why I will downplay the role of the conductor in my later discussions.

specific things. The authority he may have in the performance situation rests of course, also, on his role as an actual leader of the rehearsals, but all in all, his 'power' over the orchestra is limited in many critical situations.

Although in this project I wish to downplay the role of hierarchical infrastructures, I acknowledge that they can be *additional* factors in coordination problems of the sort I have introduced above. The following example (a recording of which can be heard here: http://www.orkesterfilosofi.dk/ Dissertationexamples/Dvorakmishap.sats.mp3 >) shows such a complex interplay:

In 2003 I participated in a concert performance of Dvorak's 9th symphony ("From the New World") ▷ with Fyns Amts Ungdomssymfoniorkester (Funen County Youth Symphony Orchestra) at the Town Hall in Odense. At the beginning of the fourth movement, the rhythm simulates an accelerando (where the tempo increases rapidly), but is not really supposed to be accompanied by much change in tempo. Unfortunately, the strings that open the movement have a tendency to accelerate a bit. It is, however, very difficult for the conductor to stop this acceleration, because the string players have such a strong focus on the rhythm of their own playing (have a tendency to get caught up in their own 'groove'), that they are not likely to change their pace, even if they are aware that they ought to. (There is also the further complication that the individual string player would rather not stand out in relation to the rest of the group, so changes are not likely to take place unless the musician has reason to trust (or dare to trust) that other musicians will follow him in his change of direction.) In this performance, the strings did accelerate slightly, although not much, but the conductor was not happy with the resulting tempo and hence tried to slow the strings down by conducting an exaggerated slower tempo on top of what they were playing. This resulted in a moment of chaos when the movement reached the entrance of the brass section: The brass players looked up and simply took the slow tempo that was being conducted, whereas the string players were still following the pulse they had reached at that point in the score. About a bar or two later, the strings had adjusted to the new tempo and things went on in a much more coordinated manner.

What is interesting about this situation (which is by no means exceptional), is that it highlights the lack of direct power of the conductor over the orchestra. I, and, I assume, a lot of other string players were perfectly aware of the conductor's intention to slow us down, but we also wanted to maintain coherence in our present sonic output: We did not want to sound badly coordinated, and we did not want to risk interrupting the rhythmical flow of what we were doing, which would be the case if everyone suddenly had to search for the new tempo. We may have been able to slow a bit down over a longer period of time, but we never got that far because the brass set a completely new agenda: Because the brass section (only surpassed by percussion) is louder than everything else in the orchestra, if the players in that section agree on e.g. a tempo, the rest of the orchestra can do nothing else but follow, because the total sonic output of the orchestra will otherwise sound badly coordinated. It took about one phrase of the brass section's theme for the rest of the orchestra to be completely sure which tempo the brass had settled for, after which the entire orchestra adapted to this new performance strategy.

In short, hierarchical infrastructures certainly play a role in coordination, but not as a force that structures everything at the outset. In the example above the string players have their own *goals* and motivations for their part of the performance, and it is only when they reach a dead end with respect to reaching those goals (in this case, sticking to their own rhythmical flow) that they 'give in' to the power of the hierarchy. (In this case, it is a section positioned higher in the hierarchy that prevents them from reaching their goal and at the same time defines a new strategy for everyone.) I will discuss the idea of having intentions for a performance at length in 9.1 and 9.2, but the example here already hints at the importance of individual motivation in deciding on a strategy.

Just as I recognize the role of hierarchies in larger ensembles, I also acknowledge that even in small groups there will often be one or two players who "take control" over the situation, whether rehearsal or performance, and by the confidence they radiate are able to influence the other players, making them mimic what ever they do. I do, however, conjecture that when coordination problems occur, as they inevitably will, because even very confident musicians sometimes make mistakes that can cause momentary confusion, the ensembles who are able to solve them are those where the musicians are still able to think for themselves, when the authorities fail. Conversely, ensembles that rely only on an obedience structure centered around a few authorities, will most likely fail to solve coordination problems when they occur. In all the coordination schemes I will discuss in this dissertation, hierarchical infrastructures can be added as a factor in the decisions of musicians. I will, however, focus on the coordination strategies that do not involve dependence on this type of power structures.

2.4 How Are Performance Difficulties Dealt With?

Coordination problems are more grave and difficult to solve in a live setting than in a studio setting, because, as briefly mentioned earlier, studio musicians can discuss their problems, live musicians cannot – at least not during the performance. Studio musicians can stop the recording process, discuss, and then move on, possibly re-recording the passage that caused problems. (Problems regarding how to fit already recorded parts together when editing the final studio product are a different sort of coordination problems we will not discuss here. As is the case with the other studio coordination problems, however, there are very few time constraints on the process of solving them.) Live musicians cannot discuss during the performance. They can, at best, make gestures or other small, bodily signals that may then be interpreted by those other musicians who notice them, but there is no guarantee that these signals will be interpreted correctly.

At this point one might want to conclude that coordination in music performances is simply built on mutual *trust*. Trust is, I believe, the default among musicians who enter the stage to perform a piece. Bluntly speaking, I trust that the others will do as they are supposed to do. Based on experience with the other musicians, e.g. during rehearsals or prior performances, the musicians may have rehearsed certain routines to help or alert absent-minded musicians during the performance, but in such situations there will still be an overarching common belief in the possibility of coordinating.

Important though it is, the phenomenon of trust does, however, not explain how all coordination problems are solved. Many of these are exactly the result of a *lack* of trust in the other musicians, making the individual player unsure of what they will do next, or, on the other hand, the coordination problem may *result* in a lack of mutual trust in the co-players' attention to the initial agreements (during rehearsal etc.) Some people might intuitively respond that at the very least, there is a trust in the other musicians' acquaintance with the composition being played (or general conventions for the genre, in the case of an improvisation-based performance) – in other words, I trust that the other musicians will act in a way that complies with the overall strategy of following the composition (or conventions).

What triggers many coordination problems, however, is exactly the fact that the musicians do not always have the same concept of what the composition *is* (or, to cover e.g. jazz improvisation, what some set of rules for the performance context is). They may in turn regard different aspects of it as more important than others. This is probably more apparent in composition-based contexts where there are no scores or note sheets, and where the composition has a looser structure, but as I hope to show throughout my dissertation, such differences in interpretation among the ensemble members can be the case in virtually any performance tradition.

So, what really happens when coordination problems are solved? We cannot enter the minds of performing musicians while performing ¹², but we can suggest different schemes that may result in plausible descriptions of what is going on in the musician's mind when coordinating with the other players. I suggest the following schemes for describing what results in coordination in settings where direct, reliable communication is not an option:

- 1. Pure chance
- 2. Automatic behavior (on the basis of prior learning, e.g. during practice)
- 3. Swarming behavior
- 4. Deliberations regarding the behavior of other players (statistics, expectation)
- 5. Deliberations regarding the common knowledge of (aspects of) the composition in the ensemble (certain aspects may be common knowledge due to prior announcements during rehearsals for instance)
- 6. Forming an intention with respect to one's own performance and trying to stay true to it while alternately deliberating about the intentions of other

(1) is a logically possible explanation, and doubtlessly the correct one in *certain* cases. I do, however, think it is safe to assume that given how often musicians succeed in navigating through coordination problems, it is

¹²There is – generally, very expensive – equipment available for tracking of eye movements (see for instance http://www.tobii.com/scientific_research/products_ services/eye_tracking_hardware/tobii_glasses_eye_tracker.aspx) that might result in some good empirical data that can be *interpreted* in favor of a plausible suggestion for a musician's line of thought. In this day and age, it is, however, not possible to isolate and measure the actual thoughts of the performer.

not likely that they *only* rely on chance to solve the problem. Even in situations where chance does end up solving the problem (e.g. where, after a moment of complete sonic chaos, the musicians by chance simultaneously play something that makes sense and steers everyone back on track), the musicians do not sit back, fumbling aimlessly on their instruments while waiting for their 'destiny'. They are actively engaged in thought processes striving for a solution to the problem.

In fact, as I will discuss in 2.6, even more automatic, internalized behavioral patterns, such as the routines for problem-solving built up during practice (2), can occur in tandem with rational deliberations, e.g. when choosing between more than one routine. Similarly, (3) which may sometimes be conceived of as a subspecies of (2) – more precisely, a pattern of internalized routines concerning smaller parts of the ensemble (more on this in a moment) – might also involve musicians choosing between two or more of such routines in the situation.

Throughout my analysis, I will continue to regard trust as an important factor in coordination. Trustworthiness as a measure of how well I can expect my co-player to follow the overall strategy, is, however, not a very flexible notion. A musician will probably often have to work with people he does not regard as very trustworthy. The expectations he *does* have for these people are, however, still an aid in his deliberations regarding how to coordinate with them. It will therefore prove more useful to speak of musicians having varying *expectations* for other musicians. I may expect different lines of thought to occur with some probability in the minds of my co-player (based on my own informal – or, in rare cases, formal – statistics for his behavior). This is what is captured by (4) in the list above.

The intuitive idea of a musician trusting that the rest of the ensemble is acquainted with the composition (or genre conventions) is captured more formally by (5). The idea is that certain norms for the performance, whether inherent in a score, agreed upon during a rehearsal or in another way made publicly available to all of the musicians, might be considered to be *common knowledge* in the ensemble, that is, something that everyone knows that everyone knows that everyone knows...etc. (potentially ad infinitum). Such a degree of knowledge (or believed knowledge) certainly affects an agent's reasoning, making him or her more confident in choosing a strategy that has traits of publicly 'presented' norms as a pre-condition. Yet, just as trust can turn out to be fallible, this is also the case with this coordination scheme. It will, however, prove a useful starting point in chapter 7 for formalizations of reasoning in a performance.

(6) reflects that it is important to realize that a musician does not need reassurance of what the other musicians are thinking when she forms her initial strategy for the performance. A musician always has some goal for the performance – it might be very modest, e.g. not making any audible mistakes, or it might be a grand, artistic one. Either way, the musician is likely to stick to his or her intentions as one of her defaults. Of course an intention can be more or less clearly defined, and in any case, there will most likely be some parts of the performance where the musician has more than one idea for the possible sonic output. The musician will therefore still be attentive to the decisions of other players, partially because coordination is a subgoal for all of the musicians in the ensemble (hence there is no reason not to try to adapt to the strategies of the other players, when one can), partially because the apparent possible strategies of other players might, in the worst case, prompt a change in her intention. (I will discuss the role of performance intentions at length in 9.)

In larger ensembles, such as symphony orchestras, coordination (across the ensemble as a whole) may often be more easily described in terms of 3. In an ideal performance setting, the individual orchestra musician is able to hear the sonic output of the entire orchestra and thus in some sense coordinate with everyone in the moment. Yet, even in such ideal settings, which are quite rare, the coordination process is, in general, a larger system of subordinate coordination processes: The individual instrumental sections, especially those who (more or less) share the same voice throughout a piece of music, must synchronize the actions *within* the section while at the same time trying to coordinate with the rest of the orchestra.

It may be very useful to describe some of the latter processes in terms of the phenomenon known to biologists as *swarming behavior*. The idea is that the coordination process is guided by local rules (see e.g. Surowiecki (2004, 86)). Similar to how a bird swarm or a school of fish navigate as a whole with no apparent centralized leadership, a large group of people is sometimes able to coordinate as a whole without everyone being responsive to the same few leaders. That is, the individual member of the swarm, in our case the orchestra musician, is not paying attention to everyone in the swarm (=the orchestra) but only to his closest co-players. He adjusts his actions (e.g. bowing, timbre, pitch, tempo etc.) to these 2-6 people, and very often, because these local coordination contexts overlap (the musicians one adjusts to each adjust to a slightly different collection of musicians), the entire swarm (orchestra) is able to quickly adjust to e.g. a deviation from the score in one or more voices. (Just as bird swarms are quickly able to adjust their common direction in relation to an attacking bird of $prey^{13}$)

In other words, coordination can sometimes take place because musicians are trained to act according to local rules in cases of doubt. Because of the number of people and the many levels of coordination processes going on in a large orchestra, 3 may be a more likely explanation of coordination in this case than in a smaller, 'one-person-per-voice' group where the individual has a higher degree of personal responsibility in the interpretation of his part. Yet, this does not mean that we cannot imagine coordination problems in a large orchestra that involves musicians reasoning about each other's possible strategies. Neither does it mean that we cannot imagine something resembling swarming behavior in a smaller group (for instance, adjustments to tempo are very often done quite automatically through a quick sequence of mimicking processes similar to those functioning on the local level of a swarm).

My main focus in this dissertation is to highlight the role of norms in all of the decision processes above (save from 1), whether norms considered to be shared by the entire ensemble, or norms for the individual musician resulting from his or her goals for the performance. I will devote special attention to 4, 5 and 6, because these invite a more conceptually clear description (and to some degree, formalization) of our reasoning in coordination settings. I will, however, also briefly discuss how the concept of 'reasoning' may also make sense in connection with automatic behavior (see 2.6).

2.4.1 Coordination as Communication?

As briefly stated above, the listed coordination schemes do not include coordination aided by (more or less) direct communication. This does not mean that I do not think communication takes place in a performing ensemble. It certainly does, although very sparsely in many settings. What is special about the non-verbal communication in a performance is that it relies on musicians *interpreting* each other's actions, distilling tacit messages from these, and having to rely on these interpretations (at least until later actions render the interpretation inappropriate), whereas e.g. in a regular discussion, inter-

¹³See Surowiecki (2004, 101-102) and Miller (2007) for descriptions of such behavioral patterns.

pretation of my conversation partner's statements is also a necessary part of the communication process, but aided by the possibility of asking for clarification. (Of course, one could argue that an explanatory remark from the other is itself subject to interpretation, but in any case, verbal conversation presents more possibilities for a closer approximation to understanding the intended meaning(s) of statements.)

In a music performance, there is no such aid. There may be signals that are so conventional that those who notice them will instantly understand their intended meaning: Obvious examples are the signals of conducting, some of which rest on clearly stated conventions (e.g. the meanings of different baton movements), while others have developed informally (as an example, Isabella Poggi (2002) documents how a conductor's use of facial gestures almost constitutes an unambiguous sign system). More often, however, signals from one musician to another (sometimes also including signals from a conductor to an orchestra or vice versa) are ambiguous.

It might even be that the musician signalling is not sure exactly what reaction he or she wants from the other musicians, a situation in which a musician may, as suggested by Peter Reinholdsson (see e.g. Reinholdsson (1998, 46-49)), be said to 'pick up' on his co-players' interpretation of his own actions. This occurs perhaps especially in improvisation, which is Reinholdsson's focus, where the choices of other musicians regarding how to harmonize or mimic an improvised phrase will have to be responded to by the (first) improviser. I will return to a discussion of the idea of adjusting or refining one's own intentions in chapter 9.

In any case, interpretation of actions as 'signs' with a meaning or possible interpretations, and regarding the coordination process as merely a communication process, may be a useful angle on describing the music performance. In fact, a large quantity of what has been written in the academic field on music performance has been from the point of view of *semiotics* (see e.g. Kühl (2003) and the overview of the tradition in Tarasti (2002, especially 65-87 and 179-197)), or, to relativize this discipline to the communication process, "symbolic interactionism" (Reinholdsson (1998)).

Analyzing coordination in terms of communication may be a good conceptual starting point – after all, musicians *are* trying, during the performance, to interpret each other's actions as non-verbal signals of what they are going to do next. I do, however, think that a description of the actions of musicians during a performance merely as a 'discussion' between the instrumental voices, tends to miss an important supplement, namely what the motivations of the individual musician are at the outset:

Obviously, to make sense of a communication process (in or out of the ensemble), we need to consider what the participants are trying to communicate to each other. Especially in a music performance, however, it might be that communication, even in the minimal form of interpreting actions *as* signals (regardless of whether they are intended as such), hardly takes place: If everything fits together seamlessly from the first note, the initial main focus of the performer is not a communication process with the others, but simply his own goals for the performance.

Considering the rather obvious relevance of a first-person, motivationoriented approach to describing the music performance, it may be puzzling how many writers have chosen the semiotic (or quasi-semiotic) approach I have briefly described. One possible reason for this preference could be that the discussion of interpretation, of texts as well as experience in general, has been a dominant theme in 20th century philosophy, within the analytical tradition as well as the phenomenological-hermeneutical tradition, thus providing a firm intellectual basis for discussions of the more specific case of interpreting interaction in music performance. (Just as it may be an understandable strategy for a person who wants to buy a book, but is not quite sure which, to go to the largest, most well-assorted book store in town, although he might find the book that suits his purposes in a much smaller, specialized shop.)

A quite different philosophical tradition has, however, existed in parallel for quite a long time, namely the tradition of exploring how we navigate on the basis of "means-end" rationality, in other words, the idea that I make my choices based on what I rationally deduce would be agreeable actions given my goals, and it is chiefly within this tradition that my analysis operates.¹⁴

Neither of the two traditions can stand alone, though. When navigating in a territory where the outcome of my actions depends on other persons as well, I naturally have to have an idea of how these people think. The "means-end" oriented tradition I am referring to, immanent in a large part of the fields of game theory and epistemic logic (methods I will apply to coordination problems in 7, 8 and 9), normally take for granted a basic

¹⁴Thomas Hobbes' hypothetical construction of the ideal state in *Leviathan* (see Hobbes et al. (1997)) or Machiavelli's *The Prince* (Machiavelli (1515/2009)), a 'handbook' on how to be a successful dictator, are classical examples of an instrumental view of rationality, while Karl Popper's ideas of "social engineering" (Popper (1945, Vol. I, 15-28, 96-100)) constitute a newer example.

shared rational competence – in other words, they assume when describing interaction that people generally deduce in the same way, and that people expect each other to do so. Obviously, this is not always the case, which is why a means-end rational analysis of group interaction needs supplement by an analysis of how a musician can interpret the actions of other musicians.

Conversely, as I have already hinted at, an analysis of coordination purely in terms of signalling and interpreting the actions of others as 'symbolic' cannot stand on its own, because it would ignore the motivational aspect of playing music: the fact that musicians have goals for a performance and are interested in how to reach them.

It is outside my area of competence to decide which of the two approaches is the more important, but I generally find that the description of performance interaction in terms of rational thought patterns is, at best, underprioritized, and therefore deserves the careful attention I will give it in this dissertation. In addition, my agenda of looking at *norms* in group coordination, and why the existence of such is indispensable, not just in a music ensemble, but in general, makes a rationality and motivation oriented approach especially warranted.

2.5 The Problems of Describing Motivations from 'the Outside'

[...] How is musical meaning created and interpreted in the musical consciousnesses of actors in their performance experience ("real time") [...] in a group context? Above all, how are we as analysts to elucidate and understand players' immediate and meaningful experiences and actions? Are we to disregard a performance-related type of awareness and listening perspective of a player, and, thus, exclusively rely on our own analytic and aesthetic modes of listening as a hearer? (Reinholdsson (1998, 21))

The quote above, taken from Swedish musicologist and jazz musician Peter Reinholdsson's PhD dissertation on interaction in small-group jazz performances, exemplifies a problem that a lot of music researchers eventually face, namely the problem of trying to describe, in academic language, processes that a) do not necessarily involve verbalized or otherwise linguistically structured thoughts, b) as they happen, are not necessarily reflected upon in a linguistically structured manner by the musicians, and c) are rendered from memory or approximated in interpretations of observational data, in both cases 'outside' the situation in which they occur. How can anyone get a grasp of what goes through a musician's mind while playing? How can anyone, e.g. this author, provide a plausible case for some level of reasoning taking place in the musician's mind, if the mental processes of the performing musicians are inaccessible to others than themselves in the situation?

The problem as Reinholdsson presents it has two implications, only one of which is dealt with in detail by Reinholdsson himself, while the other one has special relevance for my own research endeavors. I shall examine them in said order.

2.5.1 Translating between 'Domains'

For Reinholdsson, the problem inherent in the quote above is a kind of 'language barrier'¹⁵. Reinholdsson distinguishes throughout his work between an *emic* and an *etic* perspective in descriptions (using terminology from Kenneth L. Pike¹⁶ which has also been used by ethnomusicologists such as Bruno Nettl (1983/2005, see e.g. 228 and 249)). The first refers to the way musicians themselves talk, or, more broadly, communicate about the music, often during the rehearsals, or thinking back at a finished performance, whereas the second refers to the discourse of the analyst who has not been part of the processes described and therefore has a way of talking about these that is not directly related to the practical, instructive aspect of the communication among the musicians.

The emic descriptions are based on an understanding of performance processes from the inside of the performing group and often take a large part of this understanding for granted. They are also, as I have just hinted at,

¹⁵My rendition of Reinholdsson's point of view in the following is based on lines of thought going through his entire dissertation, but many of the more general considerations of the "inside/outside" distinction in ensemble analysis are given in Reinholdsson (1998, 78-86)

¹⁶See especially Pike (1967, 37-42). The terms "etic" and "emic" are derived from the terms "phonetic" and "phonemic". The latter terms are used in the specific context of linguistics to designate, respectively, an analysis of language from the "outside" (e.g. analysis of the actual sounds people utter, that is, phonetics), and an analysis of language from a "user" angle (e.g. pointing to syllables that as they appear in written language and presumably in people's minds – the phonemes).

rooted in the communication that takes place in the ensemble, a communication that, as Reinholdsson (and other writers, such as Kühl (2003)) provides a case for, has its own symbols and signals.

One of Reinholdsson's examples (Reinholdsson (1998, 127)) is that musicians in an improvising jazz group point to their head to indicate that they want to return to the main theme that is used in the improvisation (which is often referred to as "the head"). This form of communication is, I hold, every bit as symbolic as ostensive references in daily language (e.g. "hand me the little glass of cinnamon on the second shelf from above").

A different kind of example, which is also given by one of the jazz musicians Reinholdsson has interviewed for the book (Reinholdsson (1998, 136)), is the small nods, facial expressions or other more or less subtle gestures whereby musicians try to signal to other players that they should begin, end, be more quiet, be louder, or in some other way pay attention to something in the ensemble. These cannot always be translated accurately to the etic language of the analyst, perhaps, I would say, because they do not necessarily have an accurate meaning in the first place: A musician may feel unsure of whether the performance is proceeding as it should, but without being completely sure what the problem is - he may e.g. alternately be unsure of the tempo, which bar the ensemble has reached in a piece of music, or whether the other musicians will remember a particular dramatic change in nuance. In this case, he might desperately try to seek someone else's attention with a facial microgesture in the hope that they will react to his signal in a way that gives him the confidence to follow their apparent strategy (as he interprets it given their actions), thereby again approaching coordination.

In any case, Reinholdsson holds that there is a problem of translating the insights of the performance situation as understood by the musicians to the language of analysts who are not part of the situation themselves. Reinholdsson himself is a jazz musician and therefore knows these types of contexts from the inside, but has confined himself to the analyst's perspective on the small-group performances he describes (see Reinholdsson (1998, 99-112)). Being part of the rehearsals and knowing several of the musicians in advance, Reinholdsson does, however, share quite a bit of common ground with the performing musicians, and therefore does not have a completely "etic" perspective on the situations at hand. It remains an open question whether a person *completely* outside the realm of music performance is able to understand and mediate the insights of performing musicians to an audience of non-musicians. I do not think, however, that such an analysis
would be possible without an honest attempt to appreciate and understand the 'culture' of the performing ensemble with its associated communication patterns – much like understanding the language and associated practices of an indigenous civilization also involves immersing in the actual culture associated with these. (This sentiment also runs through the general field of *ethnomusicology*¹⁷)

Clearly, I am, in this dissertation assuming that my readers have some very basic, experience-based knowledge of music, if not as performers, then as listeners. My main focus is to *highlight* aspects of ensemble performance – that my readers may already know – as important for our understanding of coordination, not just in these ensembles but in general. I do, however, try to describe, as accurately as I can, the aspects of performance which are presumably *not* common ground for all readers. In short, Reinholdsson's problem of "translation" is, although an occasional practical obstacle, not what I find most troubling in the opening quote of this section.

2.5.2 Interpreting Past Actions

It is worth noting that Reinholdsson discusses how we get to describe the "musical consciousnesses of actors in their performance experience ('real time')", and the "players' *immediate* and meaningful experiences and actions" (my italics). Given that Reinholdsson's interviewed musicians render their experiences from memory, how can we be sure that they are accurately rendering their experiences as they actually took place? A description of past actions is always bound to have a focus, that is, more or less consciously leave out information that the musician either considers irrelevant or which does not support the musician's interpretation of the course of events. Zapping back to the actual situation and the mental state of the performing musician is probably impossible. If we grant this, two related questions come to mind: a) To which extent does the opinion of the musician matter in the interpretation of his or her actions? b) Is sharing the perspective of the performing musician as he performs essential to describing and understanding his actions? I will try to answer both questions at the end of this subsection.

¹⁷According to *Merriam-Webster's Online Dictionary*, the word is defined as either "the study of music that is outside the European art tradition" or "the study of music in a sociocultural context" (http://www.merriam-webster.com/dictionary/ ethnomusicology).

Ricœur (1981a) suggests that we may interpret patterns of human action in the same way we interpret texts. Before I can render this point, I will briefly sum up the relevant traits of Ricœur's theory of a text:

Ricœur (1981b) regards the text as an autonomous entity: Because the text is "fixed discourse" (as opposed to the 'fleeting' discourse of everyday dialogue), the text can exist on its own, without the author or the initially intended addressee (if any) present. Whereas dialogue takes for granted that the people speaking are both aware of their surroundings¹⁸, time, and properties as persons, an author cannot similarly assume that the reader will share the knowledge of the author's situation. (It seems to be a tacit assumption of Ricceur that most of the texts we know are "intended" to be texts, not just transcriptions of dialogue.) For these reasons ¹⁹, Ricceur argues that we should be interested mainly in the text itself, its structure and more general, "non-ostensive" references (that is, I assume, references that are more stable across time and place). Further, because the situations of the readers will be very different, they will quite plausibly make very different interpretations of the text. Again, making the tacit assumption that authors are generally aware of this, Ricœur (1981a) argues that the measure of an interpretation should not be whether it ties with what the author "intended", but whether an analysis of the text warrants the interpretation.

Adding to Ricœur's argument, one could note that writers do not always know (consciously) how much information they are conveying in their product – nevertheless, the information is still there in the text to be distilled by the analyst. (Surreal short stories based on the author's dreams might for instance have layers of meaning that a trained psychologist, but not the author himself would notice.)

Returning to the second paragraph of this subsection, Ricœur holds that human actions in general have traits similar to texts: Once performed they are, so to speak, "out there". The agent cannot fully control or know the impact of his action in the long term, and it might affect people or situations he did not intend it to affect. Neither is the agent fully aware of how his actions may be influenced by what went before, e.g. his own background, the history of his culture, etc., factors that a spectator might on the other hand deduce. As Ricœur himself puts it:

¹⁸Internet voice chat is a slightly more complicated case that had not made its entry onto the scene when Ricœur wrote the aforementioned articles.

¹⁹I return to a slightly more detailed rendition of Ricœur's view of texts in connection with a discussion of compositions as texts in 5.6.

[...] like a text, human action is an open work, the meaning of which is "in suspense". It is because it "opens up" new references and receives fresh relevance from them, that human deeds are also waiting for fresh interpretations which decide their meaning. [...] Human action, too, is opened to anybody who *can read*. In the same way that the meaning of an event is the sense of its forthcoming interpretations, the interpretation by the contemporaries has no particular privilege in this process. (Ricceur (1981a, 208-209))

Ricœur's use of text interpretation as a model for interpretation of human action entails, as he also states in the same pages, that an action is "inscribed" in the total world history, as words are fixated on paper. Regardless of what one thinks of this imagery (which seems to suggest "world history" as one, clearly delineated entity), the main idea, namely that the interpretation of action is open to everyone, is very relevant in our present discussion of problems with describing interaction in ensembles:

The moment a musician tries to describe "what went through his mind", he is already interpreting his own actions – trying to suggest plausible motives based on an analysis of what he actually did. In fact, describing one's own actions without any interpretation of them is virtually impossible, because the actions I single out, when describing, already suggests what I find more important in the situation.

An example: I was playing a concert with the University of Southern Denmark Symphony Orchestra²⁰ and suddenly looked up, during a tango piece, noticing that my bow strokes were not aligned with the group leader (of the 2nd violins) sitting in front of me. My eyes roamed for a moment from the stroke indications I had copied from her note sheet to her present bow strokes until I saw that the second page (out of three), which we were (supposed to be) playing according to, was missing from her note stand. I then returned to following the stroke indications I had written down.

This description already suggests an interpretation of what went through my mind, and it would probably take some very complicated equipment (e.g. carefully positioned cameras, devices for tracking eye movements etc.) to get 'raw' data enough for a description that approximates 'what actually happened', save from what I was thinking at the time.

 $^{^{20}}$ On January 9, 2010, at the Royal Danish Academy of Music, Copenhagen as part of the Final Concert of the annual conference of Conductor's Guild.

Nevertheless, not being able to recall *exactly* what went through my mind, an analysis of my own actions support this interpretation: By default, I was paying attention to my group leader (and the person next to her), yet at the same time following my note sheet and the indications I had written onto it. The reason I looked up in the first place was that what I should be doing, if I were following the note sheet, was no longer aligned with what the people in front of me were doing. I now had to find out whether I was wrong in the way I stroked, whether the group leader had suddenly changed her mind about the stroking, or whether she had made a mistake. Seeing that the page, we were 'on' was missing from her note stand, a plausible interpretation of *her* actions surfaced: She and her stand partner were playing from memory and thus not remembering the exact strokes that they had written down. Settling for this interpretation of the situation, I chose to follow the indications on my note sheet, disregarding the default strategy of following the group leader when in doubt.

All of this occurred very rapidly, of course, but I find it plausible that I was indeed making considered decisions similar to these during the performance. What form my thought processes had as they took place is a different question (and one I will return to below in 2.6).

The interesting thing to note about the example above is that my interpretation of my own past actions is not particularly more well-supported than my interpretation of the group leader's actions. (The person next to her, playing from the same incomplete set of notes, was, by the way, copying her present strokes as well as she could.) I am in both cases suggesting motives based on a focused analysis of actions as I remember them. If I had camera footage of our actions, I could perhaps make a more detailed analysis, but my interpretation would still be one of many suggestions regarding what people actually thought in the situation.

Two interviewed jazz musicians in Reinholdsson (1998, 148) curiously discuss how they find it difficult and even undesirable to "think" about the performance interaction while it is taking place:

Dr: It's difficult, if one isn't able to do it. I'm not thinking about this myself, I'm just doing it. And afterwards, I can see whether it was good or bad.

PR: If one starts thinking about such things precisely in the moment, the actual process of thinking *per se* may become an obstacle.

Dr: Yes, it becomes a block!

It seems to me that the two musicians are confusing the *description* of what motivated their actions in the performance situation with what *actually* went through their minds in the situation. The description of motives I offer in my own symphony orchestra example should not be confused with my actual thoughts (that quite plausibly were not linguistically structured) *in* the situation, yet I think the description is a plausible verbalized counterpart to a reasoning process that could have taken place during the performance.

Given that observational data might actually be public (e.g. concert footage), my interpretation of a performance situation in which I participated is not particularly more warranted than an outsider's interpretation of the same. The measure of interpretations would in both cases be whether the actions discussed can be analyzed in a plausible manner that supports the interpretation in a convincing way. Just as the author of a book can be said to be, using the words of Ricceur (1981b, 149), merely its "first reader", having been in the actual performance situation being analyzed can at best only give me a head start with the description task.

The latter point could be the answer to (a) at the beginning of this subsection, if we add that being a musician as such of course gives one special competences in analyzing performance situations (competences that are acquired through careful practical studies) – but one's interpretation in itself is not made better or worse by these competences. As a parallel example, a trained surgeon has an expertise in analyzing the state of a person's body that the average bystander does not have. This analysis can support or refute suggestions for a diagnosis, yet the diagnosis suggested by a non-surgeon (on the basis of evidence), be it a nurse or the patient, is not necessarily refutable on the basis of their "lesser" authority.

Regarding question (b), because sharing the immediate perspective of the performing musician is practically impossible, even for the musician himself, when describing from his memory, we must either give up discussing performance interaction at all or accept less ambitious standards for assessing our interpretations of this interaction. I think, given that musicians themselves talk about their performances within the ensemble (from the "emic" perspective, to use Reinholdsson's terminology), e.g. when discussing what to do better next time, blaming each other for a bad performance, defending their actions on stage in the face of critique etc., we should accept that we can discuss motives and lines of thought in a performance without accessing the musician's mind 'in the moment'. The conclusions we draw from such discussions might not be as accurate as they would be if we *could* access another person's mind at an earlier point in time, but that does not make these discussions any less relevant. (If they did, similar reasoning about the status of motives suggested by lawyers and their clients in a court of law would make legal trials pointless.²¹)

Further, it might even in some cases be argued that an "outsider" (to the individual performance) may be able to offer some insights on the performance that the performers themselves are not fully, consciously aware of (e.g. noticing how a faulty understanding of the length of an up-beat may be causing an imprecision in a person's playing that then results in problems for the other musicians that are trying to coordinate with her). Speaking more generally, the (occasional) success of psychoanalysis and other conversationbased methods of clinical psychology and psychiatry also supports that an outside perspective on a person's actions and possible motives can be beneficial.

What I try to do in this dissertation is to make – hopefully plausible – interpretations of more general patterns of action in music ensembles, rather than of specific observational studies, but even when referring to the latter, I question the merit of so-called qualitative, interview-based research, if this takes for granted that musicians have a special authority with respect to interpreting their own past actions. I do think, however, as stated above, that the expertise of performing musicians qua musicians may help the researcher make more accurate, detailed analysis of performance situations.

2.6 Do Performing Musicians Reflect?

When presenting my research interests in the possible deliberation processes during a music performance, I am often met with objections along the lines of "but surely, musicians do not think about all that while they're playing" or "what makes you think musicians act rationally at all?" This type of objection reflects the common – and mostly correct – intuition that what is going on in the mind of a performing musician is in many ways different from the deliberation processes of 'ordinary people' in 'everyday situations' that

 $^{^{21}}$ In fact, Ricœur (1981a) cites legal trials as an excellent example of how the interpretation of actions can be made a public endeavor, a process in which the agents themselves are not privileged.

also involve coordination with other people but do not have quite the same boundaries on communication. There should, however, be an emphasis on "in many ways." In my opinion, the main difference between the thought processes of a performing musician and those of a person engaged in a debate with twenty people in a conference room is that the former are not (necessarily) linguistically structured.

The thoughts of a musician do not necessarily have the form of sentences that she is saying 'to herself', they might just as well be observations of different structures or patterns in the situation at hand, e.g. strings of possible subsequent actions. But the fact that they are often not linguistically articulated does not mean that these thought processes are neither conscious nor as rationally organized as linguistically articulated thoughts can be. ("Rational" may here refer to a requirement of systematicity pure and simple in the thinking process as well as a rationality concept that also imposes the value of certain types of goals. I will elaborate the possible understandings of "rationality" in a music performance in the subsection below.) This is exactly what Erik Rietveld has tried to show in his dissertation, Unreflective Action: A Philosophical Contribution to Integrative Neuroscience (Rietveld (2008)).

As an example of such non-linguistical deliberation, Rietveld cites Wittgenstein's examples (from Wittgenstein (1978, 7-13)) of the craftsman, be it a tailor or a carpenter, who is "moved to improve" (in Rietveld's words, Rietveld (2008, 20-21)) the work at hand, recognizing that something needs to be done, but not necessarily articulating this. The deliberation taking place shows itself in the trial-and-error process the craftsman engages in when trying to improve. He is responsive to "affordances" in the situation (Rietveld (2008, e.g. 21, 128 and 133)), things that can be done, and chooses between these.

There may be a terminological debate regarding whether we can call such a non-linguistically structured thought process "reflective." Rietveld himself seems to reserve the term for the linguistically structured thought process, which is why he refers to its opposite as "unreflective" or "pre-reflective," yet this does not stop him for arguing for the latter type of thinking as a perfectly reason-driven activity. Rietveld is arguing against thinkers such as John McDowell and Hubert Dreyfus (throughout Rietveld (2008, 125-168), where he cites several texts by the two, especially McDowell (1996) and Dreyfus (2007a)) who only regard real, "free" thinking as being what you do in a linguistically articulated thought process, and hence only allow that an agent's actions or thought patterns are free, if he is able to step back from whatever he is doing and verbalize it for himself.

In opposition to McDowell and Dreyfus, Rietveld holds that an agent is most certainly thinking freely, if he or she recognizes different lines of possible action in the situation and chooses between these, whether this thought process is linguistically articulated or not.

Rietveld cites Merleau-Ponty's example of a soccer player who sees openings in the field and reacts on them as an example of this (Rietveld (2008, 131, both main text and footnote), quoting Merleau-Ponty (1942/1983, 168-169)). One could easily construct a similar example in the context of a symphony orchestra: In a critical situation where the different instrument groups are not playing in perfect synchronization, a violinist in the front row of his group might recognize the possibility of trying to follow the rhythm or articulation of the other violin group, of the cellos, the woodwinds, the (not always perfectly) marked beats of the conductor, the total sonic output of the orchestra etc. The decisions made are seldom linguistically articulated thoughts, although they could be at a later point.

I would personally opt for a use of "reflective" that covers both linguistically articulated and non-articulated thoughts, because I think Rietveld's terms "unreflective" and "pre-reflective" have unfortunate connotations that suggest that the thought processes are not "conscious" in the sense we would require of a deliberation. Indeed, for Sean Kelly, in an unpublished draft manuscript²² paraphrased by Rietveld (2008, 138-143), the distinction between "purely" automatic behavior and "free" action lies in whether or not the agent "notices" his own behavior. It is assumed by Kelly in Rietveld's interpretation that "noticing" implies interrupting the flow of action.²³ This however, need not be so:

Rietveld offers the example of watching your surroundings while riding a bicycle through town. This process, in which your gaze travels from left

 $^{^{22}}$ "Perceptual Normativity and Human Freedom," presented at the symposium *Perception and Action* at Cornell University, Ithaca, New York, May 7, 2006 (according to Rietveld's bibliography)

 $^{^{23}}$ Curiously, Kelly, cited by Rietveld (Rietveld (2008, 143)), regards "noticing" as something that is essentially beyond the agent's control: It is something that suddenly happens to you during the line of action, altering your consciousness of what your are actually doing. Even though it is the possibility of noticing and subsequently changing your line of action and reimmersing in it that constitutes the "freedom" of the action for Kelly, the impossibility of controlling whether you are noticing or not means that your are not acting freely in any case.

to right while you are moving forward, may occur automatically, but you might also be noticing what you are looking at and reflecting on why you are looking at it. The latter option does, however, not interrupt the flow of your "watching," but merely involves a highlighting of aspects of the process (Rietveld (2008, 134)).

(In other situations, reflecting on an otherwise automatic behavior might completely sabotage what was initially an efficient process. I have personally been in a situation where I suddenly could not remember the PIN code for my debit card, because the act of typing it had become a purely automatic action with no conscious thought on my behalf, other than wanting to pay. Rietveld makes a similar point in Rietveld (2008, 5 and 134), utilizing the example of climbing stairs.)

One needs to distinguish further between the act of noticing your own behavior in the sense of simply being aware of performing a specific action, and noticing your behavior in the sense of also noticing your own 'role' in relation to the action. When engaged in a line of action (with inherent possibilities of other lines of action), you can perfectly well have your entire focus on the action itself and performing it well, quickly deciding what to do next etc. It is a quite different type of noticing, if you are suddenly reflecting on the fact that you are doing what you are doing with some purpose and method, and that this somehow defines something about you as a person - e.g. in a thought linguistically articulated as "I try to wrap this gift as quickly as possible in order to still be in time for the birthday I have been invited to, yet at the same time try to make it look good, so people will not think ill of me."

(Rietveld (2008, 165-167) points out, referring to Wittgenstein's example of searching for the 'right' word when writing or speaking ²⁴, that we may find similar distinctions in linguistically structured activities between being engaged in your actions, such that the actions in themselves are the object of your attention, and reflecting consciously on your own role, motives and reasons in the situation.)

Some writers (e.g. Dreyfus (2007b), see Rietveld (2008, 144-145)) conclude that being totally absorbed in your actions, forgetting your "I," so to speak, is not "free" thinking, since a similar attitude to one's behavior seems to be the default with less developed animals. Rietveld argues against this in two ways with which I fully agree.

 $^{^{24}}$ See Wittgenstein (1978, 18)

Firstly, recognizing possibilities for action, rather than following them completely automatically (as a machine), necessarily involves a basic recognition of your own body (understood broadly, if we are to cover being engaged in an intellectual activity) in relation to your surroundings (or the object of your thinking). Otherwise, the possibility of moving from one point to another would not make any sense, and neither would any possibility of 'causing a change' (Rietveld (2008, 132)).

Secondly, regarding other animals than human beings as incapable of independent thought – as creatures at the mercy of their instincts – is, in the case of many vertebrate animals (to cover both mammals and birds), a prejudice or at least an oversimplification (Rietveld (2008, 147)). Rietveld refers to the work of primatologists Frans de Waal (2004) and Jane Goodall (1990) for examples of how a chimpanzee tries to calm a distressed 'friend' down, whereas the same chimpanzee does not spontaneously help a distressed enemy – these animals seem, in other words, to have some basic power of distinction between friend and ally that trumps any 'helping instinct.' An example one could add to Rietveld's point is how not only primates, but also certain crows have shown the ability to develop a use of tools adapted to a new environment.²⁵

In my opinion, the really interesting boundary with respect to the possibility of rational deliberation is neither between linguistically articulated thought and its opposite, nor (following Rietveld's point of view) between self-consciousness and its opposite (if there really is any), but between the conscious, (more or less) voluntary action and the purely automatic. Rietveld himself acknowledges the importance of this distinction in passing (Rietveld (2008, 151)):

[...] in the case of mere movements that are not actions, for example when we are unexpectedly pushed by someone, the initial movements we make are not instances of responsiveness to relevant affordances. On the other hand, the way we respond briefly after being pushed, for example by grasping someone's arm (but not her breasts or hair) to avoid falling, and the way the compensatory movements develop over time after the initial automatic

 $^{^{25}}$ In fact, Caledonian crows have recently been captured on film (using small mobile video cameras attached to their tail feathers) using sticks to dig or scrape for food in rough layers of dirt, certain old trees etc. See Morelle (2007) for a description of this phenomenon.

reaction, can be understood in terms of such responsiveness.

Merleau-Ponty (1945/2002, 190) (cited by Rietveld (2008, 160)) also points to the distinction between conscious and purely automatic action in connection with a description of waking up: "We remain free in relation to sleep [...]to the exact extent to which we remain always involved in the waking [...]state, our freedom rests on our being in a situation, and is itself a situation."

Obviously, to deliberate regarding which actions to perform, I must be aware of what I am doing. This is, of course, not a sufficient condition for my actions being voluntary (in a minimal sense of the word) since I may, e.g. be conscious of not being able to control the movements of my body after, say, a glass of wine too many. One may, however, further demand that if rational deliberation is to take place, the agent must actually be deliberating, that is, considering more than one choice.

Whether there really is a possibility for more than one action in a situation can be very tricky to capture. Take a composition-based music performance as an example. A musician may have internalized several routines through thorough practice, routines that, as she initiates them are delivered without her paying any conscious attention to the finer details of the action (e.g. how she moves her fingers). In the same performance, there may occur situations where she recognizes different lines of actions to choose from. What she chooses may very well be a result of quick deliberation regarding which strategy will most likely lead to coordination with this or that musician while, perhaps, at the same time help her in her own goals for the performance (e.g. the desire for a specific expression in the sonic output). In some cases, however, a decision is made so quickly that it is not completely clear, plausibly not even to the individual musician, whether the decision is really a conscious choice between two different lines of action (routines), or whether it is itself part of a 'meta-routine', an internalized strategic scheme according to which the musician 'automatically' makes a decision (but not necessarily without noticing her own choice).

The problem is not cancelled by applying a branch of global determinism whereby there is essentially no difference between voluntary and involuntary action. Within such a cosmology, the problem would instead be transformed into a question of what the latest cause of the musician's actions is: If a musician performs an action while being inebriated and not really aware of what he is doing, or aware of what he is doing but feeling as if someone else is performing the action, the cause of the action is different from the situation where the musician does the exact same thing, but after having thought about other actions that could have been performed. Although awareness of one's own actions is not a sufficient condition for being in control of them, there seems to be different sorts of attitudes a musician can have towards his own actions: They can be internalized patterns he notices and subsequently finds himself following, there can be situations where he is aware of every finger movement he is performing while being aware of other movements he could have made, there can be situations where he finds himself doing something automatically with a sense of detachment from the activity etc.

Regardless of the problem of distinguishing between internalized patterns and choices in the moment, the examples highlight that it is seldom all the musician's actions that are completely automatic in the way where they elude the conscious attention of the musician. This is what I mainly put forward to warrant an elaboration of the coordination schemes described in 2.4 that involve deliberation on the part of the individual musician.

If we are able to agree that musicians actually think while they are playing, the next question is to which extent we can say that their lines of thought are rational? How do we define rationality in a performance context? Can we relativize a rationality concept to a situation where thought processes are not linguistically articulated?

2.6.1 What Is Rational?

Rationality is a much debated term, not just among philosophers but also within more specialized disciplines such as game theory, sociology and psychology to name a few²⁶ In general, rationality seems to be conceived of as an aspect of human thought and action that involves some degree of systematic thinking. Normally these thought processes will have some sort of goal, understood either as something the agent wants to achieve (through some line of action) or something the agent wants to find out about. (When people occasionally refer to e.g. an infrastructure as "rational," they seem to tacitly imply one or more creators who have been "rational" in their choices with respect to the structure.) What differs between different concepts of rationality seems to be the importance attached, respectively, to

 $^{^{26}}$ The way economics deal with the concept of rationality reflects all three disciplines. See e.g. Hausman (2008, section 5, "Rationality").

- 1. How systematic and detailed an agent's thinking must be which degree of logical consequence should an agent settle for? How far-reaching or nested consequences of his actions should an agent take into consideration when planning? Which degree of certainty should he strive for when considering an issue?
- 2. Which types of goals are admissible for a rational agent does an agent have to dismiss an immediate goal in a situation for the sake of achieving a larger, more overarching goal? And
- 3. How tight-knit must the connection be between an agent's goals and his strategies to reach them?

Of course these three areas are interrelated. The questions raised by a focus on (2) hinge on (1). It may be a veiled consideration of how far-reaching consequences an agent should take into consideration in order to be rational that makes people regard some types of goals (e.g. wanting to eat six chocolate doughnuts) as "irrational." A focus on (3) would not make any sense without a corresponding attention to (1) – requiring a strong connection from goals to strategies is obviously a demand on the degree of systematicity in an agent's thinking.

The primary notion of rationality I apply in the following discussions is one that centers on (3). In other words, I tend to treat "rationality" as *meansend rationality*, where "rational" denotes the optimal and logically consistent line of action (or thought) for an agent given his or her goals. This is because I believe it makes sense to a certain extent to speak about rationality in this form (forming a goal, planning to reach it) among musicians in performing ensembles. As one would expect from the considerations above, this focus raises questions related to (1), e.g. because musicians often find themselves in situations where they may have to take chances in their attempt to reach coordination with the other musicians. In other words, we have to consider which degree of certainty a musician can settle for while still meeting the demands of the predicate "rational".

Some goals are nested, others in direct conflict with each other, and an agent might sometimes want to bypass the pursuit of certain goals in the situation for the sake of reaching a different goal either in the same situation or on a more general, overarching level. With the veiled (and possibly not always conscious) attempt at imposing values on reasoning, many thinkers²⁷ have identified specific types of goals with "rational" goals, most commonly goals that are "long term," at least in relation to the immediate goals of the situation (such as my 'donut example' above).²⁸

In addition to this preference for long term over short term goals, there has also been a tendency to view rationality as egoistic: the goals a rational individual reaches for 'should' be the ones that are 'best' for that individual. Especially within a field of behavioral analysis such as game theory, as documented by Bacharach et al. (2006, 42-53) and Roy (2008, 39-42), rational decisions are often identified with those that are logically consistent given the premise that an agent as his first priority wants to secure the best probable outcome for himself. This means that in some situations, rather than gambling with the prospect of getting the best outcome *available*, the agent might instead choose an action that will give him or her an acceptable outcome regardless of the other agents' decisions.

As discussed throughout Bacharach et al. (2006), there is, however, overwhelming statistical evidence for agents risking a very bad outcome with the view to achieving a good outcome in possible cooperation with (and shared with) the other participants in the "game." There are different ways of explaining this, one of course being that the players are simply not acting fully rationally. Bacharach et al. (2006) instead chooses to "revise" the notion of rationality²⁹ (at least in the situations that deviate from what one would expect given the usual pessimism with respect to human motives) as being founded on *team reasoning*: the goal for the individual is no longer merely a goal for *him*, but a goal for everyone involved in the process (whether an actual game or a coordination problem, e.g. in traffic).

What prompts team reasoning in some situations rather than others is slightly more mysterious and a topic for psychology. In a music performance, however, potential reasoning is almost always founded on team reasoning. Except for the rare, but logically possible cases of a nihilistic, depressed

 $^{^{27}}$ See for instance Shoda et al. (1990) who open their article (a discussion of experiments with delayed gratification among children) by noting that the ability "to delay immediate satisfaction for the sake of future consequences has long been considered an essential achievement of human development."

 $^{^{28}}$ On the other hand, as discussed by Edvardsson and Hansson (2005, 349-350), goals that are 'too' long term and imprecise such as "achieve a better society" may be deemed less rational than those that – to a larger extent – imply a strategy for attaining them.

²⁹See also Roy (2008, 42)

musician or a very destructive one who wants to ruin the performance for everyone, it is normally the case that musicians strive to achieve a joint sonic output that is somehow aesthetically satisfying. Hence, even if a musician hates everyone else in the ensemble, s/he will have to be concerned about how to reach an outcome that benefits each voice in the ensemble in a balanced way.

The process of thinking in itself is of course impossible to assess without considering what an agent is trying to achieve. If one is, however, only concerned with how well an agent reaches his goals in the sense that "the end justifies the means," no particular attention is given to how thinking proceeds from one point to another which in most intuitive discussions of "rationality" would be a requirement. What we are usually demanding is some degree of consequence in an agent's actions (or thoughts) given his or her *knowledge*. It can, however, be unclear whether a person's lack of success in achieving his or her goals is a result of a lack of consequence in the thought process or lacking knowledge of (elements of) the situation. When I speak of rational agents, I am assuming merely that the agent is consistent in her line of thought given her knowledge. In other words, I grant that one can make rational decisions based on incomplete knowledge or even false information.

In my chapters on modeling coordination problems (7, 8 and 9), I explore how logically consistent reasoning may proceed from varying degrees of information and justified expectation for an agent's surroundings. I do, however, not necessarily think that an agent is always *logically omniscient* when making a decision, that is, that the agent makes or is able to make all the possible inferences from his or her information. For instance, an agent might choose to act merely on her (statistically warranted) expectations for the actions of another player in a situation where a careful reasoning process would end in the same decision, and still be deemed rational.

In the end, whether an agent is rational or not has to do with whether the agent's strategy for reaching her goal is logically consistent in the broadest sense of the word: the strategy has to have her goal (or one of them) as a possible outcome. In this sense, it does not matter if the agent has articulated the goal or the strategy for herself linguistically, as long as both are in her mind as structures guiding her behavior. The models I offer in the aforementioned chapters are attempts at approximating in formal language reasoning processes that are, especially in the music performance, not necessarily articulated linguistically. But as my considerations in 2.6 support, reasoning viewed as a recognition of structures or patterns may actually resemble the

paradigms of reasoning in a linguistically articulated context. Hopefully, the discussions of music performance I provide throughout this dissertation will add to the plausibility of this conjecture.

Chapter 3

Composing as a Normative Activity

When I was working as a volunteer in the demonstration area of the 2007 *International Computer Music Conference*¹, I got to talk to a presenter who was interested in music composition. When I told him that I programmed an internet radio station² he remarked, "well, that is composing, too!" This demonstrates a view of composing as simply 'piecing together' music, no matter the size of the 'building blocks'.

Intuitively, the concept of "composing music" hinges here on the use of "composing" as "to form by putting together"³: I compose a piece of music by bringing together bits of tones, harmonies and rhythm or possibly larger strains of melody, gestural patterns etc. in one form. Such a definition prompts several questions, however, e.g. how large strains of existing melody, rhythm etc. am I allowed to put together and still call it an act of composing? And am I, in the above sense of the word, composing a strain of melody that 'occurs' to me as a whole 'figure'?

Before we address these questions, one must also keep in mind that composing is, at the very least *not always* a process of arranging *sounds*. In the context of symphonic classical music, for instance, composing is separate from the actual production of sound in the performance (disregarding that

 $^{^1} ICMC$ 2007, the Royal Academy of Architecture, Copenhagen, August 27-31, 2007.

²The progressive rock and metal station Random Thoughts at the Live365 network (http://www.live365.com/stations/fiskogskaldyr).

³The first suggested use in *Merriam-Webster's Online Dictionary* (http://www.merriam-webster.com/dictionary/compose).

many modern composers use music software that allows them to hear a synthetic prototype of their arrangement). A composition may in these cases be regarded as a *normative entity*, a detailed collection of rules that performers take into account when forming a strategy for a given performance. In fact, I shall argue in the following that *all* compositions may be regarded in this way, regardless of their genesis.

I will also defend the view that composing is in some sense a *normative activity*: Composing is setting a standard for something, whether this "something" is a recorded sound structure I am listening to in my headphones or a live performance which purports to be "of" a composed piece. It is, however, not always the case that compositions merely arise from an act of composition. In many cases, it is the fact that musicians *take* a given structure to be normative (imply rules) that makes this structure a composition.

Let us first start by looking at how different traditions within music philosophy tend to explain the concept of "composing".

3.1 Composing as Discovering

The experience often documented by musicians of suddenly "getting" an idea for a melody has lead certain researchers to think that composing is actually a mode of *discovery*, namely the discovery of abstract, Platonic entities that are 'out there' as matterless shapes for us to fill with actual sound. Peter Kivy (1987), who supports such a view, suggests that 'good ideas' mainly occur to the 'trained mind' – in other words, the true labor of the composer is the musical training in exploring possible structures of music that enables him to suddenly 'see' these ideas.⁴

The line of thought that leads Kivy and others to Platonism with respect to musical "works" (I shall criticize the use of this term later) seems to be this:

As acknowledged by Nicholas Wolterstorff (1975, 131-132) among others, a work of music can exist independently of a score. Wolterstorff refers to

⁴Kivy (1987) discusses some historical examples of not just composers "finding" a theme or a counterpoint, but also scientists "finding" a solution to a problem. He argues that we need not abandon the idea that the composer's or scientist's personality puts a stamp on the abstract structure thus revealed. It might be that it is only through the particular historical path leading up to and including the composer's or scientist's life that the composer/scientist could discover it.

"the vast bulk of indigenous folk music" that "remains unscored" as one example, a hypothetical situation in which Beethoven performs his *Opus 111* live, before having scored it, as the other. Some people may object to the idea of discussing folk tunes on a par with "works" in the classical tradition, since the former are often strongly tied to rituals where the music in itself is not the center of attention. ⁵ Others may object to the idea that Beethoven was *really* done composing, if he had not yet written a score for his opus. It may be easier to see how the separation of work from score holds, if we consider songs by e.g. modern day jazz, pop and rock bands: such bands often rehearse and perform songs several times live before any score is created (e.g. for other musicians to study), sometimes even before the songs are recorded. Yet these bands doubtlessly think of their performances as performances of these "works," regardless of whether they are scored or not.

Since not all works are necessarily written down or even recorded, the work must (if we still follow the route to Platonism) be some abstract structure. But an abstract structure made up of different tones, intervals etc. seems to be a possible construction in the same way that a number is: we can write a number that no one else has written down before, but in a certain – Platonic – sense, the number was always lying 'in wait' to be discovered by the mind. The fact that many musicians have described how a tune suddenly "occurred" to them, fully developed, supports the idea that music is not really a process of creation, but rather a process of uncovering the melodies hidden in the multifaceted universe of possible musical sounds.

A Platonist – or "realist" view⁶ of *whole* works of music is, I think quite easily refuted. As a starting point, one must remember that composers do *not* always envision whole finished structures when they compose. As an example of how composing can be a process of testing different combinations of ideas against each other, consider this statement by Daniel Gildenlöw, main composer of the Swedish band Pain of Salvation \triangleright , when I asked him about his writing process up to an album (as part of an interview for the website *Heavymetal.dk*):

[...] I mean, there's a long process in the mind as well. Even

⁵In opposition to such an objection, Christopher Small holds that *all* music – in fact all art – is inscribed in ritual, the totality of a performance at a certain venue with a certain audience, a visit to a museum etc. being such rituals: events in which the participants celebrate or 'live out' a certain view of how the world is ordered. In this sense, "ritual is the mother of all the arts" (Small (1998, 105)).

 $^{^{6}}$ The two terms are used synonymously in the literature, see e.g. Sharpe (2004, 58-63)

when you compose in your head, you're still twisting and turning things and then you have the concept [for the whole album] as well, which is also something that will turn up one thing that will trigger the other thing...and then... "well, maybe it's better to use that one"... you know... you have these different folders too, with different music in different folders that go into... sometimes you just realize that "oh, wait a minute – I have something in that folder that would actually fit very well into this now..." So, you never really know what the full product is going to be like. Even though you're working very, like, detailed [...] (Frimodt-Møller (2007a))

It is not completely clear whether Gildenlöw is referring to actual folders, e.g. on his computer, or if they are 'parts' of his memory where he stores things, but in either case the quote shows the eclectic nature of establishing a structure that will end up in a recording or performance.

Once we grant that composing can have this character of 'piecing things together', we can show that the Platonist view is untenable, at least in relation to the genesis of whole works: It rests on a basic misunderstanding of the difference between potential and actual existence, as the following example shows.

If I buy a box of LEGO, the box will often come with some suggestions (and recipes) for the models one can build with the contents of the box. If I am playing with the pieces next to a more skilled builder than myself, I may perhaps use *his* work as a blueprint for my own (in other words: steal his ideas). Apart from these two examples, however, every model I build will, be the result of my own creative effort. The models I build have a *potential* existence before I build them, given that the pieces I use are there in advance. But the model that I build is not there before I build it: It does not have *actual* existence until I build it.

Obviously, potential and actual existence are two completely different things. By my creative effort I uncover not the *actual* model, but its *potential* existence which I had not thought of before. The reason why I had not uncovered the model's potential existence before is that I had not created the model yet. Precisely the same holds for music in the mind of a composer (like Gildenlöw above): It is made up of ideas of tones, intervals, rhythms, gestures etc. that the composer puts together, how ever fast (or slowly), in his mind. Of course the piece of music had potential existence before it was created, since the notes and intervals were there in advance, but we do not uncover this potential existence before the piece is created – when, due to the composer, it starts *actually* existing.

For those who still question whether potential existence amounts to a subspecies of actual existence, I refer to the refutation of Xeno's paradoxes of movement (put forward by several people, e.g. Hartnack (1995, 32)). According to Xeno, movement is a deception of the senses, because it is impossible, if one considers its basic principles. I cannot cross a room, because this involves stepping through an infinite number of points in order to get to the door. Xeno's mistake is exactly a confusion between potential and actual existence: The points of the line have a potential existence in that the line can be divided into infinitely many points (or rather, as large a real number of points as we want to), but it is not actually divided into infinitely many points, since this would be impossible. Hence, we are not stepping through infinitely many points the door.

Although Platonism is untenable with respect to the genesis of entire works, some may still hold that smaller strains of melodies, 'grooves' or gestures simply 'show up' in the mind of a composer who then fits these components together in the whole which is the composition, although proponents of this view would not necessarily make any claims with respect to where these components 'come from'. I will call this view the *gestalt view* of composing, because it entails that the composer envisions a "gestalt" which he subsequently tries to capture in the act of composing. I shall return to a critical discussion of this view in a moment, after I have introduced a different way of characterizing what it means to "compose music".

3.2 Composing as Providing 'Instructions'

Nicholas Wolterstorff (1975) views the "work of music" as a "kind," something that binds together a number of specific examples together – as in "a poodle is a *kind* of dog" (my example). To be of a certain "kind" is not necessarily to be a perfect, exemplary instance of the "kind." A grizzly that does not growl is, according to Wolterstorff, still a grizzly, namely "a grizzly that does not growl," yet if we describe what the kind "grizzly" entails, we would list that it growls. Wolterstorff has two different suggestions for a definition of what constitutes the "kind" that is a musical work: 1. A (specific) musical work W is a kind of sound structure

2. W is a kind of performance⁷

Wolterstorff does not explicitly take sides (at least not in this article), but simply describes two different views of composing based on (1) and (2), respectively:

If (1) holds, then composing is a mode of discovery as it is according to the Platonist view described above: Since a sound structure is something that can occur in several ways, including, how ever improbable, by coincidence (e.g. "by someone's doodling on a piano, or by an electronic organ's going berserk" (Wolterstorff (1975, 130-131))), the composer is simply selecting a sound structure which is already 'out there' (I refer here to my critique of Platonism in the previous section). By making a score or otherwise "recording" his "determination," the composer formulates the "correctness-conditions" for examples of the work, but, since these conditions hinge on the sound structure itself, the composer is not 'making' the correctness-conditions, but *discovering* them (Wolterstorff (1975, 139)). In short, composing is formulating correctness-conditions, e.g. instructions for how to produce examples of the work, but this is not really a creative activity.

If, on the other hand, (2) holds, in which examples of a given 'work-kind' are *always* performances, composing *is* a creative activity: Performance is, according to Wolterstorff (1975, 131) an intentional activity – a performance 'of' a piece is an intentional attempt to play it. Performances can thus not be performances 'of' a work, before there exists correctness-conditions for performances of that work. The composer is the one who formulates these correctness-conditions (more accurately: The correctness-conditions for a performance that can be described as being of the kind W.) Since the correctness-conditions did not exist in advance, composing (formulating correctness-conditions) is a creative effort.

(2) does not rule out the pre-existence of some sound-structure the composer wants to provide correctness-conditions for *performance* of. In that way, Wolterstorff's view may, as Goehr (1994/2003, 14) suggests, in any case be compatible with Platonism. It need, however, not be, as Wolterstorff himself indirectly notes (Wolterstorff (1975, 135-136)): If we hold that composing a work of music is *only* formulating a set of requirements for a "kind" of performance, then John Cage's (in)famous 4' 33" qualifies as a work of

⁷My enumerations and reformulations of Wolterstorff (1975, 130-131).

music, regardless of the fact that no sounds are required to be played by the performer. In other words, under (2), composing does not necessarily entail a pre-existing sound-structure that 'inspires' the composer to formulate correctness-conditions for W.

3.3 "The Gestalt View" vs Composing as Providing 'Instructions'

According to what I call "the gestalt view" of composing, it does *not* make sense to regard composing as separate from a sound-structure, more precisely, an imagined one in the mind of the composer. Proponents of this view intuitively think that the collection of rules for performance of a work stipulated in e.g. a score (if any) is not a work in itself. They will say that the rules enable the performance of the work, that is, the realization of the shape or structure the composer has imagined. Before I proceed with my critique of this view, I must first make clear what I understand by "gestalt" in the context of music.

Roman Ingarden (1986, 12-13) reserves the term "gestalt" for the wholeness (my formulation) of the individual listener's experience. These experiences, or rather, the features of these, are, in Ingarden's words, "aspects" of the "object," that is, the work he or she is listening to. (I will return briefly to this view in the next chapter where I discuss compositions from the perspective of a listener.) Later in the same text (Ingarden (1986, 44-45)) he does, however, speak of melodies and rhythms being "gestalts" given that we cannot comprehend them just by considering their atoms in isolation (my formulation). It is this latter use of "gestalt" I expand here into covering not just melodies and "grooves," but also larger patterns of these.

Before the composer writes a score or records a "model performance" (borrowing a term from Davies (2001, 21)), the musical work exists, according to the gestalt view, as themes and structures in the mind of the composer, possible sonic structures, so to speak. Naturally, when the composer wants to realize the work in performance, either by playing it himself or have someone else perform it, these "shapes" or "gestalts" help him define norms for the performance – things that should be done in order to realize a gestalt.

Although this chapter is mainly about composing, it may be illuminating to ask how performing musicians regard such "gestalts" in the work of a composer. Perhaps the answer depends on whether the work they are trying to perform is written down or if it is only 'exemplified' in a (e.g. recorded) performance:

In the case of a scored work, I conjecture that the musicians who are told to play it will follow the relevant instructions indicated in the score (and note sheets) by the composer. They do not try to copy some shape put forward by the composer as if they were art students trying to copy a famous painting. They might relate while playing to the gestalt that possibly arises in the sonic outcome of their endeavors, and this might admittedly become their dominating concern as they internalize the rules of the score or abstracted composition. In the beginning, however, they interpret and follow more or less specified rules. (I will return later in chapter 6 to a discussion of how they prioritize these rules.)

If the performing musicians are referring to a model performance, on the other hand, it makes sense to view their initial efforts as relating to a gestalt inherent in the model performance. Yet, because a performance often has an element of personal interpretation, the musician may just as well be distilling rules from the model performance that she then uses as principles for her own performance.

Chronology aside, in both of cases above it is an open question which is primary: The created gestalt in the mind of the composer or the rules the musicians follow in their performance.

My main objections to the gestalt view is that there *are* actually socalled works out there that do neither entail any specific multifaceted gestalt in the mind of the composer, nor in the finished performance. Alongside modern scores for improvisation based classical music (see e.g. figure 3.1), the Indian raga is an example of a structure that has directions for different events that should take place at some point, but not necessarily at a fixed pace or in a specific order. The conventions of the performance context aside, the instructions for playing a specific raga amount to an outline of a melodic theme, an "ascent-descent" pattern (loosely speaking a description of the scale the player should play according to when moving either upwards or downwards tonally), and, curiously, an indication of when (during the day or night) the raga should be played. (See Joep Bor and Harvey (2002, http://www.wyastone.co.uk/nrl/world/raga/intro2.html) and figure 3.2)

Several performances of the same raga can sound extremely different, although some might object that a Western listener is simply not able to hear the inherent "gestalt" in the music because s/he has a different background. I



Figure 3.1: Game of Contrasts / Konstrast-spil (1980) by Carl Bergstrøm-Nielsen (source: http://www20.brinkster.com/improarchive/cfw_contrast. htm)



Melodic outline



Figure 3.2: Approximated Western notation of the raga Hindol taken from Joep Bor and Harvey (2002, http://www.wyastone.co.uk/nrl/world/raga/hindol.html) (the letters above refer to the Hindi names of the notes).

do, however, not think this is the case for the aforementioned improvisation schemes in modern classical music. The proponents of the gestalt view of musical works could, quite reasonably, say that constructs of such an "open" character are simply not works, but sets of rules that might result in several different works. In other words, they could simply insist that the work *must* embody a specific gestalt in order to be a work.

I do think it is intuitively more appealing to grant that one Indian raga is exemplary of one work that enables several different performances, but this is a point of view that does not have more soundness than the gestalt view of musical works. I do, however, think that it is unquestionably true that the act of a composer in relation to performers is an act of writing down or otherwise specifying rules for performance. I wish to argue in this dissertation that some collection of these rules (in some cases including all of them) is what it makes sense to call *the composition*. In this way, we grant that the acts of someone inventing a raga or making specifications for an improvisation-based classical performance, is indeed composing, regardless of whether the act results in what would qualify as a "musical work" under the gestalt view.

It should be mentioned that the examples in figures 3.1 and 3.2 may still be regarded as embodying specific gestalts, if one broadens one's view of what qualifies as a gestalt. I have dealt with the general notion of some sort of structure inherent in all performances of the work as synonymous with a gestalt. Many would more specifically speak of a "narrative" structure in the music (see e.g. Small (1998, 144-157)), that is, a structure reminiscent of a story or a dramatic play. In that sense, a work of music will always entail some specific series of events (not necessarily preventing additional events from taking place) in the performance. Against this, however, one might point out that some pieces of music do not have an all too apparent narrative structure, but rather set up a 'sonic space', in which the listener can do other things (than merely listening). Not only ambient music (which is so named for exactly that reason), but also a lot of alternative rock music such as Crippled Black Phoenix ▷, Godspeed You! Black Emperor (originally written "Godspeed You Black Emperor!"), and many other artists seem to be concerned with shaping a space around the listener, a space with some specific qualities, of course, but not one in which a strict narrative structure is being followed. Yet, such a space along with its more characteristic features could also be considered a type of gestalt. In the case of the examples in figure 3.2 and possibly also figure 3.1, the atmosphere, mood, general use

of harmonies and gestures etc. may be of a type specific to the context surrounding and co-defined by the composition in question.

(Classification gets even more complicated, however, by pieces of music that combine e.g. narrative structures with a sense of sonic space. This is the case in much of Devin Townsend's production, both as a solo artist and with his former band Strapping Young Lad (hear e.g. the albums *Terria* \triangleright (InsideOut, 2001) by Devin Townsend or *City* \triangleright (Century Media, 1997) by Strapping Young Lad). It seems that if one searches for a gestalt in this music, what is found will have an eclectic character that in a way points towards "being created" in the sense I have described in my LEGO example above.)

3.4 Is Composing *Always* a Normative Activity?

If a performance is "of a work," most people today require of the performance it somehow 'pays respect' to the work. The work is thus regarded as an entity distinct from the performance. Following this line of thought, it would be natural also to regard composing as separate from performing. This is, however, not always trivially the case as the following discussion will show.

According to Lydia Goehr (1994/2003), the distinction between performing on the one hand and composing on the other is a construct dating back to the end of the 18th Century and coincides with a movement among musicians towards liberation as an independent discipline (see e.g. Goehr (1994/2003, 1-10) for a brief overview of her main points). In the centuries that went before this movement, musicians were mainly employed at royal courts, churches and other institutions where their services were required in connection with rituals, celebrations etc. Composing in this context simply meant 'putting something together' for an occasion, and it was not unusual or ill thought of to borrow large portions of other people's material in a performance. For example, sources report that "In 1731, a composition 'formerly composed by Mr. Handel' was revised by him 'with several Additions'," and Bach has also been reported as having "composed" a mass "formerly composed" by Palestrina (both examples from Goehr (1994/2003, 181)).

Music was, according to Goehr, not performed with a "work" as the central point of attention, but with a focus on the specific *occasion*. Even

works written for private use were written for occasions such as 'practice' or 'entertainment' (this seems to be the case with some of C.P.E. Bach's works – see Goehr (1994/2003, 179)). The service (in the church), the celebration, the text (be it in the theatre or in the church) was the guiding force for the performance – and the "composition" something immediately prior to it.

The move away from this performance oriented view of music to the workoriented was, according to Goehr the responsibility of musicians themselves. They wanted to establish themselves as a 'guild' similar to other professions, and needed a conceptual framework to capture what their 'efforts' as musicians amounted to. Perhaps looking to what they found was the independent, artistic enterprise most closely related to their own, namely the *visual* arts, composer-musicians now demanded that their efforts were treated in a way similar to artworks like paintings: Franz Liszt thus declared in 1835 the wish for "a Musical museum" Goehr (1994/2003, 205), where "an assembly to be held every five years" chose the works they considered best in each of the categories of "religious, dramatic, and symphonic music," works that would then be "ceremonially performed every day for a whole month in the Louvre, being afterwards purchased by the government, and published at their expense".

Conversely, the musician now saw "Werktreue," faithfulness to the work, as his main objective (see e.g. the example in Goehr (1994/2003, 1)), a space that was previously occupied by "the occasion".

Whether or not Goehr is correct in her assessment of the shift in how people understood the concept of "composing," the interesting thing to note here is that composing may sometimes be regarded as something having to do directly with construction of music in the performance, not just mediated through e.g. a score. Even more interestingly, this view of composing has been somewhat revived in the 20th century due to the introduction of recording technologies. Theodore Gracyk, in his study *Rhythm and Noise: An Aesthetics of Rock* (Gracyk (1996)), holds that the common denominator of the genre spectrum known as "rock" is that its main focus is *the recording* (see e.g. Gracyk (1996, 7)). Studio albums (and actually also several live albums⁸) are pieced together, manipulated and edited from the 'raw' record-

⁸A few examples: Thin Lizzy's *Live and Dangerous* (Vertigo Records, 1978) is one of the most heavily edited 'live' recordings, overdubbing several passages in the original concert material (according to Stuart Bailie's cover notes for the remastered edition, Mercury, 1996). Jonatha Brooke's *Live* (Bad Dog Records, 1999) had fretless bass tracks added to the songs "Because I Told You So" and "At the Still Point" during studio editing

ings to create sonic wholes, and although rock bands may also perform live, their efforts are measured against this 'sounding work' they have created in the studio (which is why some bands perform live against a "back track," a pre-recorded part of the music, see e.g. Gracyk (1996, 41)).

The musical work in the context of rock music is, according to Gracyk, simply identified with the recorded work. The idea of a normative entity helping the musicians shape the recording is downplayed in his analysis. Some songs are of course written in advance of the studio sessions, but the opposite seems more common to Gracyk. Gracyk (1996, 47-48) quotes Karl Wallinger from the band World Party as describing the processes of composing and recording as interwoven: "[the songs are] being written *as* they're being recorded, and they come together mainly in bits [...] I don't iron things out, organize them, cut a demo and then do the real thing." Dream Theater have also explained of several of their albums from 1999 and onwards that they have been composed in the studio, more or less simultaneously with the recording process (see Portnoy (2009, entries #3, #12 and #20)).

Stephen Davies is, as I have briefly touched upon in 2.2.1, more keen on regarding the studio recording as a performance, rather than a work in itself. It is a special type of performance in that the audience is not present while the actual performing is being done, but it is something presented to an audience, and something that has a relation to a work that goes before it. (This is why it makes sense to speak of different recordings of the same piece of music.) On the other hand, Davies still holds that some studio recordings are indeed works, namely "electronic works" (see the distinctions Davies (2001, 7-8)). They are works which the specific sound structure is such an integral part of that it is not possible to perform them in any other way. In short, they are "works not intended for performance," as opposed to the works that are intended for performance, or rather, can be performed in more than one way.

Evidently, Gracyk is emphasizing the way certain recordings are being composed while recorded (as in the Karl Wallinger example) to show how the musicians involved want the music to sound in a specific way. The musicians are involved in making a sonic product, not an abstract composition that will then be the basis of a recording. In this way, composing in rock music

⁽according to Brooke's own cover notes). Dream Theater's *Live at the Marquee* (Atlantic, 1993) uses several overdubs to cover mistakes in the original concert (see Dixon (2007, answer to the question "Are there any overdubs on DT's live albums?", see http://faq.dtnorway.com/question/1061)).

is analogous to composing "electronic works" (e.g. "tape music") in Davies' sense of the term.

The question is whether or not it makes sense to say that pieces of music thus composed can be normative entities, that is, entities allowing and affecting other performances of them than one that would duplicate the recorded piece. I hold that it *does* make sense for the reasons that follow.

Suppose that someone composes a piece of music, either in the sense of imagining some structure that he then tries to realize in a performance, or in Goehr's pre-Romantic sense of 'putting something together' in the moment. Would we not grant that it is possible for another musician to use this "model performance," to use Davies' term (Davies (2001, 21)), as a starting point for another performance, distilling principles for performance of the 'composition' from the original one? If we do grant this, why should it not similarly be possible for a musician to distill rules from a recorded work as well? And what difference does it make, how the recording was made, if the musician accesses it as a recording pure and simple, that is, a piece of sound which he may let himself be inspired by?

It may be difficult to imagine how rules for performance can be distilled from a recording of, say, 1960s tape music, because this music will often be pieced together from sounds that were not originally 'performed' with the eclectic work in mind (e.g. everyday sounds of traffic, animals, speech on the radio, static noise from electronic equipment etc.) It is at first glance difficult to 'interpret' these individual sounds as sounds produced with anything else in mind than the specific sounds we hear. Yet, even when we think of "real sounds" such as bird calls, bear growls, the sound of heavy traffic, rain etc., these are all sounds that can be imitated with slight variations. Static noise, car sounds etc. can be imitated in different ways that are, however, still recognizable as the sounds they reflect. Even a specific bird call, e.g. the song of a chaffinch, can occur in several variations that are nevertheless still distinctly recognizable as chaffinch song. So maybe the tendency to dismiss the possibility of performing 'interpretations' of e.g. a sound collage (rather than playing back a tape) merely reflects that musicians usually do not take on this task?

Within studio rock productions, it may be, as can be derived from Gracyk (1996, 47-48) that there is not a sharp line between recording demos of a song and producing the finished studio recording, since sounds from the 'demo' may end up on the finished album. The "demo" (the "demonstration recording") is, however, not a phenomenon limited to rock musicians working

on an album. The unsigned artist, or even the artist who has a record contract, may still work at home or in the rehearsal room on a piece of music and record a quick "demo" of it, in order to a) present it to the other musicians in a band, or b) remember it for later. (I am ignoring here the other use of the word "demo" which covers an unsigned artist's promotional recording.⁹) Option (b) is of course also relevant for a band recording their efforts in the rehearsal room.

In the unrecorded rehearsal, a musician may play something in a way that the others like, but that he cannot subsequently repeat. In contrast, frequently recording demos (of a good sound quality) enables the artist to go back and find this well-played bit, and either use it as a reference or simply save the recording for later use in an actual studio recording. The ability to save and use specific recorded passages later does not necessarily show that musicians do not treat such recordings as examples of how something *can* be played, rather than mere sounds that can be used as building blocks in later work.

Most composers today, especially within pop, rock and metal, compose at the computer, using music software whereby they generate a sonic model of the arrangement, rather than a written score. Quite often they use the same music software which is used in the production of studio recordings. Rather than merely piece ideas together in their heads, the software tools enable them to create sound examples of these ideas immediately, and piece them together in the medium of sound. In some cases, a demo recording in such a software environment is considered an arrangement for further development. Keyboard player and main composer of the progressive metal band Threshold \triangleright , Richard West states in an interview, I did with him for *Heavymetal.dk* (Frimodt-Møller (2007b)) that

[...] when the demo's complete, it's got me singing, it's got programmed drums, it's got programmed bass, and then keyboards and guitars. So the band can hear exactly how the song sounds. But you need to have good ears, because you have to understand how it will sound with the real singer and the real drummer. But Johanne [James, drummer] will take the basic idea of what we've programmed, and then he'll make it his. Again, same as Steve

⁹Or, to quote meaning 3b of "demo" in *Merriam-Webster's Online Dictionary*, "a recording intended to show off a song or performer to a record producer" (http://www.merriam-webster.com/dictionary/demo)

[Anderson, bass player], he'll just bring it to life, and it's really fun. It's nice when...First you hear it in your head, you got this song, and now it takes you about a week to download it onto the computer from your head. You just need a USB-cable from your brain, it would be so much easier. And then you have this demo that sounds...you can hear what it's gonna be like. And then the band come in and they play it, and the song starts breathing, and it's a lovely feeling.

The formulation "but you need to have good ears" cancels the importance of "exactly" in the previous sentence. The idea seems to be that West's demo is a type of model performance that exemplifies the arrangement, but does not settle it in every aspect. (Depending on whether or not one accepts the musicians the demo is presented to as an 'audience', it is debatable whether it makes sense to speak of a "performance" here, unless we settle for the act of "presenting to" as the essential part of performance, rather than *who* it is presented to.) On the other hand, West's implicit dichotomy between the demo in which you can hear what the performance is *going to be* like, and the performance where the song "starts breathing," suggests that the demo is a type of sonic score, not yet a (studio) performance. In any case, the (other) musicians *take* the demo as an entity from which they can distill norms for performance.

In some cases, it might be unclear – even to the composer – whether a demo is intended for reworking in group performances, or whether it should be considered a sonic product in its own right. Something that is originally intended as "just" a demo, may end up being released as a (studio) performance in its own right¹⁰, although it may still be the basis of further performances as a model performance. Because it is often a matter of co-incidence how much of the original demo recording ends up being part of the finished (studio) product, we might simply understand the demo as one possible performance, which may in differing degrees be taken as a model performance for more 'refined' performances, but may just as well be left alone and regarded as an early attempt at 'capturing' the piece.

Regardless of whether a recording is considered an example of an arrange-

¹⁰The song "Nauticus (Drifting)" \triangleright by Pain of Salvation from the album *Be* (InsideOut, 2004) is, according to the commentary track on the live-DVD, *BE – Original Stage Production* (InsideOut, 2005), recorded as a demo with Daniel Gildenlöw just singing several layers of vocal into his computer, but has ended up, unedited on the finished album.

ment of a piece of music, or if it is regarded as a definitive version of the piece, the act of composing is, in both cases, *normative*: When presenting a demo for other the consideration of e.g. other musicians, the composer is indirectly saying, "this recording is in some ways exemplary of what I want the piece of music to be like." If the composer regards the first recording of the piece as a finished product, then he is certainly indicating how he thinks the piece *should* sound. In this sense, musicians who compose music by piecing together sound (whether recorded or programmed) may be perfectly conscious of their composing as an activity separate from that of performing.

The focus on the "occasion" that Goehr claims was more common in pre-Romantic era composing may arguably hold among film and TV composers, but otherwise, some degree of "work" or, as I will prefer, "composition" consciousness seems to be the prevailing stance among composer-musicians today.

3.4.1 Unfinished Compositions

The question of the main section, "Is Composing (Always) a Normative Activity?" can, however, not be straightforwardly answered in the affirmative. Doubtlessly, the *finished* composition is always in some ways a normative *entity*, regardless of whether the process leading up to its completion consisted in laying out rules for performances or piecing together sounds in a studio recording. But is the *activity* of composing similarly to be regarded as necessarily normative? Consider the following four cases:

- 1. A classical composer, e.g. from the early 19th Century, writes down an outline of a piece of music for his own purposes, intending to work on it later. The composer dies before he gets to finalize the ideas from the draft in a finished score. Several years later, perhaps even 100 years later, the draft is discovered, 'blanks' (if any) are filled in by another composer to create a real score, and performances are made based on this score.
- 2. Similar to 1, except that no one makes any changes to the composer's draft. The draft, appearing as detailed as a finished score, is used directly for performances.
- 3. A rock musician records a demo of a song (or rather, ideas for a song) for his own purposes, e.g. to remember it so he can work on it further

at a later point. The rock musician dies before he reaches this point. Other musicians take the recording, add new tracks to it and issue it.

4. Similar to 3, except that the original recording is issued as it is. Other musicians listen to 'the song' and base a recording of their own on it.

In all of (1), (2), (3) and (4), the original composer is, arguably, not done with his composing. If the composer did not consider the composition done, does it still make sense to say that the draft score or demo recording he has left behind represents what he wants his "work" to sound like? Or, if we look at a more general case, is a composer engaged in a normative activity, if he is *experimenting* with different ideas, e.g. at the piano, not having settled on one to use in a finished piece of music? If we want to maintain the possibility of unintended actions, the answer is clearly "no." Yet, also in the case of some (more or less) intentional actions, such as in improvisation, it does not always make sense to say that the musician's act of 'composing' is a normative one.

One could insist that the term 'composing' is reserved for a normative activity, but thereby one would lose a name for whatever it is a composer does *before* a composition is eventually finished.

Once we grant that composing is not necessarily a normative activity, we suddenly have a different kind of problem: Can the unfinished compositions in (1), (2), (3) and (4) still be considered normative entities? In order to answer the question, let us compare the different cases.

In (1) and (3), it would at first glance make sense to say that the 'finished' piece – embodied in the edited score or reworked recording – is composed by both the original composer and the editor. It may be that the act of composing on behalf of the dead composer was not a normative activity, but the second composer's efforts are, and the issued 'end product' certainly is a normative entity. (An example from a classical context could be Mozart's *Requiem*, completed by his pupil Franz Süssmayr, an example from the context of rock music, the songs "Free as a Bird" and "Real Love," the basic parts of which were demos by John Lennon, overdubbed and supplemented by new material almost 15 years after his death by his former band mates in The Beatles.¹¹)

 $^{^{11}\}mathrm{The}$ songs were released on the Beatles compilations Anthology 1 (EMI, 1995) and Anthology 2 (EMI, 1996), respectively.

What, then, about (2) and (4)? If the composer does not feel that he is 'done' composing, and if what we have on record or paper may possibly only be his 'experiments', his act of composing is, arguably, not normative. But does the same go for the unfinished composition as an entity?

In the case of (2), it seems that the predicate "unfinished" does not affect the normative character of the instructions in the (draft) score (although it may affect the degree of freedom we allow ourselves when interpreting the score, since we may sometimes assume that the composer was not quite sure about certain passages himself). Schubert's Unfinished Symphony is an example of an unfinished composition that is certainly regarded as entailing norms for performance. The distinctions get slightly more complicated, if we look at unfinished compositions within rock music:

An example of the case in (4) is the songs on the double CD Sketches for My Sweetheart the Drunk (Columbia, 1998), a collection of unfinished recordings for Jeff Buckley's second album (tentatively titled My Sweetheart the Drunk). Buckley drowned before the album was done, and we do therefore not know, if the song "Nightmares by the Sea," \triangleright as it appears on the CD set, sounds as Buckley wanted it to sound. This did, however, not stop the Swedish metal band Katatonia from recording a cover version of "Nightmares by the Sea" \triangleright on their album Tonight's Decision (Peaceville Records, 1999).

Firstly, it makes sense to say, given that Buckley made the original demo recording, that he is (given our information) its composer (regardless of whether "composing" is here synonymous with piecing together sounds or figuring out principles for creating sounds). Secondly, it makes sense to say that "Nightmares by the Seas" is a composition, although we do not know to which extent Buckley regarded it as "finished." Thirdly, whether or not "Nightmares by the Sea" is an unfinished composition, it makes sense to say that Katatonia *treated* the track *as* a normative entity. They distilled rules for performance from the original recording, and used these to create their own (studio) performance.

Theodore Gracyk, writing in the context of rock music, distinguishes

[...] between an artist's musical activity and something more specific, namely the *works* that the artist *sanctions* as items for appreciation and critical evaluation. [...] We distinguish finished from unfinished works. Bruce Springsteen put a lot of music on tape in the process of recording *Born to Run*, including a version
of the title track that has a double-tracked vocal and a string section. But that completed track is not one of Springsteen's works [...] (Gracyk (1996, 35))

Gracyk is of course treating the recording as "the work" here, which is why he downplays the fact that the songs on *Born to Run* may entail norms for their performance that were settled before the recordings took place. His Springsteen example is different from my Jeff Buckley example because Springsteen's 'composition process' in the studio was finished, and the early versions of the songs on the album can be identified as – exactly – early, not definitive versions of these songs. These "alternate takes" are little more than experiments in the studio – experiments that just happened to be recorded on tape so that other people could here them later. Could the same, however, not be said of Jeff Buckley's recording "Nightmares by the Sea"? If so, what makes the latter recording normative, and not Buckley's unrecorded rehearsals?

The interesting distinction is not, as Gracyk seems to indicate, between finished and unfinished works, but between issued and unissued works. The moment a work is issued, it is out there for people to interpret, regardless of what the composer wanted them to be. This is no different than the similar case within literature: when an author gets an unfinished text published posthumously (take Franz Kafka's *Amerika* as an example). Once a score or recording is issued, the inherent structures resulting from the act of composing are normative, regardless of their status as finished or unfinished.

There are further questions to consider the moment we ask the question: What is a composition? Even though what a composer presents to us will often be a specific *arrangement* (scored, performed or recorded), we cannot straightforwardly identify this arrangement with *the* composition. If we want to maintain the right to speak of e.g. different arrangements or interpretations of a composition, something can apparently deviate from the composer's original arrangement and still be 'of' his composition. In other words, the composition is in some cases *distilled* from the specific arrangement. In chapter 6, I discuss the complications with respect to determining when such a 'distillation process' is a way of revealing the 'actual' composition, and when it amounts to a new composition process on behalf of the musicians. One may, for instance, ask in connection with Katatonia's interpretation of "Nightmares by the Sea," whether they, by their assessment of which features of Buckley's recording to 'keep', that is, 'imitate' and which to vary, were co-defining the characteristics of that composition. In other words: Were they co-composing "Nightmares by the Sea"? I do not claim to give an easy answer, but I will, in the aforementioned chapter, suggest a number of factors that are relevant to such a classification.

Chapter 4

Compositions from the Perspective of a Listener

So far we have considered different views of what it means to *compose*: Composing as "discovering" good ideas for making music, e.g. "gestalts," composing as "piecing together" sounds or ideas for sounds, and, most importantly, composing as a normative activity, that is, an activity that includes putting forward rules for how musicians should act in specific performance (or recording) situations. Intuitively, composing results in *a composition*. But what exactly is a composition? I have already hinted at the end of the previous chapter that the individual composition is not identical to a specific arrangement (scored or recorded), but something inherent in this arrangement. Yet, there are often very different ideas of what this "something" amounts to - in other words, different views of what a specific composition really 'is'.

In 3.4 I discussed Lydia Goehr's thesis that the idea of a *work* is something that have generated along with the composer-musician's desire to have his efforts treated on a par with the works of a painter. Originality in music has, according to Goehr, not been an important idea before composers started regarding their 'product' as a unique entity with them as the source (Goehr (1994/2003, 220) cites the Oxford English Dictionary as dating the first documented use of the word "plagiarism" to 1797). I agree with Goehr that the concept of a "work" in music is problematic, and shall, in section 4.1, lay out the important ways in which I think the composition differs from the "work" within other arts. I do, however, think that there are other reasons why we need the concept of a composition as an "original" product of a composer (as opposed to the historical reasons listed by Goehr and Small (1998)). These have to do with the way a *listener* engages with music. This will be the subject of 4.2.

4.1 Works of Art

The word "work" entails, etymologically speaking, a "worker," someone who has actually made the work. In that sense, a work is considered a product that is the result of some craft. For some reason, this is often ignored when philosophers talk about musical works. Works are primarily considered as objects that the listeners either have or try to gain access to while listening. The existence of a specific composer who has written a piece of music may even be regarded as accidental, as is reflected by the Platonist view of composing as a mode of "discovery" (see 3.1). This view aside and ignoring etymology, let us look at what "work" has come to mean in relation to music and why.

The concept of a work within classic, visual arts such as painting and sculpting, is closely tied to the material product made by the artist.¹ When we see photographs or reprints of such artworks, we are aware that we are not looking at *the* work, but some tokens of it. (Informally, some might answer "yes" to the question "have you seen the 'Mona Lisa'?" although they have only seen photographs of it, but those who want to be precise would typically answer something along the lines of "not in real life, but I know what it looks like.")

Within literature, the work is a linguistic structure inherent in all of the products that are individually referred to as identical to "the work" (a similar point is made by Wolterstorff (1975, 118)). It might be a logically possible position to think of the different prints of a book as mere recollections of the actual work which is the first, finished manuscript by the author, but such a position has the unappealing consequence of excluding from the realm of works those that have not been written down in one, clearly defined original manuscript (e.g. *The Iliad*, attributed to Homer, was known through an oral tradition long before its first publication²). It seems more intuitively appealing to regard the structure of a work of literature as qualitatively identical to the structure of each of its printed 'instances' (disregarding typing

¹This is reflected e.g. in the influential discussion of copy vs. original work in Benjamin (1980)

²See for instance Minna Skafte Jensen (1980, 91-92).

errors or omissions in specific editions).

Neither of the criteria for work identity within the realms of visual art and literature apply trivially to musical works, as will be apparent from the discussions in the following.

Intuitively, if I hear a recording of a live performance, I might be aware that I am not hearing the performance itself, but a sonic product indexically related to it. The often different sound quality (better or worse) and the fact that I cannot see the performers make the listening process radically different from what it would be at the actual venue. (Even watching a concert on DVD is a very different experience from physically being at the same concert, because the director/editor of the film has chosen where our gaze should be directed in different situations.) Yet, I would still say that I am listening to *the work* being performed, regardless of the possible shortcomings of the medium. In this way, it seems that musical works are closer to literary ones in not being tied to a specific entity in a fixed area of time and space.

Unlike both literary works and original paintings, however, we do not have access to the musical work by 'direct' experience.³ As I discussed in 3.4, Davies (2001, see e.g. 7-8) regards some works as "not intended for performance" in the sense that their structure is so tied to a specific sound structure that it is impossible to interpret them in more than one way (e.g. specific sound collages produced in the studio). If such works really exist (I have indirectly argued that they do not, since interpretation is still a logical possibility, even with recordings using samples of everyday sounds) we would be able to experience the work 'in itself'. In all other cases, however, we cannot directly 'hear' the structure of a musical work merely by listening to one specific sonic product such as a performance. For reasons I will return to shortly, identifying a musical work requires the listener to *abstract* from the sounds heard – not necessarily a linguistically structured process, but in all cases some recognition of patterns or figures inherent in the sonic product.

(It is of course a question, and indeed a central one in this dissertation, whether a work is really a *specific* structure that can be heard in all performances 'of' it. I do not think this is the case. Several very different performances with very different sonic traits can be "of" the same work, even

³Of course, the theatrical play, being a subspecies of the literary work, *would* qualify as a work we normally do not experience directly, but, as with a musical work, mediated by a *performance*. I will return to the obvious similarities between the realms of theatre and music with respect to judging the faithfulness of a performance to the work itself in 5.

if there is not a distinct set of features that are sonically identifiable across all of them. I will elaborate this view in chapters 5 and 6.)

In spite of the differences between musical works and works of visual art or literature, the way philosophers have generally dealt with musical works tries to map similar discussions within the other arts onto music. Drawing on the material view of the work within visual art ⁴, some theoreticians have, for instance, chosen to define the work as synonymous with the original, if possible, handwritten, score of the composer. This is an unappealing theory for several reasons. Apart from the practical one of identifying the original manuscript of a given work, there is also – as with literary works – the problem of the many works that have not been written down. I will return to a more thorough discussion of the differences between works and scores in 5 and 6, although some of the differences will also become apparent in the present chapter.

In short, the musical "artwork" is difficult to grasp in terms of the aforementioned arts, because music is a performative art: We cannot distinguish sharply between work and performance in the same way as we can distinguish between painting and reproduction or literary structure and individual book copies. Even in the case of theatrical plays, although there may be discussions of whether a particular performance is faithful to the *ideas* of the author, there will normally be a quite clear structure of plot and/or dialogue in the play that is identifiable in all of the performances (at least clear compared to the similar work-performance relation within music). Identifying the characteristics of a musical work is no trivial matter, because it is intimately connected to individual interpretations and valuations of the music being analyzed.

In order to reduce the amount of associations to other art forms, I prefer using the term "a composition" to denote the original product of a composition process. Because most of the existing literature in the field of music philosophy use the term "work," I will, however, have to apply the word frequently in my discussions of other people's theories.

⁴I disregard here the common point of view that a work of art is really the "concept" behind, say, the visual product, in other words, what the work is "meant" to do to its audience. This is particularly the case within *conceptual art* (see e.g. the entry on conceptual art in *Merriam-Webster's Online Dictionary*, http://www.merriam-webster.com/dictionary/conceptualart.)

4.2 Why Should Listeners Care about the Concept of a *Composition*?

The previous chapters have already opened the discussion of how compositions, or rather, how musicians conceive of them, have a normative influence on virtually every aspect of ensemble coordination. What I will show in this section is that even if we ignore the relations between musicians and the music they perform – a quite difficult task – we cannot avoid a specification of the composition as a normative entity.

Assuming that a person encounters music not as a musician, but as a mere listener, what relevance does the concept of a composition have for her? First and foremost, it is a means of classification. Let us say that I hear a song on the radio that I have not heard before. If I am paying attention, I might like the song, not like it, or be unsure of whether I like it or not – either way, having paid attention to the music, I wait to hear the announcer tell me which song it was. Let us say that the song in question was "Cold Sweat" by James Brown in a specific live version. If the announcer tells me exactly which album I can find it on, I now have a classification of a particular performance that I can use to find and buy the song (or the album it is on), if I like it. So far, I have had no need for a composition (or work) concept, since it is a very specific piece of produced sound I will be looking for at the music store or iTunes.

But let us consider the situation where the announcer only tells me that the song I heard was "Cold Sweat" by James Brown. In this case, I will have to browse through several recordings to try and find the one I just heard. In this process, I might find other similar live recordings of "Cold Sweat" that I instantly find better or worse than the one I heard on the radio, or I might even find the original studio version of "Cold Sweat," which is much slower than most of the live recordings, making the finer details of the arrangement more apparent. Perhaps I find the version that I heard on the radio, perhaps not. In any case, I will in this process have considered which of these recordings I find better than others.

At this point, there is no need to assume that my valuation of a given recorded version has anything to do with how "faithful" it is to the original composition (however this may be manifested). I might simply find some versions "groovier" than others. Maybe I like the slow studio version better, maybe I prefer the fast, energetic live versions. But nevertheless the existence of the work "Cold Sweat" by James Brown suddenly becomes important for me. It is the classification of a number of studio or live recordings as being performances of the song that makes it possible for me to find the version of "Cold Sweat" that I like best.

If I am searching on iTunes, Youtube or somewhere else for "Cold Sweat," I might just as well get results for the similarly named songs by Thin Lizzy or The Sugarcubes. It will not take me long to find out by listening to these songs that they are not cover versions of the James Brown song, but entirely different compositions (and have different lyrics as well). If I was only considering which sound structures as such that I liked, I might want to get myself a copy of the Thin Lizzy song, perhaps even thinking that it was more interesting than the James Brown song. But given that I am looking for a recording of "Cold Sweat" understood as the song by James Brown, these other songs are not part of my valuation process. Something separates "Cold Sweat" by James Brown from the similarly named songs, and that something is the composition.

In the above example, I have assumed that I did not know the song in advance. Let us say that I *have* actually heard a rendition of a particular piece of music before. In this case, I might already have formed an opinion of what sort of renditions of that particular piece of music that I like, and which I do not. So I might instantly be able to classify the song as "Cold Sweat" by James Brown, but at the same time attach to it a value in relation to the other version(s) of the song I have heard in advance. In fact, when I classify something as belonging to the class of performances associated with a particular work, I immediately start evaluating the performance in question.

As in other areas of aesthetic perception, my taste grows more refined the more versions I am subjected to, and I will eventually form ideas of what I think a performance of a given work should satisfy. Within gastronomy, if I have tasted many different chocolate chip cookies, I will have formed an idea of what I think a chocolate chip cookie should ideally be like, or rather, which properties I find acceptable and praiseworthy in a chocolate chip cookie, and which not. It could be that at a given time, I actually prefer a good lemon cookie, but that would never prompt me to say that the lemon cookie was a better chocolate chip cookie.⁵ Similarly, the more versions of a piece of

⁵In a discussion of music perception, Cynthia M. Grund (1997, in the chapter "Intentionality, Food and Music: A Fictionalist Approach') makes a related general comparison between the aesthetic consumption of "food" vs "foodstuffs" and "music" vs "sound." Through her discussion she argues for the experience of "music" as a result of a particular

music, say Vivaldi's *The Four Seasons*, I have heard, the better my idea of what I think is acceptable as a rendition of that work and what not. It could be that I would much rather hear Shostakovich's 5th Symphony \triangleright , but that does not make the latter a better rendition of *The Four Seasons*.

To sum up: Distinguishing between different compositions is important to the listener because of the eventual desire to find or avoid music experiences. Logically, at the stage of mere identification of the composition being performed, we do not need to have an opinion of what we like or do not like as a performance of that composition, but in practice, it seems that one thing more often leads to the other.

4.3 The Normativity of a Composition – from a Listener Perspective

So far, I have considered how I may gradually form *personal* standards for what I find acceptable as a performance of a composition. The standards I have been considering have all been based on individual taste, and this taste has been formed by exposure to different performances or versions of a piece. Given our considerations so far, there is no guarantee that these standards will coincide with the generally accepted standards for "authenticity" or "faithfulness" to "the work" in a performance. In fact, nothing will make us reflect on authenticity as long as we are only concerned with what we personally like to listen to within a given domain defined by the composition. (The controversial notion of "authenticity" will be one of the main topics in chapter 5.)

Our standards for work classification and evaluation transcend our personal taste the moment we encounter *a mistake*. Identifying a mistake is not the same as identifying something that I do not like. When I hear something as a mistake, it is because I take it to be an unintended mishap, either one that occurs spontaneously in the performance itself or one that has taken place in the interpretation process that went ahead of the performance, e.g. when a musician has misread a passage in the score and internalized the mistake (a bit like the difference between a math student's pen making ink spots on the paper and the same math student having errors in his equations).

attitude toward the sounds heard.

Because I am aware that the performers may have a different set of standards for what they like, I do not regard certain elements of a performance as mistakes, merely because they would not be part of my own 'favorite version' of the work. Neither do I regard something as a mistake, simply because I do not like the sounds in question. I might not like a particular passage in a Mahler symphony, but that has nothing to do with whether or not I identify a mistake in that passage. In other words, when I identify mistakes, I identify them in relation to the composition. The fact that the trained listener is able to perceive certain sound events as mistakes points to the composition as a normative entity, something that defines what is desirable, and what is not acceptable as a performance of it.

Although I am mainly considering the perspective of the listener in this chapter, I must stress that by "desirable" and "not acceptable," I do not solely mean "desirable" or "not acceptable" for the listener. As I will argue in chapter 5, the *intention* of the musicians to play a specific piece defines their performance as being of that piece, regardless of how the listeners respond to the performance. The musicians are listeners themselves, and their own assessment of their sonic output is of course an important factor in how a performance and future ones are shaped, but it is not a factor relevant to an ontological classification of the performance: A performance can still be "of" a composition, even if it violates some of the rules stipulated therein.

Musicians do, however, have intentions to achieve certain sonic results and possibly reactions from the audience. When the goal is to perform a given work, the work defines a lot of these intentions. In short, the musicians do want the listeners to be able to recognize something as a performance of Beethoven's 5th Symphony, if this is what they are trying to play. They do actually restrain themselves and try to act in accordance with the rules for performance they think are central to the composition. The extent to which they succeed is, however, not relevant to an ontological classification of the composition-performance relation. On the other hand, once a listener recognizes a performance as being of a given composition, the rules of the composition (as the listener conceives of them) help them evaluate the quality of the performance.

4.4 How Do Listeners 'Get to Know' a Composition?

Musicians obviously access the rules of the composition more directly than listeners, because musicians have acquainted themselves in advance with a score or model performance entailing norms for performance (some of which constitute a composition). But could it not be possible for the listener to acquire knowledge of what this normative structure is, simply by distilling it from a vast collection of performances? I do not think this is trivially so.

Although musicians themselves distill norms from model performances within e.g. folk and jazz music, there is a crucial difference from this distillation process and one the audience (in virtue of audience) can perform. The musicians are interested in norms that can help them perform music that will get reactions within a certain scope from the audience. Hence, the way they conceive of the norms of the composition is shaped not only by what they regard as important features of the music from a listener's perspective, but also which possible instructions will make sense as general lines of action for the performance – both at the technical level of producing sound and at the level of forming strategies for solving coordination problems:

For the musician, the composition is not just a set of rules pure and simple. It is a prioritized set of rules – a 'to do-list' where some goals are considered more important than others, although they are all, at least loosely speaking, part of the composition. These rules indeed define mistakes for the listeners as well as the musicians, but because the priority ranking of rules is mainly relevant for the musicians (when pushed into coordination problems), the mere listeners will seldom gain access to this ranking, except if they have considered 'what *they* would do' if they were musicians performing this piece and had to make a choice between the fulfilments of two different rules.

That being said, it is not logically impossible that listeners who have heard a sufficient number of sufficiently varied interpretations of a piece are able to figure out a set of norms, even a prioritized one, that coincides with the composition. "Sufficient number" and "sufficiently varied" are, however, quite extreme restrictions: To avoid confusing elements of the performance tradition of a given period with elements in the composition itself (the composition might in some cases not be tied to such a tradition, even though this often takes the testimony of the composer to establish), the listener must have heard examples of performances within several different performance tradi-



Figure 4.1: Passage from the opening part of Jean Sibelius' violin concerto (the pencil markings are my own, made during rehearsal.)



Figure 4.2: The same passage notated as it is often played by violinists, even in recordings.

tions, past and present (and, strictly speaking, future ones, although this is of course impossible).

The latter is an important, and perhaps controversial point. I think that in some cases, one has to hear an innovative interpretation of a piece that one instantly accepts as a performance of the piece in order to realize that the piece could be played this way, or, as a consequence, that the rules of the composition could be prioritized in this way. Such omniscience is generally impossible for the listener, but I grant that very apt listeners with a broad taste and an open mind with respect to music may sometimes be able to identify at least some of the norms of the composition by mere listening. It is, however, the case that the musicians, navigating in the space between the composition as a pre-existing set of prioritized norms and the sonic product delivered to the listeners, in virtue of their position have a much clearer idea of which norms are inherent in the composition and what their relative importance is.

I am of course aware that musicians sometimes relate rather superficially to the compositions they have to follow. Take for instance the first movement of Sibelius' Violin Concerto. In the opening part, the violin has a particular phrase in which the notes are subdivisions of a triplet spanning two quarternote beats (see figure 4.1). In most recordings, however, the passage is played approximately like I have notated in figure 4.2. An exception is the recording by Leonidas Kavakos (2000) as part of the record label BIS' complete edition of (performances of) Sibelius's works. This recording occurs alongside a recording based on an earlier version of the score, which Kavakos was exclusively allowed access to. It seems that Kavakos has been intent on respecting the instructions as they appear in the score. Considering that the passage described in figure 4.1 is not more difficult to play than the one in figure 4.2 (even for an amateur violinist such as myself), what reasons may the majority of violinists throughout the 20th Century have for deviating from Sibelius' notation?

Many may find the variant notated in figure 4.2 more easy to 'fall into' than the one that requires counting the rhythm in triplets for half of the measure, but I also consider it possible that the 'traditional' deviation from Sibelius' score is due to the way violin masters rehearse with their soloist students.⁶ These violinists are prompted to learn the piece by heart, a process that, informally, will also involve listening to other performances, including the teacher's interpretation of the piece. This way, a rhythmical imprecision in relation to the score (an imprecision that may have its origin with the teacher's teacher or the teacher's teacher's teacher etc.) can become internalized not only in the routines of specific performers, but, to some extent, in the whole performance tradition of that piece.

If a listener or a musician (in virtue of listening) has come to know the Sibelius Concerto from listening to recordings by several of the great violinists of our time, there is a risk that s/he will have formed the idea that the passage in figure 4.2 is reflective of the composition itself. It thus seems that the 'learning by listening' approach to classical pieces runs the risk of making unintended deviations from an arrangement quasi-authoritative. Strictly speaking, the same problem prevails in rock and jazz traditions: Something that is initially unintended, might be adopted as part of the 'standard' interpretation of a piece through repetitions in subsequent performances. Yet, because "learning by listening" is often the *only* way of learning a piece of music within the aforementioned genres, there will generally be a higher level of attention to the (first) model performance than the (presumably lower) level of attention to the score in the Sibelius example.

Whether or not the score or model performance actually reflects what constitutes the composition is a different matter. I subscribe to the view

⁶Thanks to violinists Ilia and Jevgenij Skuratovskij for introducing me to this example.

that model performances and scores are arrangements of compositions, not the compositions themselves for the reasons that follow in the following subsection. Yet, even if we allowed the claim that the score or model performance was *supposed to* reflect every aspect of the composition, a model performance may have traits that are unintentional (on behalf of the composer-musician), and a score may also include mistakes in the notation.

4.4.1 Will Consulting a Score or Model Performance Help the Listener?

In the context of classical music, the score (if any) might be of great help to a listener when analyzing a given piece of music, but this is not the case in general. As discussed earlier, a composition might not be notated, but more importantly, the composition cannot be specified completely by the (original) score related to it. Although this is the conclusion of some philosophers (such as Nelson Goodman (1968, 186-187)), it is easily refuted if we grant that interpretations of a "work" are still performances of that work. If a performance involves a personal interpretation of a work, it will at some point omit features specified in the score or include features not specified in the score (if there is any). But if the work structure was completely identical to the one specified by the score structure, such alterations would mean that you were no longer playing the work in question.

If we are to be consistent, we must grant that besides the "original version" of a composition there can be several interpretations of it that deviate to some extent from the structure of the "original" (or, to say it more clearly, the original attempt at notating – or performing – the work is exemplary of one possible arrangement of the work.) Roman Ingarden (1986) seems to arrive at the same idea through his point of view that "To the same extent that a sign is different from the object it designates, a score is different from the musical work that is designated by it" (Ingarden (1986, 39)), his observation that "composers are not generally good interpreters of their own works" (Ingarden (1986, 117)) and his later remark "The work itself remains like an ideal boundary at which the composer's intentional conjectures of creative acts and the listener's acts of perception aim." (Ingarden (1986, 119)). Davies (2001, 103) makes a similar point in comparing the relation between score and work with that of a portrait and its subject: We may point to the portrait and speak of the person portrayed, as if the portrait conveyed his or her presence directly, although we are perfectly aware that this is not necessarily the case. Similarly, we often speak of the score as if it were the work, although we are aware that the score must be interpreted in relation to a context if we are to derive any information about the work itself from it (the latter is my formulation).

Another reason for the difference between score and composition is that the rules of the score are not in themselves prioritized (the raga being a possible exception – see fig.3.2). The rules of the composition as understood by the musicians, however, are. It is my belief that the properties of a composition as such are therefore only determinable by someone who is actively reflecting on the relative importance of the instructions guiding the performance. Because the musician is actively engaged in applying these instructions or rules to a performance, s/he will have an advantage over the listener in such a query.

Similar differences hold between model performances and compositions. We do, of course, not have any problems distinguishing between the two, if we hold that the model performance is, exactly a *performance* of the composition, not the composition itself, but for those who consider the particular sonic properties of the model performance (e.g. preserved in a recording) 'definitive' of how the composition should be played, it is worth noting that the model performance is (at least) as much one out of many possible arrangements of a composition as a score is.

4.4.2 Other Factors Affecting a Classification through Listening

Most people will know how factors external to the actual sounds we hear shape our total experience of a piece of music: E.g. one's mood or degree of well-restedness in advance of a concert, whether one finds some of the musicians unsympathetic, or if we associate unpleasant experiences (e.g. breaking up with a girl- or boyfriend or a family death) with a particular song. Stephen Davies (2001, 47-57) argues that in a basic sense, we actually *have to* be influenced by certain factors 'external' to the experience of sounds:

The characteristics we experience as belonging to a specific piece of music depends on our prior understanding of the context of the piece – not just the historical context, e.g. its relation to other works at the time of composition,

but also the context of the specific format the work is presented in. To recognize the recapitulation in a sonata movement as a slightly altered repetition of the exposition, and not an entirely new section with no relation to the previous music, requires a prior understanding of the sonata tradition. Thus, such a piece of music can simply not be characterized correctly if considered as an abstract structure (and certainly not as a mere occurrence of sounds) isolated from the tradition in which it occurs.

I agree to some extent with Davies' argument, although it is a point of debate whether we only have access to a piece of music through having understood one specific tradition. Suppose I have never heard anything else than progressive death metal all my life and suddenly come across the first movement of Schubert's *Unfinished Symphony*. It is perfectly plausible that, knowing nothing about classical music, I will still recognize themes and gestural shapes in the music that I find haunting and that I will, in repeated listenings, still be able to identify as characteristic of (performances of) that work. On the other hand, progressive death metal and the sonata tradition, both having their origins in Western society, have structural similarities in the first place. If one imagines a listener who has never heard anything else than traditional Indian ragas, it is quite plausible that he or she will not immediately be able to recognize the format of a sonata movement in the example above.

In this way, we might say that a given piece of music has rules associated with it, not just for how a person wanting to play it should try to act, but also for how one should *listen* to (a successful performance) of it.

Fred Lerdahl (1992) has discussed how a more detailed understanding of music cognition, that is, how we listen to music in general, can help formulate a "grammar" for composers wishing to write highly innovative pieces without immediately alienating their entire audience. In other words, he assumes that our listening to music follows general rules. To which extent this is true is beyond my present research endeavors. I do, however, wish to highlight (Lerdahl touches this issue briefly) that for the specific work, a knowledge of the work and its musico-historical context (to use Davies' term) aids the listener's experience, constituting (informal) rules, or rather, guidelines for the listener's interpretation:

It is surely the case that we should not listen to one of Bach's *Brandenburg Concertos* in the same manner that we listen to a Shostakovich symphony, because they are written within different performance traditions and have different 'systems' of musical expression (dissonances that are common in virtually every bar of Shotakovich's symphonies would sound dramatic, bordering on catastrophic, in Bach's music).

I will return to a more detailed critical discussion of Davies' contextualism later in chapter 5.

4.5 The Composition as a Normative Entity

As I argued in the previous chapter, composing is a normative *activity*. Hence, it is not surprising that I also regard the composition as a normative *entity*. To be more specific, it is normative because it is, in essence, a set of rules for how to act when constructing the particular performances we say are "of" the composition.

We may tend to identify compositions with specific types of sound structures or specific "gestalts" that we hear in performances, perhaps because these are what we primarily seek as music consumers (wanting to hear specific pieces of music again). As exemplified by e.g. the score in figure 3.1 in chapter 3, specific sound structures or gestalts are, however, not necessary components of a composition (I think it is safe to assume that this particular score cannot be interpreted as denoting one particular sound structure, since it is written within a performance context where innovation in the performance is encouraged.)

Because many compositions are written with particular shapes and structures of sound in mind, it is a criterion of *success* for a performance or recording that the listener is (more or less) able to identify the composition being played merely by listening to the performance. As I will discuss in chapter 5, it is, however, not a criterion for an ontological classification of the performance.

To some extent, we could say, especially with respect to the avant-garde works of John Cage and others, that it is the listener who *chooses* which parts of the work that are important to her, and thus "normative" in the sense of shaping her expectations and listening practices in connection with the piece and its tradition. Being listeners themselves, the considerations of musicians qua (potential) listeners might also shape the ensemble's ideas of which instructions it is more or less important to follow. What is shaped in these processes is, however, not as much the boundaries of the individual composition, but the prioritized ranking of its rules. (A discussion of this aspect will be a subject of chapter 6). Having discussed the inherent normativity in composing music and the normativity of the standards by which a listener mines for and tries to classify a piece of music, we turn now to a detailed discussion of the relation between the composition as a normative entity and the musicians who are trying to base a performance on it.

Chapter 5

The Composition-Performance Relation

So far I have described how composing is a normative activity and how the composition is, in essence, a normative entity. "Normative" here means "normative in relation to performances," in the sense that the performance is guided by the rules of the composition. This might lead some readers to the conclusion that the composition *settles* what counts as a performance of it: If one does not respect the rules of a composition, then one is not playing it. In this chapter, I will argue that this is not the case. The composition might be a list of rules for how one should *try* to act if one wants to construct a performance based on it ("play the composition"), but it is not a set of necessary conditions for these performances.

Further, what settles the relation between a composition and a performance we say is "of" it is not some standard which the listeners are able to classify the performance in relation to. Ultimately, the only relevant factor for an ontological classification of the composition-performance relation is whether or not the musicians intend to play the composition, in the sense of being actively engaged in trying to follow what they think are the rules that constitute it.

The discussion of what constitutes a musical work, how we identify it and relate performances and recordings to it, takes up considerable space in the literature on philosophy of music. The present chapter reads as a critique of these theories with respect to their characterization of the relation between "work" and performance. In my opinion, the use of the word "work" in these theories summons a view of the concert situation in terms of a visit to an art exhibition: We are manipulated into thinking that the only two relevant entities in the situation is the work, understood as a stable, fairly well-defined entity on one side, and the audience on the other. It is not difficult to see how such a view results in placing the authority with respect to classifying the work-performance relation with the audience. I will, however, not criticize the existing ontologies of musical works on the basis of their etymology, but rather show how they are inadequate when we consider the composition/work from other perspectives than that of the audience.

Once we direct our focus to the fact that what we are hearing is, first and foremost, a performance, and once we consider how this performance is constructed, it becomes clear that what ever the composition-performance relation amounts to, it is settled by the musicians.

5.1 The Composition-Performance Relation from the Perspective of the Listener

It is worth noting, that when I, as a listener, identify something as a mistake in a performance (regardless of whether I am right in this classification), I already have an idea of which work is being played, and an idea of which properties its performances ought to have according to my – perhaps traditional – view of the specific composition. Since identification of the work being played is thus a cornerstone of my ability to assess the performance, some philosophers, such as Stephen Davies ¹, have been drawn towards holding that if I cannot identify a given work in a performance, the performance is not of that work. I will discuss Davies' general position with respect to not just classification, but also evaluation of performances in section 5.3, but it is important to show already here how the view is tied to a consideration of the performance from the perspective of the listener.

Of course, Davies' point is trivially the case if, indeed, the musicians are not trying to perform the work in question but some other work. But Davies seems to hold that even if the musicians *are* trying to perform a work, the performance has failed as a performance of the work, if the audience cannot identify it as such. I think this is wrong for two reasons: Firstly, if the audience is judging the performance on the basis of its relation to a work, their verdict must be one that assigns a positive or negative value to the

¹See e.g. his discussion of the role of tempo in performance, Davies (2001, p.59)

performance qua performance of the work. So even if the audience members classify the performance as extremely poor and riddled with mistakes, they do this precisely because they have already established that they are listening to a performance of the work that defines these mistakes. In other words, it makes no sense to say that they suddenly do not hear a performance of the work any more. They do indeed hear the performance as of the work, otherwise they would not be able to identify any mistakes.

Secondly, even if the audience were able to jump from trying to hear a performance as being of a specific work to listening to it as something different and incomprehensible (this might admittedly occur at a jazz, rock or metal concert where the individual song titles are not always announced on stage or specified in a program, and where creative transitions between pieces is common), it makes no sense in relations to *the musician* to say that his performance is not of the very piece he is trying to perform.

One could come up with examples where the musicians wanted to perform one work but accidentally had put the score of a different work on their music stands and hence, as a result, ended up performing a different piece than they intended. But ignoring this type of error, if the musicians are trying to perform a given piece, and the performance ends in chaos because some musicians fail to respond coherently to the mistakes of another group of musicians, no matter how chaotic and incomprehensible the sonic result may be to the listener, it is still a performance of the work in question, albeit an extremely bad one. It is intuitively very unappealing to say that a musician, who makes too many mistakes is not playing anything at all, if people cannot comprehend what he is playing. The musician, put simply, *knows* which work he is playing, and this knowledge does not change because he messes up in his rendition.

5.2 The Concept of Authenticity

An interesting logical consequence of a correlation between the pair of opposites "successful" and "unsuccessful" and the pair "of the composition" and "not of the composition" is that the property of being "of a composition" comes in *degrees*. This is actually the conclusion of Stephen Davies (2001), as I will return to shortly. More specifically, he identifies this degree of 'faithfulness' to a work with *authenticity*. Before we turn to a discussion of how Davies conceives of this concept, let us first look at the origins of the term "authenticity," and how it is generally used in the context of music.

At least two usages comes to mind (at least for a philosopher) when one hears the word "authentic." One is in the context of existentialism: An individual can be said to be "authentic," if she acts in a way that is engaged and representative of the person she is (or should be) aware of being. Another use of "authentic" is in the context of e.g. renditions of events: A historical article, a story or a movie is said to be authentic, if it renders events as they (to some extent) actually happened.² In a way these two uses of "authentic" are closely linked. In the first case, we demand of a person that s/he acts in a way that suits his or her personality, in the second case, we demand of a rendition that its contents suit the 'gestalt' of the actual events. In both cases, something, e.g. an action or a specific product has to be fitted to somehow reflect the properties of some other entity, e.g. a person or a body of events.

Within the discussion of authenticity in music, the two uses are even frequently intermingled: It may for instance be demanded of an authentic performance of a work that it reflects the personality or intentions exemplary of the work's composer, yet because the composer is a person in a specific historical period, this will normally *also* mean that the performance should try to reflect this historical context by adapting to (some of) the features of a performance at the time of the composition process.

Especially in contexts such as jazz or rock, however, the personality a performance is required to 'fit', if it is to be called "authentic," is sometimes not as much the composer's as the performer's. In this sense, authenticity is an ideal for the experience the audience has of a performance – the audience wants the performer to sound as *if* he is really engaged in the performance and not just 'putting on a show', although as Small (1998, 30-38) points out, performers mostly are. Perhaps the reason why the discussion of authenticity in classical music tends to center on the relation between performance and composition, is because the 'star of the show' is here often the composer, rather than the performers (see e.g. Small (1998, 87-93)) – an eccentric performer such as Nigel Kennedy being a notable exception.

Just as it has been a discussion within the traditions of 20th century philosophy to which extent a person can be understood without reference to

²For these definitions, see e.g. the entry on authenticity in *Merriam-Webster's Online Dictionary*, http://www.merriam-webster.com/dictionary/authenticity, meanings 2 and 5.

his or her environment, it is a discussion within music philosophy to which extent the musico-historical context of a composer is co-determinative of his personality as a composer. As we will see, if authenticity is linked to the personality of a composer, a certain amount of (historical) contextualism is unavoidable, because hardly any persons can be conceived of without (some) reference to their environment. The real area of possible disagreement is whether the personality of a composer is an issue *at all* in the pursuit of authenticity. After all, when a musician is performing, he is not portraying a composer in the sense that a 17th century painter is portraying his subject. He is *interpreting* a product by the composer, and, since there are many compositions where there is no clearly defined composer, it seems just as plausible that authenticity could relate to the 'personality' of the composition itself (in less metaphorical words, the traits of the given composition).

With all of the considerations above in mind, we can logically distill 3 different, yet combinable views of what authenticity within compositionbased music performance consists in:

- 1. A requirement of historical accuracy
- 2. A process of adapting to the composer's intentions a view which makes a discussion of how these intentions can be specified (e.g., if these are linked to (1)) necessary
- A process of adapting to the traits of the composition in itself a view which may come in different versions that tie these traits to either (1), (2) or the way the normative structure of the composition is conceived of by either the musicians or the audience.

For some performers, such as baroque ensembles, the question of whether a performance is "authentic" or not is normally a question of whether or not the performance is in accordance with the performance practices of the composer's own time (in other words, an ideal hinging on (1)). If one considers the fact that some compositions have the feature of being original in relation to the performance practices of the time of composition, reverence to these practices might, on the other hand, be unwarranted, which is why, as we will see, some philosophers hold – corresponding to (2) – that a performance is authentic, only if it captures what the composer *intended* with the piece. The latter requirement is a point of debate because it is not always clear who the composer of a piece *is*, or if we can actually divine their "intentions."

For the ontological position with respect to works and work-performance relations known as *contextualism* (championed by Jerrold Levinson and Stephen Davies), (1) and (2) are combined: Because the identity of a work is closely tied to the historical period of its composition, authenticity is a matter of work classification – a performance is authentic, if it can clearly be classified as being "of" the piece it is proclaimed to be of. This theory is the topic of the next section.

5.3 The Contextualist View of Authenticity

For those who regard (1) in the list above as a requirement for authenticity, a performance that achieves a high level of authenticity in this way is considered "better" than one that achieves a very low level.³ The underlying assumption is that it is simply demanded of a performance that it pays respect to the historical context of the work, and thus that the work (or an understanding of it) is inseparable from this context (or an understanding of it). But which level of "respect" do we need in a performance?

As many would remark (see e.g. James Young (1988)), attempting to make a performance sound as it did at the time the work it purports to be "of" was written is an impossible endeavor, as we cannot in reality attain all the knowledge of the exact type of situation in which the composition was first performed. And even if we could, we would not have the same background as the listeners or musicians had in the original context of the work, and thus neither be able to hear the piece at it was heard at that time.

In recognition of this, the level of respect performers need to show for the historical context is, according to Stephen Davies and Jerrold Levinson more limited: What matters is the *work determinative* aspects of the historical context, namely those aspects one must adhere to in order to actually be playing the work.⁴

³This is reflected in Stephen Davies' statement that authenticity comes in degrees (Davies (2001, 218-222)) – something can be more or less authentic, although, as I will discuss below, Davies also tries to maintain that a minimal level of authenticity must be present for a performance to be of a specific work at all (Davies (2001, 152-154)).

⁴As is seen in Davies (2001, 80), Davies mainly disagrees with Levinson over the role the latter attaches to our knowledge of the composer in understanding the work (Levinson (1996)). Where Levinson holds that new knowledge of the composer's oeuvre, that is, his entire body of work and the development of tendencies in it, can change how we understand the work determinative features of a piece, Davies holds that the work determinative

Stephen Davies divides musical works into two categories (with some subdivisions we will not discuss here), works that are intended for performance, and works that are not (Davies (2001, throughout the volume, see e.g. 7)). His view of works intended for performance focuses on the normative aspect of a work. Regardless of whether the work is anything else *but* the norms (which, I have argued in the previous chapters, it is not), the work intended for performance "demands" certain actions of its performers. These demands can be stipulated in a score or they may have to be distilled from a model performance.

Davies distinguishes between such works that are "thin" or "thick" with properties in the sense that they leave more or less open for the performer to decide. In jazz, rock, and other traditions that rely on model performances, it seems that whether the work is thick or thin depends on how wide the accepted spectrum of subsequent performances of the work is. In other words, it seems difficult to defend that a work is "thin" or "thick" in an absolute sense, since the properties rely on how the work is treated by other performers. In the context of scored music, a thin work seems to entail, within Davies' scheme, a thin score – that is, one with fewer instructions in it, and conversely, a thick work is accompanied by a thick score, one with many instructions. The opposite does, however, not seem to hold: Just because a score is thin or thick, it does not mean that the work itself has the same property. It is not necessarily the case that a musician must follow everything the score requires in order to play the work, and what is accepted as a performance of a piece may also change, just as with performances based on model performances.

Davies is actually aware of how traditions form restrictions on performances (additional to those stipulated by the work). For thinly stipulated works, among which Davies counts those of early baroque music, we can not

features remain the same regardless of what we may learn about the composer. Thus if two composers of the same time and place were to indicate qualitatively identical sound structures, they would, according to Davies, actually be composing the same piece, whereas Levinson would hold the opposite. Like Kivy (1987), I find it highly unlikely that more than one person will be able to create (or "find" within Kivy's scheme) exactly the same piece (by "creating" we assume that plagiarism is out of the question) because all people are different and the work of a composer is a product of him as a person (or, for Kivy, exemplary of the composer). Whether one regards the change in our understanding of, say, Shostakovich's 5th Symphony \triangleright upon reading his later post-Stalin era memoirs, as a change in our understanding of its work-determinative features is a matter of demarcation and one we will return to below.

just fill in the blanks with whatever we like. Davies regards a reverence for the composer's intentions, or rather, **the realm of possible scenarios the composer could have accepted in a performance of his piece**, as essential in the authentic performance. This means that when performing a piece of music from a different historical period, one has to consider which performance choices would have been permissible at the time of composition.

The latter requirement also means that not everything the composer writes in the score, if any, is work determinative: If, for instance, it was common and accepted at the composer's time to replace a clarinet (although demanded in the score) with its forerunner, the chalumeau (because it was more common than the clarinet), the use of a clarinet in the piece should not be considered work determinative (Davies (2001, 60-71)).

By combining reverence to the historical period with reverence to what the composer could plausibly have intended, Davies' brand of contextualism avoids the theoretical difficulties in specifying the level of respect for a historical context one should show if performing a piece that was "original" (in the sense of deviating from tradition) at the time of its composition. The authentic performance first and foremost pays respect to the intentions of the composer, and an examination of the musico-historical context is merely an aid to delimit these.

When a work is thinly specified in Davies' terminology, this seems to reflect that the composer has had less specific intentions for a performance of the piece in question than is the case with a thickly specified work. Apart from the problem of distinguishing between more and less important features of a work (and how these are distilled from a score or model performance), an interesting question to consider is which type of features we consider part of the work at all.

Intuitively, whether the rhythm of a piece, its instrumentation or its chord patterns are work-determinative features will depend on the context. E.g. within heavy metal, several good cases could be made for specific rhythmic patterns being essential features of specific works, not just because these features stand out, but because it is a tradition to credit the drummer as cocomposer⁵, whereas within jazz and pop music, the exact rhythm structure

⁵Many drummers are known to have had songs based around their rhythm patterns, e.g. Dream Theater's Mike Portnoy (see Portnoy (2009, answer to question # 11: "Has the drum beat ever been the first part of any Dream Theater songs written and the guitar, bass and keys were written for the beat?")), Mark Zonder (on Chroma Key's "Undertow" \triangleright from the album *Dead Air for Radios*, Fight Evil Records, 1998, according to composer

is often considered less important than the melody (this is witnessed by the vast amount of remixes of pop tunes and differing interpretations of jazz standards – played in bossa, swing, etc.)

But what if the composer, on top of intending the performance to fall withing a specific realm of sound structures, has intended the performances to have a certain effect on the audience? Is it e.g. the case that if a certain passage in a work was meant to sound harmonically shocking to the audience, then we are allowed in a contemporary performance of the work to add chords that will have a similar shock effect on a modern audience (that has long grown accustomed to the stylistics of the work as originally presented)? This is to some extent the view of Randall R. Dipert (1980) who divides the intentions of a composer into *low-level* intentions, which are reflected in instructions for the production of specific tones and rhythms, *middle-level* intentions that concern micro-level expressive features such as a mode of phrasing, dynamics etc., and *high-level* intentions that concern which reaction the composer desires from the audience. Davies does not subscribe to the precedence of high-level intentions over low- and middle-level intentions:

As I see it, judgments of authenticity must refer to thoroughly public properties, because they concern matters of classification that operate at an interpersonal level. The experiences of individuals, because they are so variable and are affected by so many private factors, are not of a kind appropriate to furnishing standards for authenticity in musical performance. [...] a hamburger is an authentic McDonald's if it is made by McDonald's and displays the properties that mark their products. Now, imagine that you are listening to the radio news as you are eating your hamburger. It is reported that the beef used in some hamburgers may be contaminated with Bovine Spongeiform Encephalitis ('mad cow's disease'). I predict that your experience of eating your hamburger will be changed by this information. But if your hamburger was an authentic McDonald's when you bought it, surely it remains one. Its authenticity is independent of the fact that you can no longer experience it as you did formerly. (Davies

credits on the album and the interview with Zonder by Sternberg and Smart (2009)), and Gene Hoglan (e.g. on "The Complex" \triangleright from Devin Townsend's *Physicist*, InsideOut, 2000, according to the track-by-track commentary included in the multimedia portion of the CD.)

(2001, 233-234))

The "matters of classification" Davies is referring to in the first sentence are ontological matters: According to Davies (2001, 203-204), in order to be playing a specific piece authentically, you must quite simply be playing it. Either you are following the minimum amount of work-determinative instructions in the score (or model performance) and thus playing the work with a required minimum of authenticity, or you are not (although Davies also holds that a performance can be more or less authentic in the sense that it is closer or further removed from the original intentions of the composer).

Before criticizing what Davies refers to as his "threshold notion" of authenticity, we should direct our attention at his problematic requirement of intersubjectivity. The authenticity discussion takes place on an interpersonal level – we discuss the authenticity of a performance with others. But why does this mean, as Davies claims, that the classification must refer to "thoroughly public properties"? Let us say that I refer to my own experience of a phrasing as aggressive, and you don't. I might hold that the phrasing in that place should not sound aggressive if the performance is to be authentic, and you might hold that this is irrelevant, because you do not hear it as aggressive. So we are referring to properties that are not "thoroughly public," namely our own experiences of what we hear. The only problem about this is that it results in different judgments about the authenticity of the performance. That is, if you consider that a problem.

A different question is when I, as a listener, know for sure which of the sonic properties I experience and refer to when judging, say, the expressive quality of a phrase, are "thoroughly public," that is, shared by the wider public. Or, conversely, when am I aware that they are *not* "thoroughly public"? After all, a common source of heated debate among listeners is exactly the tendency of someone to state their own opinion of a piece of music as if it was an objective truth.

Davies' burger argument entails the following: If something has been deemed an authentic performance (say, in the composer's own musicohistorical context or close by) and a group of musicians repeats that performance (that is, the actions that make up the performance), then the repeated performance is authentic, regardless of whether how it affects the audience has changed over time. If this is to be a sound argument, Davies must hold either a) that "performance" is something that only covers the actions performed by the musicians on stage or that b) whether a performance is "authentic" only has to do with this action component.

The first reading, (a), brackets the importance of the audience to the performing musician (which is quite questionable), but it also seems to ignore the fact that the performer herself listens to the music. Yet, how can how the musician relates to the music *not* affect the nature of the performance? The second reading, (b), is more acceptable: The audience is of course essential to a performance, but whether we call the performance authentic has to do with whether the actions of the musician are in accordance with the work-determinative instructions of the composer. In other words, Davies' arguments rest on the conjecture that "authentic performance" and "authentic experience" are two different things.

Dipert's point (Dipert (1980)) that we should take care not to focus on the composer's low-level intentions at the expense of his high-level ones could, in this framework, be translated into a note that the "authentic performance" and the "authentic experience" of a piece of music do not always coincide. If – this seems to be Davies' point – we are discussing whether a performance is authentic, we should refer to the actions of the musicians, not to the effect these actions have on us as listeners. Discussing authentic experiences (in the sense of being authentic in relation to the original experience of the piece in concert) is a different matter.

My own point of view is that, with music as with any other art form, the way a performance affects us influences how we experience it (with respect to classification of sonic and gestural properties). This means that although we might speak of a performance having an absolute degree of work-relative authenticity in Davies' sense, we might never be practically able to estimate this degree in a manner that is objective in the sense of being completely independent of our individual tastes and emotions. (In my work as music reviewer for the online genre magazine Heavymetal.dk, I have often disagreed with other reviewers and users over the characterization of specific pieces of music, a disagreement that often seems to be the result of a different focus due to different basic emotional response to the music in question. E.g., if I like a piece of music, I am likely to identify features I find particularly good and ignore the features that might be 'weaker', whereas the opposite is the case if I do not like the music.)

Emotional response aside, a listener might also be more or less *skilled* (e.g. due to listening experience within a specific genre) with respect to singling out specific elements in the music. Davies does indirectly state (Davies (2001, 160)) that he identifies "the audience" in his discussions with a "so-

phisticated audience," that is, accomplished listeners who have a certain level of musicological knowledge – not necessarily attained through studies of music literature, but at least through some listening experience. It is, however, unclear exactly which level of accomplishment we should demand of an audience. I am also certain that very few writers on music – many of whom have disagreements over the ontological properties of a specific work – would accept to be held outside the category of accomplished listeners. In other words, as I will also argue below, the "absolute" authority in classifying the work-performance relation might lie somewhere else than with the audience.

5.3.1 A Critique of Davies' Threshold Notion of Authenticity

As mentioned above, Davies holds that authenticity is a matter of ontological classification - to be playing something authentically is to be playing the work. Authenticity, however, comes in degrees, such that we may imagine a minimum requirement of compliance with the work determinative features of a piece for a performance to be authentic, but on the other hand an ideal of a *maximally* authentic performance, that is, one that excels in highlighting these features of the composer's work. The more compliance with work determinative instructions (e.g. in the score), the better a performance.

By allowing differing degrees of compliance with a work, Davies is in a certain sense paving the ground for the idea I will argue for in the next chapter, namely that a composer's directives are always conceived of alongside a priority ranking of these directives. The main problem with Davies' view, however, is the idea of a "threshold" that the musicians must pass in order to be playing the work: Davies suggests that there are degrees of success for a performance, as there are degrees of success for, say, an exam (Davies (2001, 152-153)), and likewise a criterion for when a performance passes or fails as a performance of a work.

Let us pick up on the comparison with an exam. Surely there is a threshold with respect to whether a student passes or fails an exam. But is this the same kind of threshold Davies is suggesting for work compliance? Take an oral examination as an example: The student sits at the desk and has to answer one or more questions within the curriculum. The student may do extremely badly at this task. He might say only wrong things, or he might say nothing at all, but just stare blankly at the examiner and external examiner. In such a case, he would certainly fail the exam. But what does it mean to fail an exam? It means that when the exam is evaluated, it receives a score that is too low to be acceptable, if the student should be allowed to document skills within the subject area of the exam. It does not mean that the exam was not an exam.

If something was not an exam within a specific field, we would not be able to evaluate it as such, and hence the student would not be able to fail. If Davies really holds that authenticity is a matter of ontological classification, it similarly makes no sense to judge a performance as being an inauthentic performance of a work. If I am judging the performance as one of a given work, then I cannot subsequently conclude that it is not of that work. (In some cases, not showing up for your exam *will* actually result, formally, in failing it. Whether this means that we classify a specific exam as a nonexam is somewhat irrelevant here, at least if we correlate not showing up for your exam with never actually entering the stage to perform.) In the unusual case where I suddenly realize that the performance really is of a different work than the one I was judging it in relation to, my initial attempt of judgment becomes futile. In short, to make sense of evaluation, we have to separate ontological classification from aesthetic judgment.

That being said, there is a second problem with Davies' "threshold" notion of the work-performance relation. Suppose that I am actually trying to play a particular piece. How many mistakes am I allowed to make and still have my performance classified as one of that piece? Davies does hold (Davies (2001, 154)), in opposition to Goodman (Goodman (1968, 186-187)) that it is not *one* specific set of instructions that must be followed if a performance has to be of a given work, but merely a (more or less) specific *number* of instructions. That is, just as when two artists draw the same scenery and capture different aspects of it, two performances might capture different aspects of the work but still both be "of" it to the same extent (my example). But who decides where the threshold is? Obviously, the musician does not suddenly classify his performance as being a non-performance, just because he has made a certain amount of mistakes in relation to the work. For Davies the authority with respect to such a classification lies with the audience:

[...] one important reason why wrong notes need not prove fatal to the attempt at performance is that they can be identified as errors by the listener. This is made possible not only by the listener's prior acquaintance with the work, its score, or its style, but also by her assurance that the performers are doing their utmost to present the advertised work. Performers do sometimes ignore or flout the composer's instructions, but, in general, must intend to follow these where their aim is to deliver his work. If we know the performer has no intention of sticking to the majority of a composer's instructions, we are liable to regard her playing as "after" the work it resembles, but not as of that work. (Davies (2001, 161))

This is definitely a point to be discussed. **Firstly**, when do we *know* what the performer's intentions are? We do not know it simply by listening – we know it, if in some way, we have insight, external to our listening experience (although we might process such insight simultaneously), of the intentions of the musicians: a knowledge of what goes on in their minds. If the listeners need to know the actual intentions of the musicians in order to determine the nature of the work-performance-relation, why not simply let this authority of determination rest with the musicians?

Secondly, is it really an issue, even following Davies' own distinctions, whether or not a performer has the intention of sticking "to the majority of a composer's instructions"? Surely, if Davies is to be coherent, he must mean the majority of a composer's *work-determinative* instructions (otherwise, he would be subject to some of his own criticisms of Goodman).

A question here is whether we want to maintain a stable, absolute notion of what *the* work-determinative instructions are outside of what people regard as work-determinative in a given historical context. In my opinion, we simply have to accept that what is considered work-determinative varies across cultures, groups and sometimes individuals, and that different musicians prioritize these instructions in different ways. Take for example a piece of baroque ensemble music: During the history of music, it has at some points been accepted to play such pieces with rich amounts of rubato and even sometimes crescendos and diminuendos (gradually louder or more quiet), whereas in other periods⁶, a strictly kept tempo is often considered essential, and the dynamics limited to "terrazzo," that is, with abrupt shifts between nuances (forte, mezzoforte, piano etc.)

The musicians do indeed have an intention of following what *they* regard as work-determinative, if they intend to give a performance of a work. Do we

 $^{^{6}\}mathrm{E.g.}$ in the 'modern' tradition of "authentic performance" where musicians also use instruments similar to those at the time of the composer.

really want to maintain that the performance necessarily deviates from the work, if it deviates from what the *audience* finds to be work-determinative? Even if we do, we would generally expect audiences to be less aware of the relation between the instructions of the composition and the actions of the musicians than the musicians are themselves. In other words, the musicians know if they are trying to follow a specific set of instructions or not – the audience does not necessarily know what the musicians are intending to do. That the intentions of performers to follow specific instructions is *always* constitutive of performing a given work can quickly be shown (the following argument is reminiscent of Davies (2001, 163-164)):

It is a logical possibility that a musician a by 'accident' (e.g. in an improvisation) plays something that has the same sound structure as the performance of the work W by another musician, b. Let us, for instance, say that W is a composition that requires a pianist to alternately 1) drag his fist from one end of the keyboard to the other and back five times and 2) play a D major cadence. If the performances of a and b really are identical, and b follows every aspect of a score associated with W, some people might, *informally*, say that a accidentally performed W. But consider the situation in which b makes a mistake, e.g. fumbles with a chord in the cadence. Supposing, still, that what a is playing has the (qualitatively) same properties as the performance by b, would we in this case say, even informally, that a is performing W? I do not think so. a is improvising, b is performing a work. The relevant difference between the two performances lies in the intentions of the musicians.

Thirdly, what warrants the claim that a performance is *after* a work, not of it? Surely, any of such claims are supported by a knowledge of what work the performance is based on. If we know this, how can we claim that something is not a performance of the work but a creative treatment of it (I assume this is what Davies means by "after a work"), except if we are arrogant enough to assume that our own interpretation of the work is the only correct one? Either the audience can identify which work is being performed and subsequently evaluate how good they found the performance to be (keeping the relation to the work in mind), or they *cannot* determine which work is being performed, in which case they are unable to say anything about how good or bad the performance was (except in general terms related to the aesthetic quality of the sound event in itself).

It seems that Davies and like-minded writers are liable to forget that the identification of the work-performance-relation *can* in fact be external to the listening experience. It might be, for instance, that it is announced prior to the performance that the musicians will be playing a particular piece A. Regardless of how awful the performance sounds, how indistinguishable A is in the performance, the audience will evaluate the performance as a performance of A. It might be that they give it a very bad review, but that does not in itself make it a non-performance of A.

(Of course, we could imagine a situation where it is announced that an orchestra is going to play A, but where they in fact play a different piece B, a performance of great accuracy in relation to B, but extremely poor if related to A. In this case, it is worth noting that music listeners normally strive to achieve coherence in their listening experience. It seems natural, if the listener knows other performances of B well, that s/he relates the listening experience to B, because B matches the performance much better than A, although the latter has been announced as the background for the performance. ⁷)

5.3.2 On the (Ir)relevance of the Composer to the Classification of a Composition

Let us briefly consider the initial definition of a work-performance relation in Davies (2001, 5):

⁷Tarasti (2002, 8-9) refers to a general tradition in the late 19th century where a piece of music was understood on the basis of a known (or assumed) "program" for the music, e.g. a literary work that the piece in question was based on or inspired by -a tradition that Tarasti denotes "musical hermeneutics." His examples refer to the reception of "program music," where a text *outside* the musical work itself constitutes our "Vorurteile" ("prejudices" in the positive sense suggested by Gadamer (1975), that is, our required "initial theory" of the text we are reading). In the sense that e.g. Gadamer (1975, 253) speaks of a requirement of "openness" towards a text, a willingness to try and get something out of it, in order to understand it, we might expand upon the idea of musical hermeneutics by saying that regardless of what our "Vorurteile" are, serious music listening according to this scheme involves a willingness to try and make sense of what one hears with our "initial theory" as a mere starting point. Further, we might allow that our "Vorurteile" do not necessarily stem from an elaborate program for the individual work, but might just as well be based on a simple program for the concert, our preconceived notions of the genre, the composer's other works, our assumptions regarding the ensemble etc. Such a more general form of "hermeneutic listening" does, in my opinion, seem to be applied by most audiences. (Of course, this also means, as we have already touched upon, that how much insight the listener has into the background of the composition, the composer, the genre, the ensemble etc. affects his or her listening experience).

To be of a work, a performance must satisfy three conditions. [1] There must be a suitable degree of matching between the performance and the work's contents, [2] the performers must intend to follow most of the instructions specifying the work in question (though they need know neither what work that is nor who composed it), and [3] there must be a robust causal chain from the performance to the work's creation, so that the matching achieved is systematically responsive to the composer's work-determinative decisions. [My enumeration.]

I have already discussed my worries about (1) above: Which degree of "matching" do we require, and whose authority is it to draw the line between performances that are and performances that are not of a given work? The 'matching criterion' is in my opinion irrelevant to the classification of the work-performance relation, which is, however, not to say that it cannot have *aesthetic* importance.⁸ Part of (2) merits a similar objection: How many of the "work-determinative" instructions must be followed, and who decides where the threshold is? It would seem more reasonable to hold that there is some sort of "core" of importance in the set of instructions that constitute a composition as the musicians assess it – or, more specifically, the instructions of the composition are conceived alongside a priority ranking.

There might be fluid boundaries between the important and not so important instructions of a composition, but the musician should try to follow a certain number of those instructions that are – in his mind – in the "most important" area of such a list. It is not a requirement, however, that the musician should safeguard himself by also adhering to as many instructions from the "more optional" area of the composition, at least not if we still consider very free interpretations of existing pieces, such as Joe Cocker's version of The Beatles' "With a Little Help from my Friends," as performances of these pieces, not entirely new pieces.⁹

(3) and the parenthesis in (2) combined yield an interesting reverence to the composer: Although we do not necessarily know who the composer is, or even the name of the work, the performance can still be authentic, if the "matching" achieved between performance and work reflects what is

 $^{^{8}}$ I will return in 5.5 to a discussion of the aesthetic merits of so-called authentic performance over performance with the primary intention of "pleasing" the audience.

⁹I will return in the next chapter to a specification of where I think the line should be drawn between interpretation and new compositional activity.

actually the work determinative features, these features being the result of a composer's decisions. So musicians can mysteriously be able to match a composer's intentions without knowing him or the work's relation to him. This may make sense in relation to a work, where an outsider actually does know its identity and origin, but what if we really do not know these facts about a work? According to Davies' definitions, we would never be able to know whether or not we are interpreting the piece correctly. This consequence leads me to considering a view of the classification of the work-performance relation that does not refer to the composer's actual intentions.

Of course, our knowledge (external to the composition) of the personal circumstances of the composer when he wrote a given piece might influence how we experience the music, e.g. the emotions the music evokes. And, as mentioned in 5.3, our emotional attitude towards the music can also change the focus in our perception so that we pay attention (and attach importance) to different features of the composition than we would if we had a different emotional attitude. This is the case for both musicians and – perhaps to a larger extent – the audience. In this sense, facts or beliefs about the composer may influence how we classify a given relation between a performance and a work.

If we briefly adopt Dipert's distinction (Dipert (1980)) between high-level, and middle-/low-level intentions of a composer, we could say that historical information (e.g. of Shostakovich's painful relationship with the Soviet administration) may change our beliefs about the high-level intentions of a composer (e.g. which emotional response he wanted from his audience) and through these beliefs also our understanding of the relative importance of different middle-/low-level intentions that we experience in the composition. It is, however, questionable, whether the composer's own documented judgment regarding any level of intentions he may have had for the piece, is of any importance to our classifications:

Firstly, we may well imagine that a composer changes his mind about a piece after he has written it and wants to make a new 'version' that includes features new to the original work and perhaps ignores features that were central to it. In this case, Davies himself holds (Davies (2001, 223)) that the composer's "new" version is not more authentic than the original one. It is a treatment of that piece to be measured on the same scale as arrangements made by different composers of the same piece. Although he frequently refers to the importance of adherence to the *composer's* intentions, it seems that he is only interested in these up until the composition is made public:
[...] replace Levinson's "a musical work is a performed sound structure as made normative by a composer at a given time" [Levinson (1990)] with "a musical work is a performed sound structure as made normative in a musico-historical setting." (Also, let the musico-historical setting encompass the social and institutional conventions and practices defining the relevant roles – such as composer or conductor – and the process of production – such as that by which a work is brought to completion and issued, as opposed to its being circulated in a draft version [...]) (Davies (2001, 97))

At least three important points may be raised on the basis of this passage:

1) Whether this is intended or not, the wording "made normative in a musico-historical setting" leaves a door open for virtually any performed sound structure being made normative – not just by the composer (note that Davies, contrary to Levinson, does not explicitly refer to the composer as the one who makes the sound structure normative, although he loosely lets the musico-historical setting include practices defining "the relevant roles – such as composer or conductor"). This is especially important, if the composition in question is something that has to be distilled from a model performance (e.g. the first performance). Read in isolation, the passage also supports the view that work-determinative features, or rather, which features are counted among them, may vary across historical periods. Whether one must subscribe to this view depends on which degree of reverence to the performance tradition of a given era one holds as essential to the authentic performance of a given work (and, of course, the value one ascribes to "authentic performance"). I will return to this discussion in 5.5.

2) The emphasis on "issuing" means that at a certain point, the composer's present intentions, and plausibly his present rendition of his former intentions, are no longer important in accessing the work – only the composer's intentions (up until "issuing") as somehow inherent in the work are important. We are thus pushed towards a sort of Ricœurian hermeneutics with respect to musical works: Ricœur (1981b) holds that once an author has publicized a text, it is now an intersubjectively accessible entity of which his own opinion is, strictly speaking, not more legitimate than any other reader's (in fact, Ricœur provokingly asks whether we should not just classify the author as the first reader of the text – this should, however, not be understood as Platonistically as it is phrased. The author is still the original source of the text). In the same manner, we could say that once the composer has gone public with a work, it is now an object that can be assessed and classified by everyone, including, but not limited to, the composer.

The problem is, of course, that whereas a literary text is (normally) a fixed, clearly defined structure, the musical "work" is not only an abstract one, but one that *must be abstracted* from instances such as scores and performances. Both the instances themselves and different concepts of the "work" in question are, however, objects that are (or can be made) intersubjectively accessible. The process of analyzing the musical work is according to this view essentially an analysis of the work *in itself*, where external knowledge (e.g. of the composer's time and personal life) can of course help us shed light on features of the work, but where it is not possible for the composer himself to interfere and change features of the very object we are analyzing (neither in his own time, nor through recently discovered memoirs).

3) With respect to performed works, if we follow this line of thought, we might end up placing authority with respect to characterizing a composition with the musicians: Who can be more interested in finding out which features of a composition are more important than others? Although Davies, as seen above, mainly places this authority with the audience, his and Levinson's concept of "making a sound structure normative" curiously supports the idea that it is musicians who choose or identify which features of a work are important and thus normative, because it is mainly in relation to the musician that the composition is normative: It instructs musicians in a performance.

Despite the obvious promotion of my own point of view with respect to the normativity of compositions in relation to the performers, I am actually following Davies' own framework here: A musical work *for performance* must necessarily address the musicians (although, of course, we might also say that a given piece of music can have rules associated with it for how one should *listen* to it, as discussed in 4.4.2).

To sum up, we have two ideas that, combined, suggest that knowledge of the composer's identity and intentions is irrelevant to the classification of the work-performance relation, although such knowledge can *influence* our interpretation of a work:

• Once issued, the work is an intersubjectively accessible object that the composer cannot interfere with¹⁰, and that is open for interpretation by anyone

¹⁰There can of course be borderline cases where a composer identifies a mistake in

• It is not always trivial to single out a composer of a given piece (we might not know him or her, or a piece might have gradually developed, e.g. during repeated rehearsals in a rock band)

Even in a setting where the composer performs his or her own work for the first time, the composer's own assessment of the work may not be authoritative. Ingarden (1986, 117) sums this up perfectly in his note that "composers are not generally good interpreters of their own works." ¹¹

5.4 Reestablishing the Authority of Musicians in Determining the Composition-Performance Relation

As one sees, e.g. in (2) in the definition quoted at the beginning of 5.3.2, Davies holds the intention of musicians to perform a given work as an essential *part* of the work-performance relation. I will argue here that it is in fact the *only* essential feature, if the work-performance relation is merely a matter of ontological classification.

According to Davies (2001, 163-164), it is not possible to perform a piece by accident, say by improvisation, because, if you do not intend to perform this piece, you are not performing it, although the sound event may be similar to one, where you did intend to perform the piece in question. Following this line of thought, it is beside the point that we often take an unusual level of

the score which he wishes to change. Whether such a change is a change in the work/composition, is a point of discussion, perhaps one that rests on whether the "mistake" has already been "made normative" by the musicians who have performed the piece, highlighting the very feature that the composer wants to change. In the latter case, the composer's revision may plausibly be understood as an entirely new work.

¹¹In his refutation of the idea that the composer's *exact* identity (name, birth year etc.) is relevant to our perception of the score Davies (2001, 163-164), Davies states that the focus of the musician's intentions is not the author of the score, but the score itself. Many people may play or sing pieces, the composer of which they simply do not know. Whether this commits Davies to the further view that the work inherent in the score should likewise be considered in its own right, is a point of discussion. I think it may be a consequence, if Davies holds that it is only the composer-intentions we are able to distill from the score that are relevant to our interpretation of the work. Since he may very well assert that the musico-historical context of the score is co-determinative of what the work is, it might, however, still be the case that he attempts to place the interpretational authority with the composer (known identity or not).

correspondence with an existing work to be a sign that the performer knows this work and intends to perform it. It is slightly curious that whereas Davies assigns the audience the authority to classify performances with a low degree of "matching" (in relation to the work) as non-performances, he places the authority to classify performances with a very high degree of "matching" as non-performances with the musicians. But if the musicians have the latter authority, why do they not have the former authority as well?

In other words, if the musicians' intentions matter in one situation, where the audience actually hears a piece as if it was a specific piece, why do they not matter in another, where the audience is unable to hear which piece is being performed? In both cases, the audience is, strictly speaking, unable to identify which piece the musicians intend to perform. In both cases the musicians know which piece they are trying to perform. If Davies, as is evidenced in this passage, holds that the musician's intention to play piece A determines the work-performance relation in one case, where the audience hears the performance as one of another piece B, why does the same intention not determine the work-performance relation in the case where the audience cannot identify *any* reference for the performance? If Davies is to be consistent, he must either completely disregard the intentions of musicians as essential to classification of the work-performance relation, or he must disregard that the audience's opinion has any relevance in the matter.

As stated, I adopt the latter stance. The musician obviously knows what he is trying to play. He may fail miserably to deliver a performance of the work that allows the audience to identify the work (or even worse, play something that does not even sound well as a musical output in itself), but if he is seriously trying to play a specific work, then this is the work he is playing, regardless of what we hear.

Note that I am saying that the musician is *seriously* trying to play a specific work. This means that he does not suddenly give up half the way through and tries to play something else. (A composition might of course allow for an interlude where the musician can quote a completely different piece of music – contrast, for instance, Dream Theater's live version of "A Change of Seasons" \triangleright from *Live Scenes from New York* (Elektra, 2001) with the original studio version \triangleright from *A Change of Seasons* (EastWest Records, 1995). In this case, however, we can still say that a musician is trying to comply with the overall composition.)

Take as an example an organ prelude for a hymn to be sung by a congregation. Tradition allows the organist to embellish upon the melody, and in some cases (especially if the organist is a frustrated composer), these treatments may stray so much from the hymn melody, that the congregation can have problems identifying what the melody is. (This is particularly critical, if the hymn in question has more than one possible melody attached to it, as is the case with several entries in the standard book of hymns used in Danish state churches). In this case, I do not think one would say, not even strictly speaking, that the organist in question is not playing a prelude to the specific hymn. His prelude is just not *successful*, in that the congregation cannot identify the melody.

In short, I think both Davies and Goodman (see Davies (2001, 154)) are wrong when they identify the compliance of a performance with a work (regardless of which degree of compliance they demand) with the success of the performance. The success of a performance will normally be dependent on a relation to the audience. The nature of what the musicians are doing on stage, although it can of course be inspired by the audience, is not defined by what the audience hears, but what the musicians intend with their performance.

"Success," although a very imprecise term, is, however, certainly of importance to music making, since it is part of what the musicians strive for with their activities in general. It is therefore appropriate to discuss how a reverence to "authenticity" is relevant as an artistic merit in relation to the experience of the listener.

5.5 Is 'Authentic' Performance a Good Thing?

Levinson's and Davies' contextualist account of authenticity is primarily concerned with an ontological classification of the work-performance relation. To some extent their considerations coincide with a more 'traditional' view of work-relative authenticity in performance (from a musicological point of view), where "authentic" merely means "true to practices acknowledged by the composer in his time." Unlike the contextualist view, however, this traditional use of "authenticity" allows that the properties of being authentic or inauthentic can *both* be attributed to performances of a work. Davies' threshold notion of authenticity not only makes it impossible to talk about an inauthentic performance of a work (since this is simply a non-performance). As a further consequence, it also makes a discussion of the merits of authenticity as opposed to inauthenticity obsolete:

If we cannot speak of inauthentic performances of a work, how can we measure these against authentic performances? Within Davies' framework, since there are degrees of authenticity (from the minimally required degree to the maximal), we could, however, measure the more authentic performance against the minimally authentic performance. This dichotomy, I think, would correspond to the way musicologists usually distinguish between authentic and inauthentic performance of a work.¹² (Note that the very formulation "(in)authentic performance of the work" implies that the ontological classification of the work-performance relation is already in place when the discussion of authenticity commences.)

Within Davies' framework, the "more authentic" performance seems to be one that not only follows a minimal number of work determinative instructions out of a set which is delimited by the composer and his musicohistorical context, but tries to capture as many of these. Because of the tie to the musico-historical context (see 5.3), this necessarily means that a high degree of authenticity rests on an understanding of the performance practices in the composer's life and times. Indeed, this is what most proponents of "authentic performance" within classical music are talking about, when they distinguish between inauthentic (meaning, within Davies' framework, minimally authentic) and authentic (\approx more authentic) performance. The question thus remains: Why should we bother with (more) authentic performance at all? Can the musicians not just strive for a performance that gives pleasure to the audience?

Young (1988), who thinks that it is impossible to attain "absolute" authenticity, since we can never attain all the knowledge relevant to an understanding of the first performance of a work, still holds that the real merit of the so-called authentic performance movement within, say, baroque music, is that it gives the audience more pleasure than a practice that takes the musico-historical context of the work more lightly. This is extremely debatable. It might very well be that listeners accustomed to performances that are not in good accordance with the practices at the time of the composition process do not take pleasure in hearing authentic performances. I, myself,

¹²See for instance Fogel (2007) whose point actually is that an authentic performance of some Romantic works such as Brahms' violin concerto should pay *less* attention to restrictions because Brahms is known to have indirectly approved of this type of creativity.

prefer Fauré's own transcription of his *Requiem* for a large string orchestra and ditto choir rather than his original, more chamber music-like scoring for a quintet of strings, a not terribly big choir and church organ, although a performance of the latter might arguably be more authentic.

Young's characterization of so-called authentic performances merely raises a new question, namely "in which way does an audience take pleasure in a so-called authentic performance of e.g. early music rather than a more altered, modern version of the same work, and why?" Even if it was true that "authentic performances" of early music gave more pleasure than modern, modified ones¹³, it would make sense to ask for reasons why this was so. The discussion does not end with the fact that the audience likes or dislikes the music they hear.

In contrast to Young, Davies (2001, 249) is fully aware that "giving pleasure" is irrelevant to the authentic performance: "Authenticity is a virtue in performance, even if in some cases it exposes the performed work as poor [...] We can and do value the performance's authenticity for making this apparent." He also argues (Davies (2001, 251)) that composers would not be motivated to write works if they did not assume that musicians would strive to perform them authentically. It is not entirely clear whether Davies means that this striving is a striving for authenticity, the more the better. If this is the case, Davies is, in my opinion, wrong. It is perfectly plausible that musicians pay respect to a minimum of work determinative instructions in the composition but, perhaps even with the blessing of the composer, take their interpretation of the "optional" features in a completely different direction.

(A pianist who accompanied me in Carl Nielsen's 2nd sonata for violin and piano several years ago claimed that she had heard that Nielsen encouraged this type of free interpretation. To use a modern example, this is also what composer-musicians within pop music do when they invite other artists to remix their songs.¹⁴)

If Davies merely means that it is required, in a music circuit that is dependent on both musicians and composers, that the musicians strive for a

¹³It might perhaps be true in cases where the listener is able to attain a greater amount of pleasure from the higher-level realization that a performance was in accordance with the musico-historical context of the work than from the lower-level direct experience of the performance.

¹⁴The Danish web portal for performing artists, *Bandbase* (http://www.bandbase. dk) frequently hosts remix competitions where well-known artists submit their 'works' for reworking by the community.

minimum of authenticity (e.g. the one required to classify the performance as a performance of the work within Davies' scheme), he is only talking ontological classification and not making a point relevant to traditional discussions of authenticity an artistic merit of a performance.

Perhaps one could expand upon Davies' own points by saying that whether we strive for more authenticity than the minimum amount or not is a matter of the musico-historical context of the *present* performance. In some contexts, such as jazz (which is, as many tend to forget, also often based on composition) and rock, the audience accepts, and in some cases expect you to deviate in one way or another from the original performance of the work in question.¹⁵ The attempts to justify the reverence towards the original performance practices within the "authentic performance movement", especially in the context of baroque ensemble music, perhaps merely reflects that there is not a similarly well-articulated movement within which it is accepted to play everything with a phrasing typical of e.g. the late Romantic period. In short, the aesthetic merits of the more than minimally authentic performance is, in my opinion, a matter of taste and tradition (of both the musicians and the listeners).

5.5.1 Another Question of Authority With Respect to Assessment of the Degree of Authenticity

Whether or not we find the more than minimally authentic performance of a work aesthetically valuable, we also (re)encounter the problem of how to classify the performance as more or less authentic, and decide whose authority this is. (The problem is similar to the problem with respect to the ontological classification of the work-performance relation).

One would think that the degree of authenticity of a given performance is something that is fixed by comparison with the work in its musico-historical context. Within Davies' framework, if we are to attain authenticity, we should try to adhere as closely as possible to the practices of the musicohistorical context of the work. In some cases, the score is very lean and might allow different types of instruments (available in the original performance

¹⁵I think this reflected in the slight animosity among musicians towards playing in cover bands of the type that tries to duplicate the original artist's sound as closely as possible. (It is something that you do for the money, not for the artistic value in itself – quite contrary to classical music in general).

context). In other cases, the composer may have imagined a part to be played on a given instrument, and since Davies disregards the idea of the work as some abstracted Platonic non-sounding tone-rhythm entity, he thinks we should respect the composer's indicated instrumentation in these cases. Davies is, however, not completely consistent in this matter:

For instance, he allows (Davies (2001, 60-71)) that in some cases, performing something on an instrument that is a "close relative" of the original instruments will not violate the instructions of the work. But whether something is considered a close relative of something else within music is clearly a matter of taste and refinement in listening capabilities.

As an example, to some listeners, who either do not like the sound of distorted electric guitar or just have a different focus when listening, I am sure that the guitar sound of Jimi Hendrix on the *Are You Experienced* album (Polydor, 1967) will sound very similar to the guitar sound of, say, Steve Vai on the *Passion & Warfare* \triangleright album (Relativity/Epic, 1990). To another listener who is familiar with the variety of nuances within the realm of sounds that can be produced by an electric guitar, replacing one style (and, just as relevantly, equipment set-up) with the other in a piece originally conceived for one of these styles / equipment set-ups (a particular type of amplifier, effect pedals etc.) is no small matter.

Either we maintain a completely strict view of authenticity, according to which period instruments should be used no matter what, or we will have to grant that what counts as a work determinative feature may vary over musico-historical periods. I personally subscribe to the latter view, although I think that, because there are more similarities than differences between musicians of different historical periods, it is unlikely (but not theoretically impossible) that they will disagree completely over the normative core, that is, the rules with highest priority, of the composition (more on this in 6).

5.5.2 The Insider/Outsider Problem Revisited

Ken Okubo (2001) characterizes the activities of playing or listening to music as within the framework of a "game." In some cases, the musicians – and listeners – are playing or listening within the "musical work game," in other cases their efforts take place in the "musical pleasure game."

Okubo's view of games is quasi-Wittgensteinian: The game is not a fixed or verbalizable set of rules, but something you must get to know by playing it. Yet, when competent at playing it, you instantly recognize whether a specific action is allowed or not. Within the "musical work game," that is, the game of performing a specific work, the "insiders" of the game know what is allowed in the performance and what is not, yet they are unable to conceptualize this. On the other hand, those standing on the outside of the game, trying to describe what is happening, have all the tools of analysis at hand (since they are not in the same way immersed in the game), but lack the sufficient insight to explain the phenomena in the performance.

The "musical pleasure game," on the other hand, is not a game concerned with reverence to a given work, but simply with giving the audience pleasure.

Intriguing though they are, Okubo's ideas have several unappealing consequences. Because a listener who is part of the "musical work game" (with respect to a specific work) is not simultaneously part of the "musical pleasure game," a listener who sits in a concert hall waiting to hear a performance of a given work will not be able to assess the performance, if the musicians are actually playing the "musical pleasure game" at this occasion. Yet it seems reasonable that a listener should be allowed to complain that a performance is irreverent towards the work as he or she conceives of it – particularly because the musicians themselves are also listeners.

The latter fact also poses a problem for the argument that "outsiders" are not able to correctly assess the performance, exactly because they are not "insiders." It is perfectly plausible that a musician will be able to consider his own actions afterwards, perhaps even immediately following these actions, from the point of view of someone not immersed in the game (see for instance the real-life example in 2.5.2). Would Okubo think that in these cases, the musician does something, which he understands in the moment, but then, as soon as he tries to analyze it, completely fails to understand? The problem is, perhaps, whether or not we should require that a knowledge of what counts as an authentic performance (within the conceptual framework set up by Davies) should be verbalizable. In fact, Young (1988) holds that it is a problem for the proponents of "authentic performance" that

The knowledge of how a piece is to be interpreted is, in large measure, practical knowledge, a knowledge of how something is to be done. Such knowledge, like the knowledge of how to ride a bicycle, cannot be fully captured in propositional terms. Not even the composer will be able to describe precisely what his intentions were. If we cannot know what a composer's intentions were, we cannot determine which performances are authentic and which are not $[\ldots]$

Although Young is, I think, correct in his assertion that we (including the composer) cannot *formulate* all the composer's intentions, he makes an unjustified identification between knowledge and propositional knowledge here. I find it to be perfectly in accordance with intuition to say that the composer knows how to play a piece, even if he cannot formulate this knowledge. This simply echoes the classical distinction between "knowing how" (or "tacit knowledge") and "knowing that" (explicit knowledge), e.g. being able to recognize patterns that allow one to find directions or quickly see a fracture on an x-ray image ¹⁶ vs. being able to describe these patterns and verbally justify what one "knows" ("knows" assumes here that our sensory experience is not, loosely speaking, faulty, at least not bordering on hallucination).

One could also point out the distinction between internalized knowledge and non-internalized knowledge. For the composer, how to play a piece will, for a large matter, be a piece of internal(ized) knowledge to begin with, but if a performer can internalize (verbalizable) instructions by rehearsing, it is not improbable that the complete tacit knowledge of the composer could be attained – as a by-product – through an process of internalizing instructions. This is just to say that acquiring knowledge of the composer's intentions is not theoretically impossible, as Young holds, although it may be practically impossible, if the composer has not made the effort to externalize *any* of his tacit knowledge of how to play the piece.

Surely, there are several aspects of playing music that can only be learned through hands-on experience, just as there are aspects of processing music in a given genre that can only be learned through extensive listening experience. Yet, because musicians – and listeners, for that matter – actively engage in communication about music performances, it is reasonable to believe that at least some of this discourse is meaningful, and that we can at least characterize broadly how especially musicians deliberate regarding the norms of a given piece of music.

Okubo's idea of regarding performance of a work as actions within a game is, however, very useful, if we abandon the notion of games as contexts that can only be understood from the inside, that is, by an insider, *while* s/he is playing the game. As I discussed in 1.2.1, we could to some extent regard the music performance as a game with *rules*, where, in a classical

 $^{^{16}{\}rm This}$ example was given by professor David Favrholdt during one of his epistemology classes in 2000.

context, the score would be comparable to a printed set of rules, whereas the composition would be the actual set of (interpreted) rules followed by those who play. Apart from the general difference that a music performance is not (necessarily) a competition between those involved, there are subtle differences in the way players prioritize rules in the two contexts. More specifically, because of the presence of an audience, musicians are more liable to carry on no matter how much they have deviated from their initial plan, whereas in a game, once the rules violated reach a certain amount, the players see no need to carry on.

5.6 Is Analytical Expertise Required of the Performing Musician?

Returning to the more general, ontological discussion, I assume that some readers will still be skeptical towards the idea that the authority with respect to settling the composition-performance relation lies with the musicians alone. Even if they accept this idea, they might still hold that the musicians should at least have some level of 'expertise': Surely, they cannot be ignorant of some basic rules of the music they are playing, if we are to say that they are actually playing it? Must they not have some intellectual understanding of the piece they are playing in order to convey it properly to the audience?

Swedish musicologist Anders Tykesson (2009) argues for the idea that work analysis is, if not a requirement at any level of generating a performance, at least a very useful effort in the primary stages of rehearsing a piece. Tykesson's examples are relativized to the sphere of notated music, in his case a specific string quartet by Anders Eliasson.

Intuitively, one must always in one way or another understand some amount of the notation of such a piece, before setting out to play it (whether or not one is able to relate the instructions in the notation to a composition or its arrangement), at least if one does not know the notated music in advance (outside of its notation). If one does not understand any of the notation, not even the basic symbols of the note system, and does not know any of the piece notated, it seems safe to conclude that he or she will not be able to play it.¹⁷ Tykesson goes a step further than such a basic condition,

 $^{^{17}{\}rm The}$ logically possible, yet highly improbable case of accidentally playing a sequence of tones and rhythms that to a trained listener sounds like a performance of the notated

however. Choosing to view the notated piece of music to be interpreted as a text, actually reversing a metaphor used by Paul Ricœur (1981b), he utilizes Ricœur's idea of the independence of the text from its author and the merit of structural analysis in understanding the document. Ricœur's argument for this independence is simple, but powerful¹⁸:

The text is a piece of fixed discourse, and this fixation has a number of consequences: In contrast to verbal dialogue, there is no way we can engage in clarifying conversation with the initiator of the written discourse qua written - the text is not clarified further for us, we have to interpret what is written. Being non-verbal, the text also loses any of the factors in the verbal utterance (e.g. prosody) that contribute to our understanding of the discourse. The structure of the sentences is now all that matters. Further, because the discourse fixed in the text is removed from the situation, if any, where it was first "uttered" or presented (in a non-fixed way), the immediate context of the discourse is lost to the reader. The text can no longer "point" to elements of the situation in which it was written and assume that we understand these references. If we happen to have information of this situation, our interpretation of these references would probably be quite close to what the author intended (my remark), but Ricœur's point is also that the addressee of the text is not fixed by the author (as it would be, had the discourse appeared as dialogue), and therefore any reader with any background information may access it.

But how does one access a text, if one does not have background information on the situation of the author as he wrote the text? The answer we can distill from Ricœur's point of view is that the "ostensive" references in the text are not primary in the sense that we have to know exactly what they point(ed) to, in order to understand the text. Instead the text can refer either to a field of potential references, to other texts or to intra-textual elements. Either way, the reader accesses the potential meanings of the text by reading it and understanding its structure. Some degree of such analysis is not only a precondition for any interpretation, it is also the measure of any

piece, does, in my opinion, not count as performance of the piece, except if the 'accident' also involves dreaming up a substantial part of the same norms that happen to be inherent in the composition, and following them. (See also my example in 5.3.1 of why *intending to perform* a piece is necessary for a performance to be of a composition, even if the performance is sonically reminiscent of an undisputed performance of the piece.)

¹⁸The following is my rendition of the first pages of Ricceur (1981a). I have already touched upon some of these points in 2.5.2.

interpretation that might be presented – an interpretation can be deemed more or less "plausible" with reference to structural elements of the text that support the interpretation or add to the case of its negation.

Returning to Tykesson's project, he assigns a similar role to music analysis in the process of interpretation (I assume this is regardless of whether a musician is interpreting via the performance, or a listener is interpreting the music in the sense of trying to "understand" or "get something out of it".) Tykesson goes on to show how Anders Eliasson's *Quartetto d'Archi* can be analyzed as if it were a literary text, for each movement – except for the third – demonstrating a different quasi-literary aspect of the piece that can be discussed:

In relation to the first movement, he discusses how different developing themes can be viewed as "agents" in a course of "events". One might say that he shows how the music can have narrative structure, yet he seems to reserve the latter term for larger, "epic" pieces of music (Tykesson (2009, 267)), although he admits that a narrative analysis has strong connections to the analysis of processes in the music, such as the one conducted in relation to the first movement. ¹⁹.

In relation to the second movement, he discusses the interpretation of figures expressing generic ideas of emotion. This is somewhat connected to his discussion of gestures in the third movement. In the latter discussion, however, Tykesson abandons the metaphor of viewing the notated music as a text, turning instead to an explanatory framework that, although lacking the appropriate vocabulary, is slightly reminiscent of Ole Kühl's semiotic analysis of gestures as signs with a connection to the musicians' backgrounds, context etc. $(K\"uhl (2003))^{20}$

Finally, the fourth movement is used to exemplify the concept of "mimesis", one sense of which is already demonstrated in the above discussions, namely the ability of music to imitate or portray something else (as literary texts often do). Tykesson is, however, applying a more reading process

¹⁹The original title of Tykesson's dissertation plays on an ambiguity in the Scandinavian languages between "handling" understood as "action" and "handling" understood as an underlying "story" (e.g. the story of a movie or a book as opposed to the way the story is presented in a plot or specific linguistic structure). Tykesson's veiled point is perhaps that the "drama" taking place in the music is the result of actions by the individual players.

²⁰Actually, as I have described in 2.5.2, Ricœur (1981a) already points to the idea that human action could be analyzed in terms of semiotics, if we view occurred lines of action as texts to be interpreted.

oriented use of the mimesis concept borrowed from Ricœur, where not only the references to the world outside the text, and the way in which the text presents these references artistically, constitute the mimetic aspect of the text, but also how the reader links these elements in the text to elements in his or her real world.

The application of Ricoeur's mimesis concept here blurs Tykesson's project a bit, since we get a discussion of the process the listener undergoes, trying to analyze the fourth movement, not an actual attempt at analyzing the movement, although it later appears that Tykesson finds the movement exemplary of a "character", that is, a sort of gestalt that may be a parallel to a person or an atmosphere in a literary text. Tykesson does, however, not distinguish too clearly between analysis of character in this sense and analysis of "character" in a more conventional sense, where one merely looks to the indications in the score ("Allegro", "doloroso", "scherzo" etc. are all terms indicating a mood or character to be mimicked). If we take the idea of applying literary analysis to the piece seriously, one might imagine a type of psychological analysis of the movement character, taken as a whole that embodies both the composer's indications and our perception of the piece. Such a bold subproject aside, the general idea of Tykesson's dissertation raises the question, "to what extent must a musician understand the piece of music, in order to be able to interpret it?"

It should not come as a surprise to the reader that my personal view is that the intention of the musician settles the composition-performance relation. By an intention to play a given composition, I understand the immediate directedness of the musician's mind during performance towards playing the piece. (In other words, the thought embodied in "I intend to play $F\ddot{u}r$ Elise at the concert tonight" is not the sort of intention I am talking about.) This intention is, more specifically, a directedness towards the norms that the musician consider to be part of the composition, and hence, if the norms are understood as something that is to be adhered to, the intention also implies a serious attempt to perform the piece in question. In other words, the borderline case of someone getting on stage allegedly intending to play a given piece, but not having any idea of a normative structure of the piece, no understanding of notation (if relevant) and no ideas of what the piece should sound like, does not qualify as a case of intending to play a piece.

The question remains, however, *how much* of a normative structure must be understood by the musician, in order to be playing (and thus interpreting) a piece. Do we grant, for instance, that someone who tries to play $F\ddot{u}r$ Elise and only fumbles his way through a few bars after which he stops, is playing the piece? Firstly, we must consider whether the person actually intended to play the whole piece, or, more specifically, if he or she only intended to play the opening bars in the first place. In the latter case, we might say that the player is not performing $F\ddot{u}r$ Elise, because he did not intend to perform it, "it" being "the whole thing". On the other hand, not all pieces have a clearly specified length (this goes for many jazz and rock compositions, not to mention a lot of Indian music), so the importance of intending to play a "whole" piece varies with the context.

Secondly, if we assume that stopping is not part of the musician's initial plan, I would argue that it would be warranted to speak of such a performance as being "incomplete" in the sense that the musician has not been able to complete what he intended to (play the whole piece). Due to the aforementioned varying musical traditions, "completeness" may be conceived of and valued differently depending on context. In any case, a performance being "incomplete" does not, in my opinion, qualify as a reason for negating the composition-performance relation:

Imagine an orchestra playing the second movement of Dvoîak's 9th symphony, but being interrupted, e.g. by a nearby explosion or something else prompting them to stop and perhaps even evacuate the concert hall. Does it make sense to say "the orchestra was playing the second movement of Dvoîak's 9th symphony, but was interrupted"? Or do we have to say "the orchestra was not playing any piece at all, although their performance bore a resemblance to the first half of the second movement of Dvoîak's 9th symphony, as it was announced in the concert program that they were going to play"? Intuitively, it seems we do not have to hear an entire piece in order to have an idea of what someone is playing (or intending to play), so why should completeness of the performance relation? I do not think it should count. Only the musicians' intentions settle the composition-performance relation. The completeness or incompleteness of a performance may provide ground for valuing it as good or bad, but not as a non-performance.

A possible critique of my standpoint may still surface here: If it is only the case that a musician is not performing a piece when he is not intending to follow *any* normative structure he believes to be part of the composition, this means that an extremely minimal degree of norm-following is a sufficient condition for playing a piece. Yet, some may find it counterintuitive to say of a person who only knows two or three chords of a piece, that his three second attempt to play it is a real performance of that composition. It is counterintuitive, because we – whether we are musicians or mere listeners – expect a performance of a given piece to *sound* in a particular way, or, or at least, within a certain spectrum of ways.

I grant that the example is counterintuitive, but I do not think that intuition thereby gives us a reason to reject the demarcation criteria. Let us consider for a start whether trying to learn a piece in the rehearsal room qualifies as a performance. If it does, I do not find it particularly counterintuitive to call even the most feeble attempt to play a piece in such a setting a performance of that piece. Applying my own definitions, the musician certainly knows some of the norm structure he is trying to follow, and hence is playing the piece it is associated with. On the other hand, if one applies a traditional audience-oriented criteria for performance classification, the musician is (normally) the only audience in the situation, and since he knows what he is trying to play, he must, logically, be playing it. If learning / rehearsing does not qualify as a performance, then neither the rehearsal that results in a fullbodied playing-through-the-composition, nor the rehearsal that does not, qualify as performances.

Getting up in front of an audience to play a piece (or, in some cases, entering the studio to do a recording) is, however, a different story. But in this scenario, we should indeed let intuition guide us: When does someone enter the stage to play a piece of music? I conjecture that at least one of the following criteria is met:

- 1. The musician thinks he or she is able to play the music in question in a way that will satisfy the audience, in the sense that they will recognize what is being performed.
- 2. The musician is not sure whether the audience will be satisfied by his or her performance, but feel that he or she has an important interpretation of the music that the audience would benefit from hearing
- 3. The musician is not completely confident with every aspect of the piece, but chooses to give it a shot, urged by other people (e.g. teachers) that think he or she is ready to perform the piece
- 4. The musician does not know any of the piece in advance, but is confident that he or she will be able to read the notation or quickly pick up the tune and rhythm from the other players

The underlying condition in (1), (2) and (4) is an awareness of the audience and either a belief that the audience will be satisfied (in a minimal sense of the word) or gain something from the performance, or a confidence in one's own general abilities as a musician strong enough to dare trying to perform the piece even with minimal prior knowledge of the composition. In (3) – and in all other cases where a musician is urged to play on stage, which might also include e.g. (4) – someone else obviously has confidence in the musician's abilities to "deliver" in front of the audience.

In the light of these motivations for performing in front of an audience, I find it counterintuitive to imagine in the first place that anyone who only has a three-chord-knowledge of a much longer and more complicated piece such as in the example above, would get on stage to perform at all. If we do accept such a scenario as a thought experiment to consider, it seems unreasonable to dismiss its consequences merely on the grounds of being counterintuitive. Some might refer to modern televised "talent" shows as an example of people getting on stage without meeting any of the criteria above, or perhaps grossly overestimating their abilities in these respects. I have, however, yet to see a contestant in such a show that really delivers a performance that is *completely* incomprehensible if one is to link it to a composition or improvisation context. I have seen bad performances of pieces, yes, but not any that would make me consider applying the term "non-performance". So far at least.

The attentive reader may have noticed that I have taken good care not to speak of "the" norm structure of a composition, but only a norm structure that a musician thinks is related to the composition. This may give rise to a further objection: What if the norm structure a musician envisions and tries to follow in the performance situation does not have anything in common with the norm structures that are traditionally considered to be part of a given composition?

Here Tykesson's project becomes relevant: when becoming acquainted with a composition in one of its arranged guises, we are indeed analyzing the object at hand, whether, as in Tykesson's main example, it is a notated arrangement or a first recording of a piece we want to play. (Of course, Tykesson seems to argue that this analysis ought to go further than it usually does.) Different analyses may highlight different features, yet, because human beings share a lot of basic modes of perception, and because musicians (and listeners) for that matter are influenced by traditions (that also have intersections), it seems reasonable to assume that such analyses will characterize overlapping sets of features. Just as it seems unlikely that a person will be led to the situation of being on stage to perform a piece of music if he or she has not somehow been a part of the tradition of music-making beforehand (through training, practice, exposure to music that has inspired him or her etc.), it seems unlikely that a musician will form an idea of a normative structure (from reading a score or listening to a model performance) that is not in *any* way related to the traditional view of the composition.

We might imagine that a musician conceives differently of a composition than everybody else, but it would be very unusual, if the musician was not aware that this opinion was in contrast to the ones of everyone else, thus having a consciousness of the tradition against which he was revolting. In many cases we could even say that his ability to form such a contrasting opinion demonstrates his expertise and level of reflection on the music he hears and plays, whereas a less trained, or reflected musician would typically rely very much on tradition when making performance choices. If we imagine a scenario in which a musician forms an idea of a norm structure that he, by his own definitions, relates to a named piece of music, but where this norm structure is not related in any way to the traditional view of the piece of music, and where the musician is not aware of how his opinion contrasts with everyone else, this thought experiment already runs counter with intuition, and it thus seems circular to reject its consequences on the basis of being counterintuitive.

To repeat myself and to answer the question posed in the heading of this section, expertise is *not* strictly speaking a requirement for performing or interpreting a piece of music. It is, however, in varying degrees, most commonly a property of a musician who intends to play a given piece. It is also, arguably, a requirement for doing *successful* performances, that is, performances that in one way or another satisfies the audience (not necessarily pleasing them in the sense of being "soothing").

It is time now to lay out in more detail how musicians form their view of what the composition is (which rules it constitutes) and how these rules become relevant in the music performance. This discussion also raises a different question: Where should we draw the line between interpreting an existing piece of music and composing a new one?

Chapter 6

The Fine Line between Composing and Interpreting

In this chapter, I will try to give an account of compositions in terms of more or less specific rules for a performance. By this I do not intend to identify *all* the rules governing a performance with some composition, but conversely the composition with *some* of these rules. Special attention will be given to a discussion of what sort of rules can be part of a composition (do these necessarily only concern sound production?), and to discussions of what exactly distinguishes scores from compositions, and compositions from arrangements or interpretations of existing pieces. At the centre of the chapter is a discussion of how musicians tend to attach priority to a given set of instructions/rules and to which extent such a priority ranking can be contained in the composition itself.

The idea that musicians follow rules in a performance should not be radically new to the reader. After all, playing music is a highly ordered activity (ordered by the human mind, that is), and it is difficult to imagine a performance process with more than one player that does not necessitate some sort of infrastructure with respect to how one should generally order one's actions in relation to the rest of the ensemble. At least not if the aesthetic ideal for the performance is that it should come out as an ordered whole. (This is, I believe, an ideal in virtually all music making – performance contexts that deliberately try to violate this ideal are, in my opinion, doing so exactly to highlight our general need for order, of how ever minimal a degree).

Intuitively, in a composition-based performance context, such as a clas-

sical chamber group, where the composition is even embodied in a physical score and individual sets of note sheets for each musician, at least *some* rules or principles, namely (some of) the instructions on the paper, are adhered to. (I will discuss – at length – how I think one should distinguish between scores and compositions in 6.4.)

In improvisation-based contexts, or other contexts with a 'looser' sense of "being based on," the musicians often relate to the conventions of the genre, e.g. typical chord patterns and rhythm structures, senses of period etc. In certain ways, the formation of genre conventions compares to the formation of a view of what constitutes a given composition (whether a conventional view or an individual view). The extent to which we can speak of genre conventions as a type of 'meta-compositions' will be discussed in 6.6.

In general, whether or not a piece of music is scored, the composition is a set of rules distilled from the score or prior performances of the piece. In order to discuss to which extent we can call the 'distillation' of rules for performance an act of co-composing, we must first consider the ways in which such a distillation takes place. This is the subject of 6.3.

In addition to the rules stipulated by the score (if any), the musicians encounter or, rather, are provoked to reflect about rules for their conduct when they experience something in a performance (or recording for that matter) which is exemplary of **how they think a performance should be** or **how they think a performance should not be**. This phenomenon will be discussed in 6.5.1, 6.5.2 and 6.5.3.

6.1 The Composition as a Set of Rules

As discussed in 3.3, some theorists seem to envision the musical "work" as a gestalt inherent in all of performances of the work, or something that each of the performances in its own degree resembles. Although I certainly think that music making very often (but not always) has some sort of gestalt as its *goal*, I do not think the creative effort of a composer should, necessarily, be identified with such a goal. Composers do not issue gestalts. They issue scores, make performances or issue recordings. Each of such entities (scores, performances and recordings) may or may not have some abstract gestalt associated with them, but the moment they are taken as models for (further) performances, *all* of them are viewed as entailing sets of rules for making music.

Whereas it might be a point of debate whether the sonic gestalt (if any)

in the mind of the composer is his own creative effort or should be regarded as a "discovery" (I have argued the former in my critique of Platonism), it can hardly be controversial to state that the instructions formalized and put forward by a composer in a score, or his arrangement of a piece in its first performance or recording, indeed constitute his work. Whether *everything* the composer has composed in connection with a score, (first) performance or recording is identifiable with *the composition* is a different matter – and one that, as I have argued and will argue, cannot be settled in an absolute sense, but is dependent on individual views of the relative importance of the rules inherent in the composer's 'product'.

I also think, as hinted previously, that musicians do not access the work of the composer as a sonic gestalt that they *then* try to model in their performance, but rather approach it as a set of norms/rules/instructions. In this sense, whatever our view of "the work" may be, musicians deal with *compositions* understood as sets of instructions from some composer(s) to them. (By "some composer(s)" I mean to hint at the cases where a piece of music do not have just one or any clearly defined composer.)

As mentioned in 5.5.2, Okubo (2001) characterizes the musical work as a "game." His view of games in general seems influenced by the Wittgensteinian idea of a game where one can only really get to know it by playing it. Even though it may be the case that in order to fully *appreciate*, say, the game of chess with all its possible challenges, I think that it is – in theory – always possible to state the rules that comprise such a game. Similarly, to fully appreciate how the rules of a composition 'work' so to speak, we may need to engage with the piece of music either as musicians or in an extremely reflective listening process – or, to adopt Okubo's framework, to be "insiders" of the game.

I have already discussed my quarrels with Okubo's claim that I can only understand the game *while* perceiving it as an insider. I do not think this is so, but I acknowledge that there can be instructions from the composer that are difficult to *formulate*, that is, in words. Yet, at the same time, I think these instructions can be – and are – *shown* by e.g. instrument teachers to their pupils. Also, as I will return to in 6.5.1, 6.5.2 and 6.5.3, some rules derivative of the formalized instructions may not be grasped by the musicians until they become relevant in a performance.

These refinements aside, I think viewing a composition¹ as a game with

¹Following my considerations above, I henceforth replace Okubo's "musical work" with

a set of rules may be a very good illustration of how musicians relate to the music they play. Professor William Westney of Texas Tech University suggested (in conversation) that this parallel may be developed further, because, similarly to the difference between thickly and thinly specified works within Davies' framework (this is my expansion on Westney's comment), some games have very few rules and other games many restrictions.

Returning to my board game analogy (see 1.2.1, we would certainly grant that each player can do whatever he wants within the rules of the game, and that, even if he manages to win the game in a new, clever way that no one has ever seen before, he is still playing the game if he stays within the rules of it. Similarly, the range of possible actions in the performance of a composition is only limited by the musician's imagination and the rules of the composition (in tandem with general rules for the performance). As I have stated several times in the previous chapter, I do, however, not think that the composition constitutes a boundary on the performance in virtue of being *heard*. It is not a set of criteria for what counts and does not count as a (completed) performance of a piece of music. It does, however, constitute a boundary on the performer's *intentions*. In other words **it provides limits for what a musician can** *want* **to do when setting out to perform the music.**

What is special about the rules constituting a composition is that they are always perceived alongside a ranking of priority, in the sense that if something in the performance (e.g. a mistake or a coordination problem) forces the musician to choose between fulfilling one or the other rule in the composition, she will make a choice based on how important she thinks one rule is in relation to the other. To the extent that such a priority ranking is part of the common view of how a given composition should be understood, we could say that the ranking is an additional collection of rules that are also part of the 'composition game'. In the case where musicians in an ensemble agree (more or less) on *what* the rules of the composition are, but not on their individual priority, it may, however, make more sense to denote the rules, plain and simple, as the composition, and the priority rankings as the musicians' *interpretations*.

This means, of course, that there can be situations where the musicians disagree with respect to how 'the game' should be played. This disagreement is, however, in my opinion not a disagreement on *which* game is being played, but a disagreement on how to reach coordination in the performance. In a

[&]quot;composition"

board or card game, it often happens that a player forgets to obey a specific rule. This does not necessarily ruin the entire game, as long as everyone is aware that a rule has been forgotten at that specific point, and how the game should now continue. Active, unresolved disagreements on how the rules of a given game should be prioritized, and, as an eventual consequence, a disagreement on *whether or not* a rule has been violated, can, however, ruin the experience of the game, because it makes it difficult, and in most cases impossible, to agree on a solution for a coordination problem. I will save a more detailed discussion of the dynamics of a coordination problem to the next three chapters.

Before approaching the relation between a composition and its interpretations, I would like to briefly focus on the differences between the 'rules' stated in a score and the set of rules comprising the composition.

6.1.1 The Score in Contrast to the Composition

Just as the composition, the score is, as e.g. Ingarden (1986, 34-40) notes, in itself an abstract structure numerically different from its specific physical instances, yet qualitatively identical to the general structure of these, much in the same sense that a given novel should be understood as the structure inherent in all the individual copies of it (to utilize an example from Wolterstorff (1975) in a slightly different context). Scores are also sets of instructions for performance. Despite these similarities, scores are not to be confused with compositions. A score is but one possible arrangement of a composition in that we may consciously dispense with one or more of the instructions inherent in the score and still be playing (an interpretation of) the composition.

If we insisted on an identification between score and composition, we would end up rejecting any interpretation or arrangement that deviates from the score as being 'of' the composition. Even if we held that the composition was *some* of the rules formalized in the score, we would have a problem, because, as discussed in 5.3, rules that are (e.g. traditionally) considered part of the composition are sometimes not explicitly stated, but assumed as part of how the musicians in the relevant performance context would traditionally interpret the explicit instructions. Having defined a composition as a set of rules, we will therefore have to refine this further by stating that a *subset* of these rules must be a *subset* of the rules of the score.

How large the subset of rules shared by the composition and the score

must be for the score to contain the composition is an open question. There might be situations where the score comes after the composition, and there are other situations where a musician consults a score to be able to play (some interpretation of) the composition for the first time. In both cases, the score (or sheet music, broadly speaking) is generally considered to be an aid to the musician in performance. Therefore we can generally assume that score and composition share a certain amount of rules in order for the score to be accepted as a score at all.

The composer who issues a score presumably also expects the musician to "get to know" his composition through the score. Yet, we might dream up an example where the relation between score and composition is merely conventional, because so many parts of what we understand as the composition are missing from the score. In short, the relation between score and composition with respect to shared properties varies with the nature of the situation. In any case, however, the score and the composition are two different sets of rules.

Drawing once again on the analogy with a board or card game (see 1.2.1), such a game might come with a set of printed instructions. It is, however, not uncommon that a set of rules for a game is incomplete, somewhat opaque or have instructions that can be considered optional (such as whether the player in *Cluedo/Clue* has to move his man to the room involved in the accusation he wants to make). In such a case, the people participating in the game will have to interpret the set of instructions, deducing a set of rules (perhaps even with a few extra ones added for coherence) that they then treat as *the* set of rules. The relation between printed rules and the actual rules followed by the players echoes the relation between score and composition. In a music performance, however, it may be more common for the players to have varying views of which rules constitute the composition than a similar disagreement among the players of a board game.

So far we have considered only the nature of compositions and scores as being sets of rules. But what about the nature of the rules themselves? More specifically, which type of instructions can be part of a composition at all?

6.2 Is the Composition 'Just' Rules for Sound Production?

As a starting point, a definition of the rules inherent in a composition as being instructions for the performance of sound, seems intuitively plausible. Although it might generally be the case that musicians make sounds when performing a given piece of music, it is, however, not trivially true that "making sound" is, in itself, the object of music performance. I am not particularly thinking of some experimental scores that do not contain instructions for sound performance at all (it is, as I will return to later in this section, a point of debate whether these imply a composition or not). Rather, I wish to emphasize the fact that the experience of music is not just an experience of sound pure and simple, but an experience that is structured by our minds. Hence, instructions for making *music* are not just instructions for making specific sounds.

I have briefly discussed (in 4.4.2) Stephen Davies' observation that we are not able to perceive the development in a piece of music without relating it to a context that we already understand, such as the sonata movement, but his point extends even further: Even when we listen to specific tones, we relate these to the structure of a scale and try to make sense of them, even if they – which is very often the case – are not at the exact frequency we assign to the notes in the particular scale. (Davies (2001, 47-57)). It does indeed seem that a prior understanding of musical structure is necessary to hear specific sounds as music at all. The question is, then, whether the sonic aspect of music is essential to it at all. The Danish composer Karl Aage Rasmussen holds that it is not:

Music is something else and more than sound. [...] music resonates onwards in the silence, and everyone who has tried humming a melody in their head knows it. [...] In Thomas Mann's *Doktor Faustus* the [...] organist Kretschmar says somewhere that "perhaps the biggest wish of the music is not at all to be heard, seen or felt, but, if possible, only sensed as pure spirit somewhere beyond the senses." And in the large essay he wrote as a prologue to his *Concord* piano sonata, Charles Ives noted, provokingly: "What does sound have to do with music? What the music sounds like is perhaps not what it *is* at all!" It may look as if music is assigned a sort of superperceptual, metaphysical existence. But really, it is quite down to earth: When music transcends the limits of sound, it does not cease to be music, it just ceases to be sound. [...] it becomes – in one word – memory. (Rasmussen (2008, 9, my translation))

One might infer in response to Rasmussen that a piece of music does not become a memory, but rather, a memory of the music is generated. Rasmussen is, however, correct at (implicitly) pointing out that the structure of the individual sonic instance of music and the memory of it are closely related. We can even appreciate a piece of music by appreciating the memory we have of it. And finally, one can always refer to Beethoven as the example par excellence of a person not perceiving music as mere (actual) sound.

It is worth noting that Rasmussen's argument tacitly refers to listeners who are accustomed to music. I find it less plausible to imagine that people who are *born* deaf (contrary to Beethoven) can learn to appreciate musical structures, because it is exactly *through* sonic instances that we are introduced to the pleasures of music. That being said, it does seem that a lot of the instructions of a composition do not have to do with specific sounds, but with sounds that, when heard in succession, fall within the realm of sound sequences resembling (a realm of) certain "abstract" structures. Ingarden (1986) even lists a number of categories of "non-sounding elements" of a musical work, meaning characteristics that we experience in a piece of music, but that do not refer to sound material pure and simple.

One example of such an element is the temporal or quasi-temporal structure of the work (Ingarden (1986, 89)), that is, both rhythmical structures and related structures having to do with tempi. That hearing something *as* a rhythm does not just result from the sound material itself is witnessed, I think, by situations where we e.g. – for fun – try to interpret repetitive sounds in our environment as rhythm patterns², but also by the fact that

²An internationally applicable example would be the noises from roadworks. In Denmark, many pedestrian light crossings have speakers that emit short beeping sounds at either long intervals (to signal for people with impaired vision that the light is red) or short intervals (to signal that the light is green). At some crossroads, one can often hear the sounds of up to eight signal speakers at the same time, which, since even similar signals may not be perfectly synchronized, can create some very complex sound patterns. Incidentally, Japanese pedestrian light crossings have small pieces of music playing, filling exactly the interval of time where one may. This has been documented by Jacob Kreutzfeldt in the talk "Sound Design in Japanese Urban Space" at *Music and Sound in Public Space*, the 11th national meeting of NTSMB, the Network for Cross-Disciplinary Studies of Music and

not all of the sounds we actually hear in a piece of music have the same rhythmical significance to us, even if played at the same volume.

Ingarden also refers to the shape of a melodic line or chord structures as non-sounding elements, although these "manifest themselves directly as the determinants of sound-constructs" (Ingarden (1986, 93)). In other words, we "get to know them" through hearing them in actual sound.³

In short, these considerations of the abstract structural component of music points to the fact that the rules of a composition are not necessarily concerned with the production of specific sounds, but rather instruct how the flow of sound should be *ordered* by the musician.

Given that pauses, gestures and other, loosely speaking, non-sounding elements of a performance are nevertheless important parts of the music, it also seems that one cannot as readily dismiss the type of experimental scores mentioned earlier that mainly give the performer instructions of a theatrical character (as is the case with many of John Cage's works, but also with the work of many other composers, such as Alexander Bakshi⁴ as entailing compositions. These types of scores are difficult to judge, because they are borderline cases. We could, just as well, imagine scores that *only* request specific sounds, e.g. this or that tone played at a specific frequency at an exact volume for so and so many seconds on an instrument for which there may be other special requirements. Even though we might possibly be able to hear music in a performance that adheres to such a score, its emphasis on individual sounds rather than overall structures runs counter to what we normally understand by a composition. More specifically, it does not make

Meaning (Netværk for Tværvidenskabelige Studier af Musik og Betydning), University of Southern Denmark, Esbjerg, November 17-18, 2006.

³Ingarden seems to gradually lose his own thread during the chapter "Sounding and Nonsounding Elements" (Ingarden (1986, 83-115)), as he starts out by listing structural aspects of hearing music as such, but then also lists elements of our *experience* of music that are the result of *associations* and that do not have sonic properties in themselves (e.g. "movement," "emotions" – that is, expressive qualities). He may be correct in asserting that the "aesthetically valuable qualities" we experience in a piece of music are part of the "non-sounding" structures we order the sound according to, but whereas two listeners may have – and continue to have – differing opinions on the aesthetic merit of a given passage, the structures according to which we perceive rhythm or melodic structure seem to be common, at least within a given culture.

⁴An example is his *Hamlet Is Dying* (1998), the performance of which involves a funeral procession with a double bass representing the coffin (recorded by Gidon Kremer and Kremerata Baltica, Long Arms Records, 2000).

interpretations possible. Scores that do not entail the production of *any* specific sounds or structure of sounds do not seem less appealing than scores that do not allow even the slightest deviation.

Whether or not we include in the realm of compositions the material of performances that utilize such experimental scores, it appears that it is the quality of being normative as such, not necessarily normative with respect to the production of sound, that characterizes compositions. One may, on the other hand, hold that instructions for non-sounding activities can, arguably, also relate to the concept of sound. In any case, we should be careful once again not to identify the instructions of a composition with instructions for the shaping of some sonic gestalt. Whether or not a coherent gestalt is distinguishable in a performance is dependent on both the creative effort of the composer and the musicians *and* the response of the audience. The composition, as the musicians relate to it, generically consists of instructions or rules to consider, not a full, recognizable structure that has to be 'portrayed'.

6.3 The Rules of a Composition Prioritized

When pushed into coordination problems – that is, when coordination becomes difficult due to individual deviations from the initial "plan" – musicians in an ensemble often have to decide which parts of the piece of music they want to preserve, or rather, which parts of the composition are more important to them than others. If intending to play a piece for solo instrument and orchestra accompaniment, the musicians would, naturally, have the coherence of the solo voice as their highest priority, so that, if something goes wrong in the accompanying instruments, the general strategy will be to get as quickly through these difficulties as possible, preferably without extending the temporal structure of the piece. (Otherwise the soloist will have great troubles following the orchestra – and vice versa.)

If, on the other hand, it is the soloist who messes up, e.g. gets behind in relation to the score, the accompanying musicians must adjust to this deviation by deviating from the score themselves. A lot of symphonic music has the character of being series of solo themes in different instruments with accompaniment in the rest of the orchestra. Sometimes such themes overlap, especially in classical music from the romantic period and beyond. In these cases, musicians sometimes even have to decide for themselves which themes they find more important than others, if they find themselves in a situation where they have to choose between following this or the other musician. I conjecture that such choices are never random but always reflect the priorities of the musicians. If the musicians really do not have any idea of what they find important in a given passage, coordination problems such as these may not be solved at all. (Of course, the musicians might still be unable to reach an agreement on how to solve a coordination problem, even if they are aware of their own priorities.)

One may think, especially with the variety of jazz, latin, pop and even rock versions of melodies from the sphere of classical music, that there is simply a general order of priority with respect to the elements of a composition, e.g. rules instructing melody over every other type of rule and rules instructing harmony over those instructing rhythm. This is not the case. Just as what contextualists refer to as "the work determinative features" (see 5.3) may consist of very different elements of a composition (melodies, harmonic structure, rhythmical structure, instrumentation etc.) depending on the piece of music in question, the priority ranking ascribed to the rules of a composition also varies from piece to piece.

Within a given genre, there may be particular 'standard' ways of prioritizing the rules of a composition. In (especially progressive) metal, as previously hinted (see 5), the rhythmical structure (or, more accurately, the rules guiding it) can sometimes take the *highest* priority, trumping even harmonic and melodic aspects of the composition (although the performance, of course, preferably preserves these). Although this seems to be a convention in some cases, the reverence to rhythmical structure in metal does, however, seem to stem from the fact that the genre frequently provides examples where exactly the rhythmical aspects stand out. A few examples:

Oceansize, strictly speaking not a metal band, but very influenced by this tradition, use a shift from 11/16 to 9/16 to signify the date 9/11 in their song "Commemorative ____ T-shirt" (unofficially entitled "Commemorative 9/11 T-shirt") from the 2007 album *Frames* (Superball Music). The Pain of Salvation song "Fandango" \triangleright from *Remedy Lane* (InsideOut, 2002) has a characteristic 5/4 rhythm that is further complicated in the chorus where the vocal pattern is in bar-length quadruplets. This being a rather unusual rhythm even within the group's brand of progressive metal (at that time), seems to make it an essential component of the piece.

It is important to note, however, that the idea of certain elements having higher priority than others does not mean that there are features of the composition that *must* be adhered to for a performance to be of that composition. It may very well be that a group of musicians find themselves faced with a coordination problem, the solution of which they cannot agree upon – a situation where it may become impossible to fully adhere to *any* of the rules of the composition. Such a performance would rightfully be deemed unsuccessful in that it is difficult for the audience to recognize it as a coherent interpretation of the composition at hand (or rather, an agreeable relative of the performances of the composition they are accustomed to), but it is still, strictly speaking, a performance of that composition. What defines the composition-performance relation is the musicians' intentions to follow a given composition.

Intending to follow a composition does not mean intending to follow all of a fixed set of rules, but rather intending to follow, *in some order of priority*, a number of the rules inherent in the composition. An example:

"Love Rears Its Ugly Head" ▷ by Living Colour was originally recorded in a very distinct arrangement on the album Time's Up (Epic, 1990), with a simple, yet harmonically interesting guitar riff in the verse, accompanied by drums and bass lines copying the rhythmical structure of that riff. The band's own remix, "Love Rears Its Ugly Head (aka Soul Power Mix)," ▷ made available as a bonus track on the aforementioned album, keeps the original guitar riff, but replaces the drums and bass tracks with slightly hip hop-like patterns that do not follow the rhythmic structure of the guitar riff. The live version of the song included on the album $Stain \triangleright$ (Epic, 1993) mimics the structure of the remix, but even alters the rhythm pattern of the guitar, so that we only recognize the original chords, but not the distinct motive of the first studio version. Corey Glover's vocals (identical on the two former versions) are, in the live recording, more freely embellishing upon the blues scale the original melody is more or less built on. Which rules, can we say, constitute the composition in these three cases? We might, as listeners, identify the same harmonies (chords, scales etc.) in all these three versions. It is, however, not difficult to imagine a different performance of the song that keeps the original rhythm structure, but changes the harmonies a bit here and there. So, is there anything that binds these possible performances together?

There is. The musicians have an intention to play "Love Rears Its Ugly Head," and – probably in all cases – the norms that constitute the composition *for them* have a certain order of priority. What differs between the individual performances is the goals of the group in *addition* to following the composition. Because each performance deviates *deliberately* from the

original arrangement, not *all* the same rules can be adhered to by the musicians in every version. Yet, just as if the deviations had been unintentional, the group has strategies for how to proceed *given* the deviation, and these strategies are formed in accordance with the composition understood as a prioritized set of rules. We may never know exactly what Living Colour's own view of the composition "Love Rears Its Ugly Head" is, but the example above suggests that the musicians in each case consider *some* rules of the composition relevant.

With the contextualist view of musical works in mind, we might ask whether some compositions *entail* a certain order of priority of their instructions, given the context in which they were written (musical genre, period etc.) and the intentions of the composer. In other words, do some compositions "come with" priority rankings of their instructions?

In general, I think the priority ranking of instructions in the composition is a product of tradition, culture and individual preferences. Naturally, a musician's ranking of the priority of a given number of rules is influenced by his or her knowledge or assumptions about the composer's intentions, his life and times etc. Knowing Shostakovich's motivations for writing his 5th Symphony \triangleright changes the priorities of a musician with respect to particular expressive or suggestive features of that piece, e.g. whether a particular pseudo-romantic passage should be played tenderly or, rather, 'mockingly' (mocking the musical tastes of Stalin who the composer was – at that time – officially trying to please). Yet it is questionable whether the resulting ranking is a fixed part of the composition. I argue that it is not.

Even if we are aware of the composer's intentions with a given piece of music, we may consciously want to deviate from these, in the sense that we do not necessarily prioritize everything as the composer might have intended us to. This is the case with a lot of interpretations of a given piece of music, where the interpreter (the performer or the arranger) wants to 'twist' features of the composition to evoke different feelings or associations in the listener. It is a complicated question where we should draw the borders between interpreting a composition and following a new one that merely has similarities with the first composition. There might, however, be ways of minimizing this problem of demarcation, as I will try to show in 6.4.

It may be quite difficult in some cases to imagine how the ranking of priority of a given piece of music can be changed at all. In my opinion, this is due to the fact that we tend to attach high priority to the features that make a composition 'stand out'. Within metal, as previously discussed, the rhythmical structure is often ascribed a high priority in relation to melody and harmony. It is, however, quite imaginable that musicians within another genre could do a cover version of a metal song, where they had altered the rhythmical structure drastically and yet still maintained a recognizable similarity with the original piece. If such a cover version was accepted by the general community of listeners as a version of the original piece, it would highlight that what made that piece of music 'exceptional' was not really the rhythmical structure, but e.g. some catchy tune.

In the case of Dream Theater's "6:00" \triangleright from Awake (EastWest Records, 1994), we would, however, find it very hard to imagine an interpretation that did not pay respect to the distinct drum groove (that even opens the song as a solo), because this is a feature that 'stands out' in our memory of the song. Another example from a different genre would be Lenny Kravitz' "Are You Gonna Go My Way?" \triangleright (from the album of the same name, Virgin Records, 1993), where the distinct guitar riff is what makes the song stand out from the vast amount of music based on the same blues chords it utilizes. The riff is repeated in virtually all cover versions of the song. ⁵

In all cases, we tend to attach high priority to features of the composition that we remember, things we find 'special' about the music. This does, however, by no means entail that these features *are* in an absolute sense more important than the other ones instructed by the composition. Although each generation will probably think they have the 'right' way of interpreting, say, Bach's ensemble music, I do not see any argument that commits one to the point of view that Bach's ensemble music *should* be played with a steady pulse and no romantic rubato. Whereas this way of playing Bach's ensemble music is more commonly appreciated today, its opposite would have been an acceptable way of interpreting Bach's compositions in the 19th century.

We have no way of knowing to which extent Bach wanted his ensemble music to be played with strict adherance to rhythmical structure or not, and even if we knew, I do not think this would commit us to do exactly as he intended.

So how should we understand the relations between the concepts of "score," "composition" and "interpretation"? This is what I will try to

⁵Curiously, Kravitz' own version from MTV's *Unplugged* series does not include the riff, but plays like a regular, slowly paced blues. It is a point of debate whether he has thereby made a new composition, or whether the priority we attach to the riff is a subjective matter.



Figure 6.1: A simplified example of the relation between score, composition and interpretation

clarify in the following section.

6.4 Scores, Compositions and Interpretations

Figure 6.1 shows how I envision the relation between the rules (or instructions) of the score (or the traits of a model performance for that matter), the rules that are understood as the composition, and the individual musician's interpretation of the composition. The "…" at the bottom of the "score" is just to indicate that a score (or the set of rules distilled from a model performance) is usually made up of several more rules than are regarded as part of the composition. The score is nevertheless still a finite set of rules. A subset of the rules of the composition is then regarded as a subset of the rules inherent in the score or model performance. The reason why only a subset of the rules included in the composition is part of the score is that in some cases, we assume that some rules would have been tacitly understood as belonging to the composition, even if they were not explicitly stated in the score, e.g. if the composition originally occurred in a specific performance practice. (Think e.g. of scores for jazz standards, where the "swing" structure is seldom notated in a rhythmically exact way.)

As stated in the figure, opinions on *what* belongs to the composition may differ across musico-historical contexts, and I do not think the composer's (stated) intentions are an absolute authority on how the selection is demarcated. (Even composers may not always be fully aware of what is important in a piece of music they have created.) I do, however, think that the composition, understood simply as a selection of rules, is a more common, shared construct across a given time, culture or group than the *interpretation* of this composition is.

A further, important point here is that even though my model distinguishes between compositions understood as selections of rules and interpretations as prioritized lists of these rules (and occasionally new ones), I do not think it is possible to think of a given composition, *without* considering it in some interpretation. We cannot think of rules without – whether we like it or not – considering some of them more important than others. We may come to revise our interpretation later on, thus gradually forming an idea of the composition as having several different interpretations, but it is unlikely that we will ever be able to imagine what a given composition would be like viewed only as rules and without any prioritization.

The interpretation may be a view shared by an entire culture of what is generally more or less important in a composition. Naturally, an interpretation can also be specific to a group and in some cases to an individual. The general idea is that the rules are – explicitly or tacitly – thought of as having relative importance. They are prioritized, and their order of priority shows itself when musicians are pushed into (or deliberately enter) situations where they cannot fulfill all the rules on the list, but have to choose which rules to respect (at the expense of others).

Finally, the interpretation can contain new rules that are not part of the original composition, that is, rules understood as "instructions to him/herself" that the musician intends to follow. This is especially the case in interpretations that are deemed "novel" by listeners. I have shown this situation in figure 6.2. As stated in the figure, the new rules are seldom assigned a higher priority than the instructions inherent in the composition. In fact, I conjecture that if new rules *are* assigned a higher priority than the rules in the composition, we do no longer have a mere interpretation, but a This interpretation may also contain rules that are not part of neither the score / model performance nor the distilled composition. It is, however, unlikely, that these "extra" instructions will have higher priority than the rules stemming from the composition.

- 1. Rule 3
- 2. Rule 2
- 3. Rule 8
- 4. Rule 6
- 5. Rule A*
- 6. New Rule B
- 7. New Rule C

The individual musician's ranking of these rules = the musician's interpretation

Figure 6.2: A simplified example of inclusion of new rules in an interpretation of the composition sketched in figure 6.1
new composition. Or, to be more specific: When, at the stage where an act of interpretation would take place, new rules are being adhered to at the expense of all the rules in the composition, an act of cocomposing is taking place. By "at the expense of all the rules in the composition," I mean that if the musicians are pushed into a coordination problem where they cannot proceed according to their original plan, they will, to the extent it is possible, not dispense of the 'new' rules. An example:

Suppose I intend to force a well-known tune, e.g. "One Note Samba" \triangleright by Antonio Carlos Jobim, originally played in a bossa nova rhythm, into a swing rhythm pattern. Now, suppose during a performance with a small group of jazz musicians, I realize that not everyone has the same idea of what the swing rhythm should be like – in fact, people are now starting to float apart, and the performance gradually sounds more and more incoherent. For the sake of coordination, I shift back to the original rhythm pattern, and, to my satisfaction, each of the other musicians one by one find their way back into the well-known bossa nova rhythm. My original intention for the performance was abandoned, but the group managed to preserve what were the more important rules of the composition.

In this case, my interpretation of "One Note Samba" is *not* an act of cocomposing, because the new rule I have thrown at myself in the performance has not attained a *higher* priority than the rules of the original composition (as I view them).

Consider a different example: A band is – at the outset – covering a familiar Beatles song, say, "Help," but at a slower tempo, adding different harmonies and a new guitar riff. Suppose that during the performance, the singer has to clear his throat at some point in the verse, thus forcing the other musicians to decide whether they will wait for him, e.g. by adding extra bars to the verse, giving him the opportunity to finish the vocal line he started, or whether they will just continue according to their initial plan. If they do not wait for the singer – if, for instance, they consider it more important to keep the new riff they have added consistent, then they have actually co-composed the piece their performance is based on.

I say "co-composed" to indicate that the creative effort of the original composer does not lose its relevance, but is *supplemented* by new rules for performance.

I do not think that these criteria necessarily makes it easier in real life to distinguish between the act of interpreting and the act of composing. I do, however, think that they provide a conceptually clearer basis for such distinctions. Distinctions between interpretations and compositions are, in fact, very relevant to copyright agencies when categorizing a piece of music as an arrangement of an existing composition or an entirely new composition lending some of its ideas from an existing one. Some of these 'equations' are traditionally are done by considering the *amount* of new material brought into the recording or new score, and considering whether this constitutes enough *originality* for the recording or score to be categorized as a new composition. In my opinion, a method of categorization with my distinction above in mind would be more adequate: What should matter is not the amount of new features brought to the table, but whether these new features (along with the other rules) can be the basis of *further* interpretations. In other words, if the new rules are assigned a priority that is on the level of the instructions as conceived of in the original composition.

A categorization on the basis of my criteria refers to the *intentions* of the performers when setting out to perform a piece of music. It is which rules matters to them that settles whether they are interpreting an existing piece of music or performing a piece co-composed by themselves. Copyright agencies, however, mostly assess performances and scores at the level of a listener or spectator, and it would therefore demand an unusual level of identification with the performing musician, if these agencies were to adopt my distinctions above.

An unexplained concept here is *arrangement*. An arrangement is an interpretation of a composition, but specifically an interpretation that is somehow preserved for future repetition, e.g. in a score or recorded performance (live or in the studio). Compositions always present themselves to us in some arrangement – even the first score is in itself an arrangement of the composition, even if we do not normally refer to it in that way. (Yet, it follows, once again from the fact that we generally allow⁶ that interpretations which are, necessarily, deviating from the score, are still "of" the composition.) In sense of being meant for repetition, an arrangement can indeed be the basis of further *performances*, broadly speaking. But we would seldom hear people speak of something being an *interpretation* of an arrangement. Rather, a performance that utilizes an arrangement and deviates (intentionally) from it, is an interpretation of a composition inherent in the arrangement, whether this is the original composition on which the arrangement is based, or a new composition resulting from significant new features in the arrangement.

⁶Not including Nelson Goodman, as seen previously.

6.4.1 A Few Questions about Relativism vs. Realism in Composition Classification

One might at this point ask, "does the composer have no authority at all with respect to deciding what is and what is not part of the composition, and where the border lies between interpretations of his work and entirely new compositions?" It may seem counterintuitive to disregard the sometimes explicit intentions of a composer with respect to how one of his pieces should be understood. I hold that there can be good reason to respect the stated ideas of the composer when performing a piece, because s/he will often have a good sense of where the – or, rather, a strong 'core' of the composition lies. His authority (to the extent we can call it that) is, however, in virtue of having known the music for longer than anyone else, thus presumably having better insight into the finer structures of the composition than the first time performer. The composer is not privileged with authority over the classification of his work just because he wrote it. Once a composition is 'out there', it is open for everyone to interpret.

That being said, another question may be raised: "Is there really no authority on what counts as rules belonging to a composition, and what does not?" If compositions are supposed to be some sort of real objects we can relate to intersubjectively, this question entails that there must be some sort of absolute standard for which rules are part of the composition and which are not. We may be unable to know whether we have the 'correct' view of this standard, but we tacitly assume that something is, and something is not a part of the composition.

It is intuitively appealing to refer to the composition as the composer related to it when writing (or performing) his first arrangement as such a standard, especially if we (as I) want to emphasize the composer as creator of the composition, not discoverer of some Platonic entity. Composers change over time, and may forget or disregard what they initially intended, but if we were somehow able to go back in time and stop the composer right after he had finished his final draft, then we would perhaps be able to use him as a judge on specific cases of classification, e.g. let him consider whether this or that performance falls within the realm of acceptable interpretations of the composition. We may in such a scenario allow that the rules of the composition mainly include what the composer intended them to at the time of composition.

As the example perhaps suggests, however, I think that the composer

mainly has tacit knowledge of his work. When it comes to characterizing what is actually important – listing the 'do's and don'ts' of the music – this is seldom something that can be formalized, not even by the composer, without reference to actual performances that highlight this or that musical action as a mistake or an example to be followed (I will discuss how performances help musicians form a view of the composition in section 6.5). Hence, the composer will not be able to make such a formalization at the time of composition. And the time he would need to gather information on the composition from performances would in turn gradually remove him from the originally issued work, thus gradually canceling his authority on the matter.

In short, the only 'absolute standard' the classification of a composition can refer to is the tacit ideas of the composer while composing (or immediately after). Since this is something we will probably never be able to fully grasp, we can only access *ideas of* what constitutes the rules of the composition. These ideas may vary over time, place, culture and individual groups, but it is important to notice that an absolute standard is always assumed, even though we may be aware that we will never grasp it.

Given the relativization of our beliefs regarding the composition to a musico-historical or local context, another question becomes relevant: "If not only the view of what constitutes the composition but also – and especially – the priority ranking of its rules can vary so much, why doesn't everyone just adopt a laissez-faire attitude towards their fellow musicians, if they have a different view on one of these matters than themselves?"⁷

As previously stated, even if we do not know exactly what *the* list of rules belonging to the composition is, we still have its existence (as a clearly delimited entity) as a tacit assumption when classifying composition-performance relations. Yet, even though we know that our own access to this absolute standard may be limited, in many situations we still seem to think as if our individual view of the composition is *the* right one. The same holds for the sort of basic, 'default' interpretations we make of a given composition. Even though we know that we probably do not have access to an absolute standard for what is the right way of prioritizing instructions, we more or less tacitly assume that our own interpretation is – as a starting point – 'correct'. This is reflected in the fact that I do not just keep my interpretation to myself, but

⁷It was Dr. Eva Tsahuridu of RMIT University, Australia, who raised this objection (or the basics of it) in conversation during the conference *Managing in Critical Times: Philosophical Responses to Organisational Turbulence. The Fifth International Philosophy* of *Management Conference* at St. Anne's College, Oxford, July 23-26, 2009.

often try to impose it on my fellow musicians, sometimes quite stubbornly, if it is an interpretation I feel strongly about. (By "often," I acknowledge that for some musicians, a default interpretation is merely a 'suggestion', and something they are open to revise.) In this sense, I sometimes act as if I have some sort of knowledge that the other musicians do not have.

In the case of classification of rules as belonging to or not belonging to the composition, it makes sense to say that, as a default, I think I know (some degree of) 'the truth' about the composition. In the case of interpretations, I also sometimes regard my own priority rankings as "favorable" or "right" - but is there in these situations any 'truth' for me to think I am "right" about? Some standard regarding what is favorable and what is not? One possible answer would be that we all tacitly assume some standard of what is in an absolute way aesthetically pleasurable and what is not, a standard which may be beyond our reach, but which we think we have a better idea of than others. Although I think this type of arrogance is characteristic of some people, my general view is that we are normally aware that aesthetical standards are not absolute. Only, because we are social animals, we feel a strong need to share our excitement over music (as well as art, jokes, food, nature and several other experientially rewarding phenomena) with other people. This means that we often want other people to understand that particular aspect of a piece of music which we feel so strongly about. And this is what causes us to impose on others our own views of how we think the music should be played.

In short, with respect to classification of compositions, I adopt a sort of critical realism: There is something real out there, namely the composition understood as the rules intended by the composer to be included in it at the time of composition, but no testimony will help us formalize exactly what it is. Therefore the classification of the composition by musicians is often a subject of continuing negotiation. (Any difficulties *the listener* encounter in the process of classifying the composition-performance relation are due to a lack of awareness of the musicians' intentions.) With respect to interpretations, I adopt a relativistic approach, in the sense that there is no "right" interpretation, but with two modifications: 1) There is a border between interpreting and composing drawn by how high a priority new features added in an interpretation are assigned, and 2) I do not think relativism causes us to adopt nihilism, because, even if we are aware of our own values being relative, we still feel the need to share them with others.

6.5 Distilling Rules and Refining Rules

Whether or not a piece of music has one or more scores associated with it, the composition is something the musicians distill, either from a score or one or more performances. In the case of scored music, it often takes new interpretations of a piece to alert musicians as well as listeners to what exactly they consider to be 'the' composition. In other words: When one considers which interpretations of a piece he or she finds acceptable, one gradually reveals his or her own standards for what the more essential rules inherent in the original score are.

I will remind the reader here that the composition is a boundary on the intentions of musicians rather than on what the listener can classify as a performance of a composition. Regardless of our own view (as listeners) of which interpretations we find acceptable, we can learn quite a lot about what *the musicians* find acceptable, and hence which rules they regard as more important (and possibly constituting the composition), by considering different interpretations of the same piece of music. This is especially relevant in the context of music which is not scored (at the outset).

An example of how musicians distill rules for further performance from a model performance is given by drummer Mike Portnoy in connection with the instrumental track "Chewbacca" \triangleright by Liquid Tension Experiment (from the album *Liquid Tension Experiment 2*, Magna Carta, 1999):

This is very interesting because what you are hearing is Jordan [Rudess, keyboard player], Tony [Levin, bass player] & myself [Mike Portnoy, drummer] completely improvising and then, months later, John [Petrucci, guitar] took the tapes and learned all of Jordans improvised riffs at the top and bottom of the piece and then doubled them...giving the "illusion" of written composition! (Portnoy et al. (1999))

In other words, John Petrucci has listened to the performance of the other musicians of Liquid Tension Experiment and then *taken as normative* certain aspects of this performance (recall the similar phrasing in Davies (2001, 97), as discussed in 5.3.2).

In the following, I will consider how a musician's understanding of the rules she regards as part of the composition are further refined and expanded upon as she encounters mistakes and exemplary passages in performances.

6.5.1 Mistakes

"Mistake" is a significant concept in all human conduct, and no less in the performance process of a music ensemble. Identifying something as a mistake immediately prompts us to try and better it. It is mistakes, subtle ones as well as graver, that drive both creative and organizational processes. When there are no more mistakes (being identified), the process comes to a conclusion: a goal has been reached. Of course, making music is always a process, regardless of whether it involves mistakes or not, but I will argue that music performance, even when it occurs perfectly executed with no coordination problems between the musicians, rests partially on an understanding of what would qualify as a mistake in the given performance setting. I will return to this below.

Although musicians (and people in general) strive to avoid mistakes (this seems to be entailed in the whole concept of making a mistake: if I did it on purpose, it would not be a mistake), mistakes play a positive role in developing our behavior. By making a mistake (and being aware of it), I am reminded, or sometimes even introduced to, what I think is the right way of behaving in a situation. I believe that many will nod approvingly, when I suggest that our morality, and any sense of normativity in a given context, is shaped by our experiences of mistakes. It is by doing something that it is painful for me to relate to afterwards, something I feel "ashamed" of having done (something I experience as "wrong") that I become aware of how I think something *should* be (that is, what is "right," relativized to the situation).

Within music, mistakes can also play a slightly subtler role, as is evidenced by pianist William Westney's account in the book *The Perfect Wrong Note: Learning to Trust Your Musical Self* (see especially the chapter "Juicy Mistakes," Westney (2003/2006, 51-76)): When made by one performer (as opposed to mistakes that are the result of the actions of two or more players), the mistake informs the musician of something, namely that he or she lacks control over an aspect of the performance. In other words, there is a part of the piece of music (or, to expand on Westney's account, genre, if the performance is not based on a composition) that has not been properly internalized by the musician through e.g. rehearsal. Apart from being really annoying in a performance situation, the mistake is, so to speak, a message from the body of the performer (or his or her subconsciousness) to the conscious part of the brain that something has to be adjusted or paid special attention to in subsequent rehearsals. Even in the cases described by Westney, where the mistake is not necessarily due to the musician being unaware of what is right and wrong relativized to the performance, the concept of "mistake" points to the idea of something normative in the music performance: If I did not already try to think and act in accordance with some simple set of norms for the music performance, I would not be able to identify these mistakes.

To diffuse any accusations of circularity and equivocation, I will, in the following section, try to sketch a contour of how these different ways of experiencing mistakes may be ordered in relation to one another.

6.5.2 Normativity in Relation to Mistakes

Spelling out the considerations above, we could say that before we even start playing music, we have some set of norms A, that contains basic information that allows us to react to something with shame or pride. This set can, in its simplest form, be very subjective, because it may not be based on anything but our own likes and dislikes with respect to musical sounds.

Identifying something as a mistake merely on the basis of A may turn out later to be a wrong decision. Why? Because sometimes whether a performance is "good" or "bad" has nothing to do with how we intuitively react to the sounds we make. It may be that I do not like the particular style of phrasing or compositional style of early baroque music, and hence I may instantly dislike the sounds I make, although it makes sense on another level to say that my rendition of the particular piece was in fact "good" or "faithful" (as I have discussed at length in chapter 5).

It seems that when we set out to play a particular piece or play within a previously defined genre, we are generally expected to act according to a slightly more complicated set of norms B, which not only entail our likes and dislikes but also some more intersubjective standards, or, rather, general principles for what is right and wrong in relation to the composition or genre. Thinking according to B makes it possible for me to identify something as a mistake, irrespective of whether I personally like the passage (as it is characterized by a score or a model performance) or not.

Because the possibilities for mistakes in a music performance are endless, it may be that there are some particular actions that I have not considered with respect to their 'rightness' or 'wrongness'. It may be that there are passages that I simply do not pay special attention to (and classify for myself), but if I do pay attention to my actions, I may become aware of a mistake that I have not previously thought of. In the latter case, B is expanded to a new set B', which includes the new classification of the specific action as a mistake. (B' can later be expanded to B'', B''' to B'''' etc.) The attentive reader might ask: If the "intersubjective standards" of B does not include a classification of the "new" mistake, how can the mistake be classified as such other than by the subjective likes and dislikes which made up A? This brings us to reconsider the character of the rules inherent in a composition.

A composition, and for that matter a genre, is not a complete set of dos and don'ts. It is mainly a set of dos. The instructions in, say, a score are not delivered in the format of "do not do this" (except for moderations such as "a little faster, but not too much" or a "non spiccato" in a spot where there would be a natural tendency for the performer to do the opposite), but in the format of "do this." It is by sensing whether something violates the following of the instructions of the composition, that one distinguishes between mistakes and non-mistakes.

First, let us return to our distinctions between levels of identifying mistakes. Besides A and B, we could name a third set of norms C, which is identical to the most formal parts of B in its initial form (formal, precise instructions having to do with pitch, rhythm, dynamics and character), but contrary to B does not change during the performance. C is what the performer is consciously trying to follow in the performance, regardless of interpretative whim. It is with respect to C that I recognize a mistake understood as an action I did not in any way intend, but that my body performs. Ccan change after the performance, because B has been expanded to e.g. B'''which therefore prompts a revision of C. This revision may be an expansion of C, but it may just as well be a reduction of C, e.g. a memo that in a certain passage, it does not matter, whether all notes are played in a rhythmically precise manner.

Although the processing of mistakes is central to music performance, normativity in a performance situation is, however, not just formulated negatively as an avoidance of mistakes. It is because there is something I want to achieve that I care about making music. Of course, I learn about what I *want* to achieve by learning about what I do *not* want to achieve, but immediately prior to a performance, and perhaps even more obviously, immediately prior to writing a composition and prior to initiating an improvised performance, I have an idea of what sounds I want to make (possible). Such intentions for my music-making will often be formed by the things I have heard and found admirable. I call such passages that I experience as extreme opposites to mistakes "exemplary passages".

6.5.3 Exemplary Passages

We make music because we want to achieve a certain sonic output. What we find worthy of achieving is informed by our taste. We could, in accordance with the normativity discussion above, let "taste" refer to the set of norms A. For simplicity, let us divide A into two subsets: A+ and A-. A+ is the set of norms resulting from things I like to hear, and A- is the set of norms resulting from things I do not like. The more things I hear that I do not like (regardless of whether these are mistakes or not), the more norms of the "avoid"-form are added to A-, but more importantly, the more things I hear that I like, the more norms of the positive "strive for this"-form are added to A+. That is, our basic taste is shaped by the examples of music we hear that we find good. It might be, though, that a later example we hear will add norms that end up overruling other norms in A+, because we now prioritize other traits higher than those we liked before.

With respect to the set of norms B that contains more intersubjective tools of classification of the performance, this set can also be informed by the *exemplary passage*. When I hear an interpretation of the piece I want to perform that I find particularly good, or a performance within the genre within which I am performing that I find exceptional, a "strive for this"-norm is added to B, or, if we divide B as we did with A, the positive norm is added to B+. As with "avoid this"-norms, "strive for this"-norms that are added to B influence C by adding or removing directives in this set.

These observations are backed by the usage of "reference recordings" in sound studios or in music education (recordings that are regarded as exemplary in virtue of their high quality of production, or exemplary as admirable examples of particular stylistic traits).

It is important to notice that identifying a performance or recording as an exemplary ('good') one, does not mean that one subsequently tries to imitate *every* part of the performance or recording. When we hear something as an example for further performances, we – often tacitly – identify some aspects of what we hear as something to be repeated, and other aspects as more 'accidental' qualities that we do not need to be inspired by. As with people: Someone, say, my sister, can be an example to me, yet this does not mean that if she smokes occasionally, I must smoke occasionally. Hence, identifying something as an exemplary passage (or performance) requires a reference to

norms either in A, B or C, depending on whether I find the passage exemplary in relation to my own taste or in relation to the borders of what I take as the spectrum of 'correct' performances of the piece (or within the genre). These norms help us single out which parts of the situation at hand are really examples to be followed.

6.5.4 Compositions and Their Relation to Mistakes and Examples

The rules of the composition help me identify mistakes in a performance based on it. The mistake is perceived as something that violates, e.g. hinders the fulfillment of these rules. Conversely, the exemplary passage is perceived as something that in a satisfying way (e.g. relating to my taste, the set of norms A) executes all or a considerable amount of the instructions in the composition. This brings us closer to a refinement of the classification of the composition:

There are differences from ensemble to ensemble, from musician to musician with respect to what is perceived as a grave mistake, and what is perceived as a minor, less important mistake. The same goes for exemplary passages: How exemplary something is considered to be can vary very much across different ensembles and people. The reason for this is, of course, that the composition is always conceived of in connection with an interpretation, that is, a prioritized ranking of the rules of the composition, and whereas people within a culture tend to agree on which rules constitute a given composition, their prioritizations of these rules can be quite different.

If a sound segment is experienced as a mistake or an example for further performances, it is experienced as such in relation to a certain set of prioritized rules. If this set of rules is what the musician assumes to be the conventional view of the composition, and if its priority-ranking is the one he thinks is more commonly held, the classification of something as faulty or exemplary will seem more significant than it would if it was based on the prioritized rules of an individual interpretation only. If something is experienced as a mistake or exemplary passage on the basis of an individual interpretation alone, it is more subtly experienced as such, and the individual musician might disregard these 'mistakes' and 'exemplary passages' in the process of avoiding mistakes relative to an assumed conventional view of the composition and, conversely, striving to resemble exemplary passages relative to this view.

6.6 Genre Conventions

Up until now, the focus of this dissertation has primarily been the composition-based music performance. I would, however, like to hint at how genre conventions may play a similar role in improvisation-based music as compositions do in composition-based music. More generally, I claim that genre conventions play a second order role in the norm formation process of any sort of performance that relates to a specific genre.

When people describe a genre, they refer to different traits that might occur in that particular genre. If I wish to teach someone how they play something, e.g. an improvisation within a certain genre, there would therefore be a number of "strive for this"-norms I could suggest to the player. It makes sense, therefore, to conceive of a genre as a set of instructions, yet, for similar reasons as with compositions, these instructions are experienced as having some order of priority. Even in a free improvisation, I may end up in a situation where I have to choose between different options that may not satisfy the same genre 'rules'.

As with the instructions of a composition, there can be differences between musicians as to how genre instructions are prioritized, but it seems to be the general case that professional musicians do in fact share some basic ranking of *groups* of genre instructions with respect to priority. Once again, the example of heavy metal becomes relevant: As briefly discussed in 5.3. the rhythmical structure in metal is, all things being equal, considered more important than any thing else in the arrangement, whether or not the drums 'stand out' in the performance or not. Consequently, the drummer who comes up with his own rhythm pattern is often credited as a co-composer. As a contrast, jazz and pop music attach the highest importance to the sequence of tones in the melody. It is permitted to alter the rhythm pattern – in jazz e.g. play something alternately in bossa nova or in swing – or change whole portions of the rhythm and riff foundations (think of the remix in pop music), as long as the melody is still somehow 'there'. It might be that what people remember from the original performance of a pop song is not the song melody at all, but a particular rhythm or riff, but ignoring such stand-out features is surprisingly common.⁸

 $^{^{8}\}mathrm{A}$ good example is George Michael's jazz version of the Police song "Roxanne" \triangleright on

Let us call the set of rules conventionally associated with a specific genre together with the individual musician's priority-ranking of these instructions "the genre conventions as conceived of by this musician." The set of norms for the performance, B is informed by these conventions, especially those that are imagined to be shared with other ensemble musicians, and it is by instant comparison with the conventions that certain sonic segments can be identified as a mistake or an exemplary passage. The mistakes add new norms to the altered B' of the form "avoid this," whereas encountering exemplary passages inserts "strive for this"-norms in B'. As in the case of composition-relative norms, all versions of B regulate C outside the performance.

Although their role is perhaps more dominant in ('purely') improvisationbased performances, I think that genre conventions are also at play in identifying mistakes and exemplary passages in many composition-based music performances. Take, for instance, a random AC/DC or Slayer song. These songs are written within contexts with very detailed conventions (blues-based heavy rock and 1980s thrash metal, respectively). Therefore, if a musician covering such a song wants to add a fill somewhere, a personal touch to a solo, or even just have his own way of stretching this or that note, many of such actions will be deemed more or less appropriate in relation to the genre conventions. The same holds for unintended actions, only, in these cases, the action will also be regarded as a mistake – or an exemplary passage – by the musician who performs the action.

Because genres are, however, more loosely defined than compositions, it is generally the case in composition-based performances, that the norms resulting from the composition take priority over those resulting from the genre conventions. In other words, if the composition dictates something that is 'unusual' in the given performance context, the genre conventions cannot straightforwardly overrule this instruction. It might even be that this instruction is essential to the composition in question, precisely because it is "unusual".

Although genre conventions are undoubtedly relevant for the decision processes of improvising musicians, I find the "genre" concept extremely

his album Songs from the Last Century (Virgin Records, 1999). The version completely dispenses with the characteristic markings and shifts in the drum beat of the original \triangleright (from Outlandos d'Amour by The Police, A&M Records, 1978). The original tango-influenced guitar riff of the verse is likewise gone. I conjecture that this would be unheard of, had The Police been a metal band – at least if their song was covered by another metal band.

problematic as a mode of classification for contemporary music in general. In several performance contexts, it can be questioned whether the 'genre' the performance appears within has *any* relevance for norm formation. Consider, for instance, a performance that borders on two or more genres or is within more genres at same time. Which conventions take up higher priority in such a case?

Some people may hold that a musician is always playing within *some* genre, and hence one might say that there are always genre conventions regulating what the musician can do. In the example where a performance is said to border on more than one genre, there is a set of genre conventions that encompasses all the relevant norms from both of the 'combined' genres. Personally, however, I think that in the music of bands such as Dream Theater, Pain of Salvation \triangleright and many more that have been marketed as "progressive metal," so many other genres are referenced and mixed that the conventions of an all-inclusive higher order genre would not really help in singling anything out as a mistake or example – simply because, so to speak, "anything goes".

The label "progressive metal" is, on the other hand, not as much a genre in the normative sense of regulating the actions of a musician, as it is a mode of classification that record stores, download services and others use to direct people with certain tastes to artists they might like to hear. As the reader can distill from this, I wish to distinguish between different uses of the word "genre":

On the one hand, we understand traditional styles such as jazz (and subordinated styles), early baroque music etc. as carrying with them imor explicit directives for musicians that are playing within these styles. In some cases, when we say "genre," it is this type of conventions, directed at musicians, we are talking about.

On the other hand, "genre" is just as, or more often used as a mode of classification by listeners or other people who deal with recordings and performances 'from the outside'. Some of these classifications can be of a rather artificial nature, because they are made by merchants who simply need a rough measure to direct customers in their purchases. As with the classifications made by music critics, a genre label is often applied after a process where the piece of music in question is compared to existing ones that already have a genre label attached to them. This often results in categories that would probably not make any sense as normative entities in the ensemble, and sometimes even misclassification, because it is not the case that because piece x is within a specific genre, and x and y share the quality q, y is necessarily within the same genre as x.

Regardless of how "genre" distinctions in this sense are made, they do, however, often play a normative role in the mind of the listener, because he or she tends to hear a piece of music with reference to a specific genre. In other words, what the listener hears as a mistake can relate to *expectations* generated by the genre label of the music in question. So, if something is labeled "progressive metal," the listener expects a multitude of stylistic influences, and would be disappointed if they did *not* occur.

Could this normative aspect of the genre label not influence the musicians in their enterprise? Although many bands pay respect to what they think their fans expect from them when they make music, I think the rule is that musicians do as they please. Queensrÿche does not make progressive metal any longer in the sense that they did in the late eighties (possibly with the addition of *Promised Land*, EMI America, 1994), although they have generally been categorized as a progressive metal band ever since. I do, however, think that a band can set up standards for themselves that they wish to live up to: Very few other artists have ever sounded like Jethro Tull sounded in the seventies, even though they shared the label "progressive rock" with several other bands from the same period. I see no reason to doubt, however, that Jethro Tull have had quite a lot of more or less explicit conventions for their own music production generated by their own tastes, of how they "wanted to sound."

Does this mean that, in addition to compositions and genres, we need a third type of rules regulating the ensemble performance, defining what makes something a sonic product exemplary of this ensemble? One *could* attempt to characterize such a type of rules, but I would rather like to emphasize a general factor that regulates which instructions are taken into consideration in every music performance: What the musicians want to achieve with the performance in question.

6.7 The Relevance of Rules in Ensemble Coordination: A Few Preliminaries

Musicians in an ensemble always have some range of sonic outputs as a goal for the performance, either individually or collectively ("or" should of course be understood as inclusive). Regardless of whether they will be able to achieve a sonic output that lies within this range, they will have coordination with the other musicians as an additional, overarching goal.

I briefly discussed what to understand by "coordination" in section 2.3.2. In the following, I take the word to mean that the musicians in a general sense align their actions within the overall rhythmical and harmonic-melodic scheme of the piece of music – e.g. keep a steady tempo or a stable intonation – and in relation to each other, such that the performance sounds coherent given the aesthetic standards of the listeners (and the musicians in virtue of being listeners). Just how much deviation in relation to the other musicians is allowed may vary from performance context to performance context.

Ideally, the musicians should not just *appear* to be coordinated (audibly), but also be aware of each other's intentions for the performance. The latter is often practically impossible, but may make sense as an ideal goal for coordination. Practically, however, judgments of an ensemble's coordination skills always refer to some audience. Because the audience cannot know whether or not an ensemble only happens to be perfectly aligned on all levels, or whether this apparent coordination is the result of mutual awareness of intentions for the performance, the success criterion for a coordination process is mainly to achieve a sonic output, that *sounds* coherent and well-coordinated. (Achieving such an output 'on purpose' does, however, have a long term merit in the sense that the musicians may gradually better their chances of successful performances.)

The composition is, trivially, a relevant factor in a music performance that claims to be "of" the composition in that it co-defines the range of possible sonic goals for the musicians. This does not mean that a particular set of sonic properties is inherent in all performances of a composition, but, because of its rule character, the composition delimits a range of possible initial intentions for the performance. Because of this delimitation, the composition also helps the musicians achieve coordination: The range of possible intentions a musician can imagine other members of the ensemble having is, no matter how large, always finite.

Naturally, in compositions that are "thick" with properties (borrowing Stephen Davies' terms), and where there is a widely acknowledged default interpretation associated with the piece, the prioritized rules of this interpretation may 'directly' entail strategies for how to solve possible coordination problems. A coordination problem may, however, have the further complication of the musicians not being sure how the other musicians conceive of the composition (e.g. what their interpretation is). This affects both situations where the composition is (considered to be) very rich with rules and situations where it is "thinner," allowing a larger scope of interpretations. In any case, the composition is an important point of reference for the music performance: It is a specific normative standard for the situation (there may be more general standards that apply to the situation as well), although it is a standard that must be interpreted – its rules must be prioritized and, consequently, also the possible deviations from it.

In the chapters that follow, I will try to show how intimately these normative standards are connected to the achievement of coordination, even in situations that do not prompt 'blind' rule following, but rather a rational deliberation of the possible information states and intentions of the other musicians. This will be done by showing that no matter how we regard coordination (except for 'apparent' coordination which can theoretically be reached by coincidence), it is impossible to achieve it without normative standards which, for composition based performances, include those of the composition as classified by the musicians.

Chapter 7

A Knowledge-Based Model of a Coordination Problem

What I will be discussing in this and the following two chapters is the role of reasoning in ensemble coordination, and how this reasoning is dependent on norms. The main focus of the present chapter is a model – and discussion – of the role of "knowledge" in the coordination process, more specifically, if the players are required to "know" anything in order to play together, and if so, what such a knowledge should amount to. Given that the methods of formalization I apply when constructing my models may be new to some readers, I open this chapter by sharing some perspectives on formalization as such, and what is required of formalizations in different contexts.

7.1 Formalizing Coordination Problems

In chapter 2, we considered the notion of performance as such, some of the coordination problems that can occur in an ensemble performance and how we might describe how these are solved. We ended on a discussion of whether the concept of rationality is applicable in a performance context where musicians (according to popular belief) do not reflect on their actions in a linguistically structured way. I argued that it is. To avoid repeating all of my arguments, I request that the reader merely assumes, as a premise for this (and the following two chapters), that musicians *think* (in some way, linguistically structured or not) about their actions as – or immediately after – they happen, and assess them (alongside the actions of their co-players) with a

view to figuring out which actions to perform next. Whether their thought processes have a complexity similar to the one I will model in this and the following two chapters is a different question I will return to at the end of chapter 9.

As the reader may have gathered from the informal discussion in 2.3.2, describing coordination problems in detail can be a tedious affair with the ever present risk of losing clarity and precision – not just in the actual formulations, but also in one's own line of thought. Terms such as "know," "assume," "believe" and "intend to" can be vague in everyday conversation:

It is not always clear, for instance, what is tacitly understood by "knowing." Presumably, the philosopher's normal use of "knowing," meaning "having attained absolute certainty that..." is not the one people refer to in everyday language – if they did, they would probably not claim to know anything at all, not even whether the store next door is open on a Saturday (of course they may still claim to know things in the sense of "be acquainted with," as in "I know a bar near the station")¹. The use of the epistemic expressions "know" and "believe" seem to be approximations from degrees of an agent's conviction (in fact, much modern epistemic logic replaces these epistemic operators with a probability referring to a continuum from 0, what is impossible – and impossible to believe, to 1, what is necessarily true and known to be so²).

"Assuming" might mean simply taking something for granted, but it may also be used as an indication of hypothetical thinking (e.g. "Let us assume that...").

Finally, "intending to" signals a motivation, but how strong? In some cases, I intend to do something that has high priority for me, and hence my intention affects my planning in a sense that makes abandoning (or temporarily bypassing) my intention the last resort. In other cases, however, I may intend to do something *eventually*, and such an intention will probably not prompt me to formulate a strategy for its realization.

One way out of such unclarities is clearly stated definitions of how the terms are used. Once we get into describing more nested structures, e.g. of agents considering it possible that other agents believe that it is commonly held in the ensemble that..., an even better option is *formalization*. By symbolizing the entities we are describing and formalizing how they relate to

¹Petersen (2009) discusses these problems at length.

 $^{^{2}}$ See e.g. Kooi (2003)

their environment, we enable much clearer overviews of the structures and processes we are describing. Our uses of "knowing," "believing," "assuming" and "intending to" can be characterized in terms of our formal system so that the intended meaning is always clear.

For a non-logician or a newcomer to symbolic logic, the often very complex formalized structures of epistemic logic and game theory may seem as impermeable as the type of nested formulations they are supposed to illuminate. I grant that one must have a bit of basic background understanding of formal logic and symbolization in general in order to understand the type of formalizations I will employ. I do, however, think the main reason for the possible lack of accessibility to the lay reader of formalized structures is that what the formalizations are trying to describe *is* complex. Because formalization is at least as much a tool for the philosopher's own understanding of the problem at hand as it is a means of communication, the formal systems are often pushed beyond their initial purpose of clarification (for a reader) into describing structures and processes that would have been, if not impossible, then very difficult to describe in everyday language.

My own use of formalization has clarity as its main goal, but as the problems being described become more complex, so do the formalizations. Apart from the merits I have listed above, the fact that a very large part of modern literature on group coordination analyzed in terms of rationality employs formal language prompts the use of formalization in my own work (as this will ease comparisons with the prior studies).

7.2 Music Performance in Terms of a Logic for Information Change

As hinted at above, when formalizing the role of reasoning in performance interaction, we need to give meaning to the terms "beliefs," "(default) assumptions" and "intentions." The latter can be formulated broadly as situations an agent wants to reach. How much is needed to describe a situation, e.g. the extent to which a description must include a history of what came before the situation, is a discussion we will return to later when discussing the suggestions of Roy (2008) for an intention-based logic. With respect to beliefs, default assumptions (and knowledge for that matter), we formulate these in terms of a system of *information* and (information) *states*: At a given point in time (within the situation we are describing, whether hypothetical or not), an agent has a certain amount of information in his information state. We understand this information as information he is able to take into consideration in his reasoning, as opposed to the information that has stored itself in his subconscious (although the latter may very well affect his choices – in fact, this is what most advertising relies on.)³

The agent's information state at a time t may be modeled as consisting of propositions describing how he is convinced the world around him is, as well as what he considers possible or impossible. We can then describe how his information changes over time by describing how propositions are added or removed from his information state. Believing, assuming, knowing and other epistemic notions are formulated in terms of the information present in the agent's information state at a given point (more on this in the following sections).

Although, as I have argued in 2.6, thought processes concerning structures in the outside world and expectations regarding these need not be linguistically articulated, treating information as propositions is a good starting point for formalization, because virtually all branches of formal logic today are built upon the basic structure of *propositional logic*, that is, logic for relations between propositions. What more advanced systems of logic do is unpacking the content of propositions that cannot be captured by splitting a complex proposition into simpler ones related to one another by the connectives "if...then...", "either...or...", "...and..." and "it is not the case that..." Such more advanced systems include *first-order predicate logic* that assigns properties to entities and describe the relations between such properties as well as relations between the entities (these relations can be described as predicates over more than one entity), and, more importantly for my endeavors, *modal logic*: The branch of logic that tries to capture how we reason with the notions of *possibility* and *necessity*.

I will discuss the use of modal logic, more specifically, the subcategory *epistemic logic* in the next section.

³I am aware that information stored into the subconscious may be divided into further subcategories, such as information that we cannot retrieve by will, but, once introduced to it elsewhere, recognize as already in our memory, or information that pops up as "lucky guesses" in a quiz, but that we do not recognize as already in our memory. See for instance the entry on "recall (memory)" in Encyclopædia Britannica (http://www.britannica.com/EBchecked/topic/493353/recall) and the article Voss and Paller (2009).

7.3 Epistemic Modal Logic

Modal logic is an extension on classical logic, more specifically, a branch of logics that makes it possible to reason with the notions of *possibility* and *necessity*. It can – with different consequences for the semantics of the systems – be combined with propositional logic (formal logic allowing descriptions of relations between whole propositions) as well as "first-order logic" (formal logic allowing descriptions of relations between individuals and predicates). In the following I will mainly discuss the propositional variant⁴.

The notions of possibility and necessity are interdefinable (see e.g. Forbes (1994, 296) and Lewis (1973/2001a, 4)):

Definition 7.3.1 (Possibility and Necessity). For a proposition p, $\Box p$ reads as "it is necessarily the case that p," $\diamond p$ as "it is possible that p" and for any proposition q, $\sim q$ means "it is not the case that q." We now define: $\Box p = {}^{def.} \sim \diamond \sim p \diamond p = {}^{def.} \sim \Box \sim p$

The essence of the relation between the operators \Box and \diamondsuit is that if something is necessarily the case, then it is impossible that it is not the case, and conversely, if something is possible, then it is not necessarily false.

What is possible and what is necessary is, stated as such, assumed to be publicly agreed upon, regardless of whether one interprets the notions as "it is *considered* possible/necessary that..." or simply "it *is* possible/necessary that..." (an *epistemic* or a *metaphysical* interpretation, respectively⁵). In contrast, *epistemic modal logic* (or simply "epistemic logic"), explicitly relativizes its modal notions to individuals. It is always stated *who* believes something to be possible or necessary. The discussion of "necessity" is, however, downplayed:

"Considering something possible" is not supplemented by the notion of "considering something necessary," at least not if "necessary" is understood

⁴The semantics of first-order modal logic are controversial, because they raise a discussion of which predicates can possibly or necessarily be applied to an individual – thus winding up many of the same problems as Aristotelian essentialism. See Read (1995, 96-120) for an introduction to this discussion. Danish readers may alternatively consult Frimodt-Møller (2002/2009a).

⁵See e.g. Forbes (1994, 295) or Lewis (1986/2001b, 27). The latter reference is, however, problematic in that it describes the realm of the epistemically possible/necessary as a subcategory of the metaphysically possible/necessary, rather than illustrating the contrast between the two interpretations

in a metaphysical sense of something that *could not have been otherwise*. The alternative modal notion is, instead, "knowing." In short, epistemic logic dispenses with part of the *semantics* for classical modal logic, but utilizes its *syntax*, that is, the relations between the modal operators. Relativizing definition 7.3.1 to epistemic logic, we get

Definition 7.3.2 (Knowing and Considering Possible). For a proposition p and an agent (e.g. person) a, $K_a p$ reads as "agent a knows that p" and $B_a p$ as "agent a considers it possible that p." We now define:

$$K_a p = {}^{def.} \sim B_a \sim p$$
$$B_a p = {}^{def.} \sim K_a \sim p^6$$

Further, as interdefinability of the two modal operators allows, epistemic logic focuses on one of these, namely knowledge.

The identification of "knowing" with "not considering it possible that something is not the case" in epistemic logic will probably make the relativist reader shift in his seat: How can the fact that I do not consider something possible guarantee that I know that its opposite holds? If one reads "knowing" as entailing that what is "known" is, in a metaphysical sense, the case, definition 7.3.2 requires that a really has considered every relevant possibility in the situation, and that he is omniscient with respect to the possible deductions from his information (the latter requirement is also known as logical omniscience⁷) An alternative to these strong requirements is of course to interpret the label "knows that" as "is convinced that." In my application of epistemic logic below, I will, however, to the extent that I need the K_a -operator at all, assume that the "knowing" agent really has the capacity to consider the relevant alternatives in the situation. The dynamics added by the possibility of false judgment is a topic I will save for chapter 10.

The semantics for epistemic logic are, as mentioned in the section above, given in terms of an agent's information. If a considers p possible at a

⁶I apologize in advance to the reader familiar with *doxastic logic* who intuitively reads $B_a p$ as "agent *a believes* that p." See e.g. Hendricks and Symons (2009) for a brief rendition of the this traditional reading.

⁷See e.g. Fagin et al. (2003, 9). It is of course also a requirement that the agent's perceptions are, in a basic sense, in accordance with the reality of his surroundings – e.g. that he is not hallucinating. This is, however, a basic premise for the entire discussion of how people relate to each other in a coordination problem, and I will therefore not deal with it further here.

situation in time, t, it means that in at least one of the *information states* a considers it possible that his information state could evolve into at t + n for some time value $n, n \ge 0$, it is the case that p. Conversely, a knowing p amounts (with the above moderations in mind) to saying that in *all* of the information states a considers it possible that his information state could evolve into at t + n, p holds.

What will become important in my analysis is, however, to a larger extent, the concept of *indistinguishability*: Loosely speaking, if a considers more than one scenario possible for t + n, where n > 0, then a cannot distinguish between these scenarios. Why this concept is important will be shown in the following.

7.4 Ensemble Coordination in Terms of Epistemic Logic

⁸ Consider the following situation in a music ensemble: We have three players, for the sake of desirable connotations, let us denote them "the oboe," "the violin" and "the cello." They are playing a new piece of scored music that is hence not part of their individual heritage as musicians.⁹ Let us for simplicity consider 5 bars in this score, denoted bars 1-5 (although they may be thought to occur at a later occasion than the beginning of the piece). Still for simplicity, we decide that in these bars the three players each have two possible actions. An action is in this context a phrase to be played within a bar. To echo the theory of multi-agent systems as presented by Fagin et al. $(2003)^{10}$ we define the following.

¹⁰In which the theory is used to describe problems involving both communication and coordination such as the Problem of Coordinated Attack (see i.e. 109-122 and 190-199

 $^{^{8}}$ The remainder of this chapter is based on parts of Frimodt-Møller (2008) and Frimodt-Møller (2009b).

⁹In some of my conference presentations (notably "How Do Musicians Reach an Agreement? The Ensemble as a Multi-Agent System" at *Workshop on Deontic Logic*, Roskilde University, November 9, 2007 and participation in "Workshop on Academic Writing" at the annual graduate conference arranged by the Danish Research School in Philosophy, History of Ideas and History of Science, Sandbjerg Estate, December 7, 2007) I have described how the same sort of doubt may arise in a *well-known* piece of music, for instance bars 4 to 8 in Schubert's *Unfinished Symphony*. I have, however, found that my audience is less likely to accept that it can be problematic for skilled musicians to coordinate in such a (presumably) familiar context, therefore I have generalized the example.

Definition 7.4.1 (Local States in a Fictitious Ensemble). Assuming that the musicians are aware of what they are doing, let us call the set of possible actions for a player i the set of possible information states for i. More specifically, because these are information states only i has, we speak of the set of *local states* for that player, L_i . We now define:

 $L_{oboe} = \{phrase1, phrase2\}$ $L_{violin} = \{phrase3, phrase4\}$ $L_{cello} = \{phrase5, phrase6\}$

(To make the example more in accordance with reality, we could add a state Λ to each of the sets L_i , denoting that the player does not play anything. We will, however, not consider cases where such behavior is involved here, and therefore we omit these possible states. We could also have decided on a more general definition of a state to include any sort of event and subsequently added a set L_e of possible states for the environment, where we could have placed events external to the ensemble that may affect there actions, such as "a truck passes the concert hall." But due to our focus on interpersonal coordination, we only consider the behavior of our three players in their interrelations.)

Now, according to the score, the three players are supposed to play their phrases in a rather staircase-like development: In bars 1-2, the oboe is supposed to play phrase 1, the violin phrase 3 and the cello phrase 5. In bar 3, the oboe is supposed to play phrase 2, the violin phrase 3 and the cello phrase 5. In bars 4-5 the oboe returns to playing phrase 1, but the violin plays phrase 4 in bar 4 and then returns to phrase 3 in bar 5, whereas the cello continues playing phrase 5 in bar 4 and then plays phrase 6 in bar 5. The situation is illustrated in Table 1.

	Bar 1	Bar 2	Bar 3	Bar 4	Bar 5
oboe	phrase 1	phrase 1	phrase 2	phrase 1	phrase 1
violin	phrase 3	phrase 3	phrase 3	phrase 4	phrase 3
cello	phrase 5	phrase 5	phrase 5	phrase 5	phrase 6

Table 7.1: An Example from a Fictitious Score

Intuitively, the violin should wait for the oboe to play phrase 2 and then play phrase 4 at the following bar. The cello should wait for the violin to play phrase 4 and then play phrase 6 at the following bar.

and 1.3).

Now consider what happens, if the oboe plays phrase 1 three times in a row. The violin might either think "too bad for her, I'm proceeding to bar four anyway, or else the cello will not know what to do" or "I'd better wait for the oboe to play her phrase 2 and then interpret that bar as bar 3 and the following as my bar 4." But what *will* he think? This depends on how important he finds the development in the phrasing of the oboe in comparison with the development of his own phrasing, not to mention that of the cello.

Let us say that the violin chooses to pursue the second tactic, namely resume playing his phrase 3 until he hears the oboe playing phrase 2. What will the cello think? The cello might think, "The oboe and the violin have both got it wrong, but that is not my problem, I am going for the fifth bar in this development with my phrase 6 as planned, then they can adjust to what I am doing in the following bar." But she might also think "Oh, we should probably wait for the oboe to commence her phrase 2 and then continue the development as if that bar was bar 3." (She might actually also think "Never mind the oboe, I will wait for the violin to play his phrase 4 and then play phrase 6 at the next bar," but this will amount to the same line of action, although the *intention* is different.) What she thinks depends on whether she thinks her own voice or that of the oboe (or, for completeness, that of the violin) is the most important in this section of the piece.

Our troubles do not end here. The oboe might also be considering what to do next, e.g. wonder whether she should just think "Oh no, I blew it, but too bad, I just have to continue according to the score" or "the other musicians are waiting for my phrase 2, so I should play phrase 2 to get things going." As with the other two, what she chooses to do depends on how she conceives of the *composition* – that is, the piece, she assumes the score to be an arrangement of – and how she prioritizes its rules.

The score might plausibly give some clear normative guidelines as to what is the most important in the composition (or, rather, what the composer thought it was), and the musicians might expect each other to follow these guidelines. But it might also be that the musicians have different views of which rules in the score are part of the composition, or that each musician *interprets* the rules (in his mind) constituting the composition differently.

In the following, I will try to elucidate the problems of coordination in this example through an analysis in terms of a *multi-agent system* (a common term within modern epistemic logic). Specifically, I will consider how a set of guidelines being *common knowledge* in the ensemble will enable the musicians to solve their coordination problem.

7.5 The Coordination Problem Analyzed in Terms of a Multi-Agent System

Let us pick up on our definition above of the local states of the players. Put simply (in the terms of Fagin et al. (2003, p.110-111)), a local state, being an information state, contains *information*. Strictly speaking, we should add a number of possible local states for a player i containing information not only about what i is playing now, but also about what the other players are playing, and what everyone was playing at previous bars. In our example here, however, we assume that all players actually hear everything that happens, and that they have perfect memory. For the sake of simplicity, we choose to model the information state of player i as only containing information about the action of i at a given time. We therefore consequently assume that everyone is always indirectly aware of what the local states of the other players are.

Definition 7.5.1 (Global States in the Ensemble). We now define a global state, $G = (s_{oboe}, s_{violin}, s_{cello})$, where s_i is the (local) state for the player *i* (in our example, the phrase that the player is playing). Intuitively *G* expresses some situation where each of the players is playing a specific phrase from his or her respective set of possible states. We thus have a set of possible global states, $\mathcal{G}^{ensemble} = L_{oboe} \times L_{violin} \times L_{cello}$ (the Cartesian product of all the sets of possible local states).¹¹

We would like to model G as a function of time. For the present purposes we think of time as being discreet, and introduce a point in time $m, m \in \{0, 1...\}$. This is quite convenient because it allows us to think of steps in time as being synchronous with and equal to the length of developments from one bar to another, which is exactly what we will do.

Definition 7.5.2 (Runs and Systems). We define a run to be a description of how the global state develops through time, more precisely, the global state as a function of m: $r(m) = (s_{oboe}, s_{violin}, s_{cello})$, such that r(0) is the

¹¹These formalizations are identical with the definitions given by Fagin et al. (2003, p.111-121). The following formalizations are my versions of definitions given in the same pages, only adapted to my own example.

initial global state, r(1) the next global state etc. We now define a multiagent system $\mathcal{R}^{ensemble}$ over $\mathcal{G}^{ensemble}$ as a set of runs over $\mathcal{G}^{ensemble}$. A point (r,m) is the time-point m in the run r. We say that (r,m) is a point in the system $\mathcal{R}^{ensemble}$, if $r \in \mathcal{R}^{ensemble}$. $r_i(m) = s_i$, so that $r_i(m)$ is player i's local state at the point (r,m).

Before we can analyze our coordination problem above, we need to define what it means for a player to *distinguish* (or not be able to distinguish) between two global states:

Definition 7.5.3 (Distinguishability). Let $s = (s_{oboe}, s_{violin}, s_{cello})$ and $s' = (s'_{oboe}, s'_{violin}, s_{cello})$ be two global states in $R^{ensemble}$. We say that player *i* cannot distinguish *s* from *s'*, notated $s \sim_i s'$, if player *i* has the same state in *s* and *s'*, in other words if $s_i = s'_i$

In accordance with this we say that player *i* cannot distinguish between two points (r,m) and (r',m), $(r,m) \sim_i (r',m)$ if $r(m) \sim_i r'(m)$, in other words if $r_i(m) = r'_i(m)$

In the epistemic logic of multi-agent systems described by Fagin et al. (2003), the notion of indistinguishability is used to define the operator K_i , which in our case would intuitively mean "player *i* knows that..." In this example we will not need to make statements about the players' knowledge of propositional facts, only their awareness of the global state and its relation to other global states, hence we omit the definition of the K_i -operator.¹²

With these formalities in place we can now describe the stepwise development of our coordination problem formulated as the system $\mathcal{R}^{ensemble}$. As hinted at before, we take the time variable m to be a stepwise development of one bar length. In a case where all three musicians follow the score perfectly (a specific run in $\mathcal{R}^{ensemble}$ which we choose to label r^{score}), m should therefore be perfectly synchronized with the bar numbers such that the global states develop in this way:

$$r^{score}(1) = (phrase1, phrase3, phrase5)$$

$$r^{score}(2) = (phrase1, phrase3, phrase5)$$

¹²We also omit describing the Kripke-structure associated with the interpreted system $\mathcal{I}^{ensemble}$ (the system $\mathcal{R}^{ensemble}$ along with an assignment of truth values to all propositions that occur in the system for each state in the system) as we will have no need for it here. For a discussion of this aspect of the semantics of multi-agent systems, see Fagin et al. (2003, 117-118).

$$r^{score}(3) = (phrase2, phrase3, phrase5)$$

$$r^{score}(4) = (phrase1, phrase4, phrase5)$$

$$r^{score}(5) = (phrase1, phrase3, phrase6)$$

Now let us look at a case where the oboe forgets to play phrase 2 at bar 3. A number of different runs might then occur in which the first three steps would be

$$r^{late(u)}(1) = (phrase1, phrase3, phrase5)$$

$$r^{late(u)}(2) = (phrase1, phrase3, phrase5)$$

$$r^{late(u)}(3) = (phrase1, phrase3, phrase5)$$

(*u* should be read as a variable that can be substituted for a specific label, such that e.g. $r^{lateviolin}$ would have global states $r^{lateviolin}(1)$, $r^{lateviolin}(2)$ and $r^{lateviolin}(3)$ identical to the corresponding global states for $m \in \{1, 2, 3\}$ of $r^{late(u)}$.)

If phrase 2 and phrase 4 are strongly dissonant, the musicians would probably want to avoid a scenario where the two phrases occur at the same bar. In other words we would e.g. like to avoid the run $r^{lateoboe}$ where

 $r^{lateoboe}(4) = (phrase2, phrase4, phrase5)$

Suppose that the violin chooses to wait for the oboe instead of proceeding according to the score. Then we would have a run $r^{lateviolin}$ where

$$r^{lateviolin}(4) = (phrase2, phrase3, phrase5)$$

But this run might continue in two different ways: One in which the cello adjusts to the other players and does not play phrase 6 until the bar after the violin has played phrase 4 (which would be a bar beyond our current example), and another in which the cello proceeds according to the score, that is, where we end up with

 $r^{lateviolin}(5) = (phrase1, phrase4, phrase6)$

Of course for all 1,307,674,368,000 possible deviations from the score, there is the possibility that everyone, including the player(s) with erroneous phrases, tries to keep following the score as closely as possible by playing the 'right' phrase according to the score at the next m (thus interpreted as a bar number). For simplicity, we will not try to describe this general case formally here. For convenience, we may, however, add a run describing the situation where the oboe forgets to play phrase 2 at m = 3, but where everyone, including the oboe, continues according to the score:

$$r^{latescorevar1}(4) = (phrase1, phrase4, phrase5)$$

 $r^{latescorevar1}(5) = (phrase1, phrase3, phrase6)$

And we can add a run describing the situation where the violin considers his own phrase 4 more important than the oboe's phrase 2, where he nevertheless forgets to play this at m = 4, but where everyone continues according to the score at m = 5:

$$r^{latescorevar2}(4) = (phrase1, phrase3, phrase5)$$
$$r^{latescorevar2}(5) = (phrase1, phrase3, phrase6)$$

To nearly complete the picture¹³, let us describe the case where the oboe forgets to play phrase 2 at m = 3, but plays phrase 2 at a m = t, t > 3, where the violin chooses to wait for the oboe and reinterpret the bar where the oboe plays phrase 2 as bar 3 according to the score, and where the cello likewise interprets the bar where the violin plays phrase 4 as bar 4 according to the score:

$$r^{lateviolinwaits}(t) = (phrase2, phrase3, phrase5)$$

$$r^{lateviolinwaits}(t+1) = (phrase1, phrase4, phrase5)$$

$$r^{lateviolinwaits}(t+2) = (phrase1, phrase3, phrase6)$$

(We could also describe a situation where the violin does not wait for the oboe, but where the cello will wait for the violin. This is, however, not of relevance to our analysis of the example at this point.)

Now we can identify and formalize the situations of doubt the three players may experience when the oboe forgets to play phrase 2 at bar 3. At m=3, the violin does presumably realize that the other players are no longer proceeding according to r^{score} , but he does not know (in our current description of the full situation) whether the other players are proceeding according to $r^{lateoboe}$, $r^{lateviolin}$, $r^{latescorevar1}$, $r^{latescorevar2}$ or $r^{lateviolinwaits}$.

¹³Because the players can all hear each other, we have reason to believe that the oboe will understand that the other players have proceeded past bars 4 and 5 in the score, once she hears them play phrase 4 and phrase 6 respectively in succession.

Formally,

 $\begin{array}{ll} (r^{lateoboe},3) & \sim_{violin} & (r^{lateviolin},3), & (r^{lateoboe},3) & \sim_{violin} & (r^{lateviolinwaits},3), \\ (r^{lateoboe},3) & \sim_{violin} & (r^{latescorevar1},3), & (r^{lateoboe},3) & \sim_{violin} & (r^{latescorevar2},3) & \text{and} \\ (r^{lateoboe},3) & \sim_{violin} & (r^{lateviolinwaits},3). \end{array}$

So how can the violin ever know what would be the appropriate way to proceed at m=4, except by picking a choice at random? In fact, this situation is the case for all of the players, hence

because everyone has the same (local) state at m = 3 no matter which of the runs is executed. (Strictly speaking, it is rather unlikely that any of the players should consciously choose to follow $r^{lateoboe}$ or $r^{lateviolin}$, but we will return to the discussion of what strategy a player is *likely* to choose in the next chapter.)

In my example, I have assumed that the musicians have perfect memory of what went before, and thus the agent has information additional to that which we have defined as part of his local state, information that helps him distinguish r^{score} from e.g. $r^{latescorevar1}$ at m = 4, even though the way we have defined indistinguishability means that $(r^{score}, 4) \sim_{violin} (r^{latescorevar1}, 4)$, because $r^{score}_{violin}(4) = r^{latescorevar1}_{violin}(4)$.¹⁴ A way to work the additional information of a musician's memory into the formalizations is to add a "history" for the system in each player's local state. We will return to this possibility later, in chapter9.

In order for the players to be able to make a rational choice of what to play at m=4 and onwards, they must either have common knowledge of some rule that clearly states which of the runs is being executed, or they must have some way of getting about the problem of disagreement on the

¹⁴Thanks to Cédric Dégremont for pointing this out in the discussion following my presentation "Suggestions for Strategies in Modeling the Role of Reasoning in Ensemble Coordination" on December 1, 2008 at the (almost) weekly seminar "Working Sessions on Logics for Dynamics and Preferences" at the Institute for Logic, Language and Computation, Universiteit van Amsterdam. See http://www.illc.uva.nl/lgc/seminar/ for further information.

character of the run. The latter set of options is explored in the next chapter. The aforementioned rule could be stated as a rather strict obligation to wait for the oboe's phrase 2 and then proceed according to $r^{lateviolinwaits}$, but a formalization of this will necessitate an introduction to deontic logic as well as temporal operators, for which we do not have the sufficient amount of space here. We will, however, dwell for a moment on the topic of what it means for such a rule to be common knowledge among the players.

7.5.1 Common Knowledge of Rules and Its Implications for the Ensemble

A statement p being common knowledge in a group G, notated $C_G p$, entails informally that everyone in the group knows p, and that the entire group is somehow aware of p's being known by everyone and being expected to be known by everyone. The formal representation of C_G in terms of the operator E_G , meaning "everyone in G knows that" is debated¹⁵, but all theories grant that $E_G p$ can be deduced from $C_G p$, and hence that $K_i p$ (i knows that p) can be deduced from $C_G p$, for all $i \in G$.

Intuitively it should not be surprising that common knowledge in the group of a rule is required in a situation where coordination depends on the group members following the rule. In our example above, it is not enough that everyone in the ensemble knows that a rule p holds, if someone is in doubt whether the other ensemble members know that rule p holds. (We are of course still assuming that the players have no way of communicating that they follow p during a performance.) On the other hand, once p is common knowledge in the ensemble, that is, once it is part of the collective consciousness of the ensemble, it is safe to entail that everyone in the ensemble knows p. And since p is a rule that states what the ensemble should do when deviating from the score, knowing this rule combined with knowing that everyone else knows it and assumes that everyone else knows it (etc.), results in the individual ensemble member following the rule, thus ensuring coordination.

The idea of the ensemble being collectively conscious of a coordinating rule p, however, amounts to an idea of the ensemble having the same opinion of the salient features of the composition. Remember that in our description

¹⁵Fagin et al. (2003) discuss at least two different interpretations of the notion, one in terms of a possible infinite iteration of the $E_{\rm G}$ -operator (23-25), another in terms of sets of information states in so-called Aumann structures (38-41).

of the piece of music, we do not know whether the oboe, the violin or the cello has the most important role in the passage (from our point of view). It might be that the voice of the oboe is not only the initiator of a step-wise development in the voices but also an indispensable part of this development, for example if the sequence phrase 2 - phrase 4 - phrase 6 constitutes a melody that simply for the purpose of a fun effect has been distributed onto three different voices. But it might also be that the oboe's phrase 2 is just like a small prologue to a theme that actually begins with phrase 4 in the violin, and that phrase 4 for some reason is tightly knit to a rhythmical structure that develops over bars 1-3. A similar situation could be the case for the cello, if the oboe and the violin are merely adding small fills to the last of four bars that naturally precede phrase 6 in the cello.

In any of the three cases just described, if we could point to a rule that, if common knowledge in the ensemble, would ensure safe conduct in the situation of doubt, this rule would indirectly be a statement of the compositional features to be regarded as salient by every musician. In other words, this account of coordination in the ensemble leaves no possibility of disagreement with respect to the interpretation of the composition.

For a computer programmer simulating an ensemble as one virtual accompanist to one live soloist, this is not a big issue. We would generally like an accompanist that, at the worst, is only in disagreement with the soloist, not with itself also. For someone modeling the interactions of several independent players, modeling players with different initial perspectives on the music is, however, very important.¹⁶

In the following chapter, we will examine what can be done for a formal description of ensemble coordination without imposing a structure where everyone has to have the same idea of the salient features of the composition.

¹⁶For one of many examples of the efforts being put into achieving alignment of a virtual accompanist's delimitation of what counts as instances of a given piece of music and the interpretation of the same composition by a soloist, see Fox and Quinn (2007). I acknowledge the work of Grund (2005) for alerting me to the inherent problems of ontology in the area of computer music modeling and information retrieval.

Chapter 8

The Role of Expectation in Coordination

I have discussed earlier how the concept of "game" may be applicable as a metaphor for the role of rules in a music (ensemble) performance. Although I have argued that board and card games generally differ from the music performance by being competitive activities (as part of their foundation), the field of *game theory* which analyzes how players reason – and *should* reason, if they desire certain outcomes¹ – provides us with good tools for analyzing how a player's *expectations* can be an important feature in coordinating with other players.

Game theory has connections to epistemic modal logic. As in modal logic in general, the notions of possibility and necessity are also at play in game theory, but in covert form: Here agents are characterized as attaching probability values to the occurrence of specific types of behavior or lines of thought among their opponents. Such probability values constitute a continuum from what is considered completely improbable (0) to what seems to be completely unavoidable (1). Many systems of modern modal logic (see e.g. Cross (1993)) employ a similar continuum instead of the simple operators \diamond ("it is possible that...") and \Box ("it is necessary that..."). Similar to the branch of epistemic logic we have employed, game theory tries to capture how an agent's strategy can be revised as his information changes. Only, game theory is not only concerned with describing how information is revised, it

 $^{^1{\}rm Game}$ theory thus assumes as a basic premise that the players will always try to achieve their desired outcomes. A discussion of whether this is actually the case, will become relevant in chapter 9

is also concerned with *prescribing* actions for players given the premise that everyone wants to achieve the best possible outcome and is aware that the other players want this too.

Before we describe the application of game theory to coordination problems in a music ensemble, let us first revisit the discussion of the extent to which "games" are generally comparable to music performances.

8.1 Music Performance as a Game

In order to understand the merits of the metaphor of comparing a music performance to a game, we must first settle how we should understand the latter concept. In Danish, "game" translates into two different words, depending on the context: Either "spil" which is an activity guided by rules and with some goal (the reaching of which e.g. constitutes winning, not losing etc.), and "leg" which is a more generic term that covers all the ways in which people can "play" together (in the sense that children "play" with toys). The same distinction is absent from both English and German. Here, "game" and "Spiel" respectively are the only terms to cover both the strongly ruledependent and the more generic instances of "games." (The fact that "Spiel" as it is used by Wittgenstein is normally translated into "spil" in Danish is probably why the argument of Wittgenstein (1999, §66) for the impossibility of defining the word sounds flat-out wrong to many Danish readers.) But really, one could argue that no matter in which context we are using the word "game," a game is *always* in some way guided by rules.

Consider, for instance, a couple of children playing with dolls or action figures. In such a game, there will often be roles assigned to each participant ("you can be the mother and I'll be the father," "you can be Luke Skywalker and I'll be Darth Vader" etc.), and these roles have some general codices for behavior within the game, plus there might even be a loose storyline that the players are tacitly trying to enact. It is perhaps a point of discussion whether "playing with LEGO" in the sense of spending time building models is an actual game, or if it is more a workshop-like activity that just happens to have a social dimension sometimes. If one includes playing with LEGO (or other creative activities, which may also include e.g. dressing up a Barbie doll in a customized outfit) in the realm of games, one could, however, point to the fact that such activities also have goals (building according to a specific design, testing different ideas to find a new, interesting design or wardrobe etc.) and hence also rules or, more broadly, guiding principles or strategies. Returning to the field of music, it now seems even more fair to compare the field of music performance to a game in *any* sense of the latter word:

Sometimes the musicians pay very close attention to a specific set of rules, e.g. when playing according to one of Brahms' detailed scores, and therefore scarcely contribute to an act of composition in the situation, whereas other times (e.g. in an improvisation-based jazz performance) there are almost no explicit rules for how a performance should proceed, yet several implicit restrictions on the behavior of musicians (such as genre conventions). More often, performance activities fall somewhere in between these two extremes. Regardless of the amount of rules, the activity is, however, not 'controlled' by the rules in the sense that a puppeteer controls his puppet. There is always room for 'free' activity (although some writers may hold that our activities are always in some way determined by other factors and hence never "free" in a metaphysical sense²) within the 'playground' set up by the rules. This holds for music performances as well as games in general.

In composition-based performance contexts, it might be fruitful to identify the 'rules' of the 'performance game' with the composition – this is what Okubo (2001) does to some extent (see 5.5.2 for a more detailed discussion of Okubo's view). Similar reasoning may apply to strongly genre-conscious improvisation-based scenarios. In both cases, the rules of the game apply to everyone in the ensemble and define lines of action, strategies etc. the following of which results in a performance of a given piece of music or a performance within a specific genre. Of course, some rules of a composition apply to specific musicians and may therefore not be part of the collective consciousness in the ensemble, but there may still be overarching rules for the performance that everyone will try follow. ³

Paul Rinzler (1988), whose focus is jazz improvisation, tilts the balance between rules applying to specific musicians and rules applying to everyone in the ensemble: By taking up the role of a specific part, e.g. the bass

²Within metaphysics, this point of view is of course known as determinism. In the context of music, e.g. Kühl (2003, 53-58) and Kirkeby (2004, 267) have shown how musicians often – more or, most likely, less consciously – structure their actions according to the aesthetical schemes they have been trained in.

³It is easy to see how "performance games" are liable to break down (in coordination problems) if the musicians have *differing* views of what the rules for the performance context are. I will, however, be more interested in showing how coordination succeeds in these contexts (more on this in 8.3).
part in an ensemble context, the musician agrees to carry out the functions associated with that role in the ensemble – much in the same way that the children in my own example above might 'agree' to fill out the role as "Darth Vader" or "Barbie's sister" in an informal doll/action figure game. There may still be general rules applicable to everyone in the ensemble, but these can sometimes be of very little importance to the individual musician, if, for instance, the musician chooses to immerse himself (almost) completely in his own part, only paying attention to the other musicians for the sake of minimal coordination.

As with the general rules for the music performance, the specific rules relative to the 'role' a musician has chosen in the performance also allow a degree of 'artistic freedom' within the boundaries of these rules:

A subcategory in this area [of immersing in one's own part] involves the performers' being creative within the confines of their own specific musical function. In this case, players may radically depart from clichés and standard patterns but not interact with each other (in the sense of cooperating with other musicians toward a common goal, such as accenting the end of a four-bar phrase). A multilayered approach is thus taken in which individuals are nominally playing together, functioning within the confines of their own musical goals. (Rinzler (1988, 156))

In this sense, although one might perhaps initially want to compare music performance with strongly cooperative games such as the 'performance' of a 'proto-drama' in children's (role-playing) games, or, perhaps a better example, working together on building or decorating a scenario (in LEGO, a doll house etc.), one can also find parallels to more "self-centered" games, such as Monopoly, where rules are followed and associated functions filled by the player, but where everyone has his or her own goal for the game (apart from winning in the latter case).

A further parallel between the act of playing a game and performing music, with or without an ensemble, is drawn by Reinholdsson (1998, 17) who identifies the "total absorption" in a game that players may feel (according to, among others Johan Huizinga (1939/2000)), with the corresponding absorption in the activity of playing music. Put differently in vocabulary borrowed from psychologist Mihály Csíkszentmaihályi (1990), Reinholdsson notes how action and consciousness can sometimes be fused for the musician, because the focus on the task at hand and maintaining control of it while being receptive to the feedback from others, may lead to "losing selfconsciousness," in the sense that the activity in itself and the goals projected in it become 'all that matters'. The world external to the performance is bracketed – it no longer matters to the musician's motivations (at least not qua performing musician). This is of course a generalization, as it is in the sphere of games, but the general point is important: Just as one has to adapt to the "world" of a computer game (e.g. *World of Warcraft*) in order to play it properly, that is, focus on the objects of the game (bracketing the fact that "never mind, it's just a game"), a musician must take the goals for his or her performance seriously, ignoring that this is just one scenario – among many – with an associated set of rules. Perhaps one might even say that the stronger such a focus is, the better the performance will often turn out to be.

Powerful though the comparison between music performance and game is, the metaphor has its limitations. Of course, one discussion is whether one should include cooperative creative activities in the sphere of games, or whether game should mainly refer to something with the structure of competition. If the latter is the case, the metaphor will be weakened, at least in cases where there are no soloists 'competing' for the audience's recognition (e.g. trying to outdo each other in alternating solo bits). But more importantly, the notion of rules in games is not straightforwardly transferable to the sphere of music performance. As I have argued throughout this dissertation, musicians do not just view rules in a performance as rules to be followed no matter what, but attach different priority to different instructions and aesthetic principles. These priorities are sometimes shared across an ensemble, but they also sometimes differ.

The priority discussion aside, the intuitions captured by the game metaphor for music performance are important because they pin out some general ideas of the attitude of musicians while playing, especially in relation to norms. It is also worth noting, especially as a justification for applying game theory to the analysis of music performance, that even competitive games are in a certain sense cooperative: In order to achieve a specific outcome in the game, the player has to consider how he coordinates with the other players in order to achieve this outcome, given his expectations for what *they* want to achieve. It might even be, as Bacharach et al. (2006, 69-70, 111-114 and 120-154) argues, that a player in such a game actually tries to strive for a fairly good *collective* outcome for all players rather than a high outcome for himself. This discussion aside, let us look at the tools game theory provides us with.

8.2 Game Theory with Variable Frames

⁴ A great deal of effort has been put into explaining how people are able to coordinate in games where two or more players (here understood as players of the game, not musicians) only receive a payoff, if they are able to simultaneously choose the same of a number of options. For instance, in the introduction by Natalie Gold and Robert Sugden to Bacharach et al. (2006, 19), we find the example of "Three Cubes and a Pyramid". In this game two players have to choose the same out of four objects, a red cube, a blue cube, a yellow cube and a green pyramid. From an objective point of view, the probability that the two players coordinate on the same object is just 0.25, because there are 16 possible combinations of actions of the two and 4 possible ways they can choose the same object. We would, however, expect people to be much better at coordinating than that, and expect people to choose the green pyramid. The intuitive explanation of this problem (and the answer given by Schelling (1960, 64) in relation to similar experiments) is that the choice of the green pyramid is somehow more *salient* than the other options. But why?

First of all, the two players are not just picking at random without taking how they perceive the game and its four objects into consideration. They describe the game to themselves using *predicates*, and these predicates belong to what Bacharach calls *families* Bacharach et al. (2006, 14-16).

Formally, we define a set S of objects, a set P of predicates and a function E that assigns a (possibly empty) subset of S to each predicate in P, such that if φ is a predicate, then $E(\varphi)$ is the set of objects φ describes (or the *extension* of φ).⁵

If we call the set of objects in the "Three Cubes and a Pyramid"-game $S_{objects} = \{x_1, x_2, x_3, x_4\}$, and decide that x_3 is the green pyramid, we have for instance $E_{objects}(cube) = \{x_1, x_2, x_4\}$ and $E_{objects}(pyramid) = \{x_3\}$. If the extension of a predicate has more than one member, such as "cube" in this case, we call the act of singling out one object to which that predicate applies, "picking". If the extension is a singleton, such as the extension of

 $^{^4 {\}rm The\ remainder\ of\ this\ chapter\ is\ based\ on\ parts\ of\ Frimodt-Møller\ (2008)\ and\ Frimodt-Møller\ (2009b).}$

⁵This is my rendition of Bacharach et al. (2006, 10-11 and 14-20).

"pyramid", we call the act of singling out the object to which that predicate applies, "choosing". In other words, the players can "pick a cube" or "choose the pyramid" but not "choose a cube" or "pick a pyramid".

The predicates can be arranged in families, understood as sets of predicates, where, if one comes to mind for the player, the other ones will come to mind as well. Hence we can define a shape family, $F_{shape} =$ $\{cube, pyramid...\}$ and a color family $F_{color} = \{blue, red, yellow, green...\}$. We can also define a "generic family" $F_{thing} = \{thing\}$, where $E_{objects}(thing) = \{x_1, x_2, x_3, x_4\}$. We might be able to come up with other families and predicates, but let us stop here for the sake of clarity.

Now, for each player, we can define a set of families that might come to mind for that player. We call such a set a *frame*. Such a set is a subset of the *universal frame* F, containing all families that can be taken into consideration in the example (thus the universal frame in "Three Cubes and a Pyramid" is $F_{objects} = \{F_{thing}, F_{shape}, F_{color}\}$). Each player assigns to his opponent (we are assuming a game of two players) a probability $v(F_i)$ that the opponent has a family F_i in his frame - this is also called the *availability* of F_i .

As a hypothetical example, a player may think that $v(F_{thing}) = 1$ for his opponent, $v(F_{color}) = 0.6$ and $v(F_{shape}) = 0.8$. So, if the player is right in how he considers the availability of the families for his opponent, the probability that his opponent will look upon the situation as choosing between shapes rather than "non-descript" objects (see Bacharach et al. (2006, 16)) is 0.8. Because there are three cubes, the possibility of both players coordinating on the same cube if they both decide on the act-description "pick a cube" is 0.33 (1/3). If we take the first player's assumed availability of the shape family in his opponent's frame into consideration, and assuming this value is correct, the possibility that he coordinates with the other player if he picks a cube is, at the outset, 0.33 * 0.8 = 0.26. This is only marginally better than the chances of the players when just picking at random.

If the player decides to "choose the pyramid", however, he has a 1*0.8 = 0.8 chance of perfect coordination, as there is only one pyramid. If we assume that the payoff for coordination is exactly the same no matter what the players agree to do, it seems that choosing the pyramid is a much better option than any other possible act, since the probability that the players coordinate is higher. (Actually, even if we assume that both players assign an availability of 1 to all families in their opponent's frame, "choose the pyramid" will still be the optimal choice. This is because the options "choose the blue", "choose the red", "choose the yellow" and "choose the green" are discarded

due to what Bacharach calls the principle of symmetry disqualification⁶. This principle roughly entails that if there are two or more predicates from the same family that have exactly the same size of extension in the game, we have no reason for choosing one over the other, and hence we should disregard the family entirely. Another way of putting it in our case is that the absence of a stand-out color choice converts the situation to an arbitrary 'picking' between act-descriptions related to the color family – and here, the chances of coordinating are much smaller.)

We will now try to apply some of these ideas to our coordination problem in the music ensemble.

8.3 An Analysis of the Musical Coordination Problem in Terms of Variable Frame Theory

The coordination problem described in chapter 7 can be interpreted as a coordination game such as the one we have just examined. The object of the 'game' in our ensemble is to choose the same strategy as to which phrases should be played at what time and after which phrases.

In our example we have roughly four different strategies for the ensemble:

- 1. The musicians try to stick to the score as much as possible and disregard mistakes as unfortunate mishaps
- 2. All three musicians regard the oboe's phrase 2 as essential for the continuous development of the piece and thus wait for the oboe, if the oboe is late.
- 3. The musicians regard the violin's phrase 4 as essential and therefore disregard the possibility of the oboe being late as a source of confusion and instead wait for the violin to commence phrase 4 before proceeding according to bar 5 in the score.

⁶The analysis of "Three Cubes and a Pyramid" is in essence the same as in Bacharach et al. (2006, 19-22), although I have used a slightly different notation utilizing more transparent subscripts for the different variables.

4. The musicians regard the cello's phrase 6 as essential, so that even if both the oboe and the violin are late, these players will continue playing their phrases 1 and 3 respectively until the cello commences phrase 6.

Unless the cello is even later than both of the other players, the first and fourth strategies amount to the same: follow the score and just move on in case of errors. We can thus simplify our example a bit by eliminating the fourth strategy from our considerations. From the cello's point of view, however, the second and third strategies also amount to the same line of action: wait for the violin to play phrase 4, then proceed to bar 5. On the other hand, since it is impossible for the oboe to wait for the violin, the oboe considers the first and third strategies similar with respect to her own line of action: in both cases, she should continue according to the score.

So, to sum up, the only player for whom it really matters, if the violin's phrase 4 is the most important of phrases 2, 4 and 6, is the violin. If we roughen our distinctions a bit, we could say that the violin really faces a problem of choosing between waiting for the oboe's phrase 2 and not waiting for the oboe's phrase 2. Not waiting for the oboe does not rule out the violin being late himself, if, for instance, he follows the third strategy described above, but whether or not this is the case will not make the situation radically different for the other players. We can therefore narrow the description of the coordination problem down to a game of coordinating on the same choice of one out of two possible strategies:

"Wait" (meaning "wait for the oboe's phrase 2 (the oboe plays phrase 2 when ready)") and

"Don't Wait" (meaning "do not wait for the oboe's phrase 2 (continue according to the score if the oboe does not play phrase 2 at bar 3)").

The "objective game" in Bacharach's terms Bacharach et al. (2006, 14), that is, the game without a representation of the players' frames looks like this:

Each of the three players have a possibility of 0.25 of coordinating on the same strategy, whether "Wait" or "Don't Wait" (because there are 8 different combinations of strategies for the three players and 2 possible ways they can choose the same line of action). But the objective game only describes the situation as it would be, if the players picked their strategies at random. It is, however, more likely that they describe the two choices to themselves in

terms of their qualities. For example, a player could say that "Wait" is a more "melodic" solution with respect to phrasing, or s/he could say that "Don't Wait" "keeps the piece going rhythmically" understood in the way that this strategy is more in accordance with the overall rhythmical structure of the passage.

Let us symbolize "Wait" by x_1 and "Don't Wait" by x_2 . Then we can define a family of predicates $F_{rhythm} = \{\text{keeps the piece going rhythmically}, \dots\}$, where $E(\text{keeps the piece going rhythmically}) = \{x_2\}$. We can also define a family $F_{melody} = \{\text{melodic}, \dots\}$, where $E(\text{melodic}) = \{x_1\}$. If we once again include the generic family $F_{thing} = \{thing\}$ where $E(thing) = \{x_1, x_2\}$, we have the universal frame $F = \{F_{thing}, F_{rhythm}, F_{melody}\}$ for the coordination game. Now, because of the inclusion of F_{thing} , a player who has all three of the mentioned families in his frame can decide on one of the following act-descriptions: "pick a thing (something)", "choose the option that keeps the piece going rhythmically" or "choose the melodic". (I have deliberately simplified the amount of possible choices and predicates in this example, because our example has the complexity over "Four Cubes and a Pyramid" that there is an extra player.)

Each player assigns an availability of each family for each of the other players – in other words, he has to decide on two availability values for each family. Let us say that the violin assigns the possibility $v_{oboe}(F_{melody}) = 0.7$ to the case where F_{melody} comes to mind for the oboe, $v_{oboe}(F_{rhythm}) = 0.3$ to the situation where F_{rhythm} comes to mind for the oboe, $v_{cello}(F_{melody}) = 0.6$ to the situation where F_{melody} comes to mind for the cello and $v_{cello}(F_{rhythm}) =$ 0.5 to the case where F_{rhythm} comes to mind for the cello. If the violin is right about his estimates and decides to "choose the option that keeps the piece going rhythmically", he has a $0.3 \times 0.5 \times 1 = 0.15$ chance of coordinating with the other musicians on this strategy. If on the other hand he decides to "choose the melodic", he has, provided his estimates are correct, a 0.7 *0.6 * 1 = 0.42 chance of coordinating with them on this. This is still not an overwhelming safety, but if we grant that coordination on a strategy is good, no matter the strategy, it seems reasonable for the violin to "choose the melodic" because he considers the probability of coordinating with the other two players higher than by picking at random. Does this, however, ensure coordination in the ensemble? This is the subject of the next section.

8.4 What Does the Availability of a Frame Show Us?

There are at least two problems that some readers will notice immediately in the analysis above. The first is that it might be that the violin is wrong in his assignment of availabilities to families in the frames of his co-players. The second is that it might be that the other players have a different view of the availabilities of families in each other's frames, thus making the probability assessment even more complicated.

It is important to note in connection with these two complications that what we have described above is how a player can rationally make a choice based on his or her expectations of how the other players may be likely to think. Even if the violin is for instance right in his assumption that $v_{oboe}(F_{rhythm}) = 0.3$, this does not mean that it can never occur that the oboe decides to "choose the option that keeps the piece going rhythmically". But if his estimates of the availabilities are generally right, and if coordination, no matter the strategy, is still the objective, the violin will be foolish not to go for the strategy that gives him the highest probability of coordination. So the real trouble here is on what basis a player makes his estimates of the availabilities of families in the frames of his co-players.

Intuitively, if an ensemble such as the trio we are considering here has been working together for a long time, it seems that it would be strange if the players deviated much from each other in their views of the availability of a family in a given player's frame. On the other hand, an ad hoc ensemble of musicians, where no one knows each other, might have fairly the same expectations of the availabilities of different families in each other's frames, namely close to 0.5 for all families (if they have no idea of each other's stylistic preferences). The latter situation is, however, not likely to ensure very good coordination because the possibilities for coordination on a strategy will inevitably come out rather low. Both types of situations (where the musicians know or do not know each other) point, however, to the relevance of musicians 'knowing each other' prior to a performance.⁷

Of course, we can still improve the probabilities of coordination in the ensemble by strengthening the common knowledge or 'consciousness' of some

⁷This in accordance with many of the musicians I know who either will not perform with other people without extensive rehearsal or will only perform with people they are familiar with in advance.

prior agreement on the interpretation of the composition. In the above case, the violin would then probably assign the same – high – availabilities to a specific family in all frames of his co-players. What we wanted to show in our analysis in terms of Bacharach's variable frame theory was, however, that agreement on an interpretation was not necessarily a requirement for coordination, although it might be a requirement for reaching coordination with *certainty*. The players might be able to make non-random decisions making coordination quite possible, even if they do not have common knowledge of any interpreted set of rules in relation to the composition but only some expectations of each other's way of perceiving the situation. Such estimates as the one described in 8.3 do not ensure coordination, but make coordination more probable than if everyone chooses at random.

The norms of the performance context, whether part of a composition or constituted by genre conventions, do, however, affect the choices of the musician in the analyzed example. I have taken for granted that the musician making the probability assessments is himself attentive to all the different ways the situation can be framed - of which families of predicates may apply to the situation. This awareness of different features that can have different importance for a player, is, at the outset, influenced by what the musician generally regards as constituting the norms of the performance context – in the case of a composition-based performance, especially what they regard as constituting the composition. In short, the norms of the performance context (as the musician conceives of them) define which aspects of the situation the musician can expect the other players to pay varying degrees of attention to. (The fact that the musician himself probably also has a higher availability of certain families than others in his frame supports my conjecture in section 6.4 that the composition (or any other set of norms for a performance context) is always conceived of alongside a priority ranking.)

Chapter 9

An Intention-Based Model of Coordination

In the previous chapters, we have discussed and tried to model two different ways of achieving coordination in the music performance through rational deliberation: one in terms of the individual's knowledge with respect to the character of the performance situation and how the other players perceive it, another in terms of the expectations one may have for the other musician's conceptual framing of different performance choices. Apart from the other shortcomings discussed above, a problem with these models is that they only consider what prompts a given strategy in a performance *already taking place*. We do not get any explanation of why a musician chooses a specific line of action in the first place, regardless of whether there is a potential coordination problem or not.

The model I will discuss in this chapter tries to capture exactly this: the fact that a musician has an intention for the performance in question, and that this intention not only guides his initial actions, but is also an important factor in making decisions in the face of coordination problems. The model I propose is heavily influenced by the work of Olivier Roy (2008) on decision problems in general.

As in the previous chapters, I will, however, once again end up showing the necessity of norms outside of the model, although I will discuss the possibility of formalizing these norms within the framework.

Before describing the aforementioned model for the role of intentions in group coordination, let us first take a more general look at how musicians form intentions in a music performance.

9.1 Goal-Directedness in the Music Performance

Before setting out to perform music, the musician has one or more goals with his or her performance. S/he intends the sonic output to have certain qualities. Such intentions may have an order of priority for the musician in the sense that some of them are more readily disposed of than others, if the need to coordinate with other musicians demand it. Among these intentions can be (in no particular order):

- A sound structure that pleases the musician (is in accordance with her taste)
- A sound structure that the musician thinks will please the audience
- A specific sound structure resulting from (an interpretation of) a composition
- Something that can be identified by the audience as a performance of a specific piece
- A certain general expression that is exemplary (to the musician/ensemble) of a specific genre
- Something that can be identified by the audience as a performance within a certain genre
- A sound structure that the musician would like to have associated with her person
- A sound structure that the musician would like to have associated with the entire ensemble

Some of these bullets also entail that the musician will try to avoid mistakes, either because mistakes often do not "sound good" (do not please the musician or the audience), because they impede the identification of the piece being played or because they make the musician or ensemble look bad in the eyes of the audience.

Having a set of intentions for the sonic output is essential and even necessary for the music performance. (Even among amateurs, the minimal intention of getting through a difficult piece qualifies as an intention.) Which type of intentions I have highlights certain sets of "strive for this"-norms as the basis of my initial conduct. The sets of "strive for this"- and "avoid this"-norms that regulate my actions are subsequently shaped by the mistakes and examples I encounter in the performance (see also my discussion in 6.5.2 and 6.5.3). My initial intentions are not abandoned unless I have no other way out, but I may add new intentions to the set later (e.g. during the performance).

The "before" in "before setting out to perform" does not entail that the musician has all of her goals ready before the performance commences. "Before" may also be understood as before performing a particular passage. It is often the case that musicians form a large part of their goals, and hence their intentions, after hearing the first joint efforts of the ensemble, because these give them new ideas for what the entire performance could end up sounding like. Reinholdsson (1998, 50-52) describes, applying the theories of human action of George Herbert Mead (1938, 3-25) (and remarks on these theories by Lars-Erik Berg (1992, 32-33)), how an improvising musician forms performance intentions (my formulation, not Reinholdsson's) during the performance:

The musician can feel an *impulse*, a more or less sudden inspiration to 'try something out'. This impulse may be preceded or followed by a stage of *perception* where the musician considers the different possibilities in the situation, e.g. possible harmonies, phrasings, syncopations etc. (Preceded, because the stage of perception may trigger *new* inspiration, followed, because the shift in attention prompted by the impulse alters the musician's perception.) The impulse is then shaped in the actual action, that is, the musician enters a stage of *manipulation* (to stay within Mead's vocabulary). Finally, the musician listens to and considers his or her sonic output – this corresponds to the Meadian stage of *consummation*. As Reinholdsson points out in the same passage, these four stages (regardless of their exact order) may constitute a repeated circuit:

Consummation results in new perception and possible new impulses that are then manipulated and 'consumed'. In a composition-based performance context (upon which I build most of my own framework), intentions understood as goals may, in my opinion, also enter the musician's mind as impulses. They are, however, in that case immediately shaped in relation to the perceived possibilities because "following the composition" is always a background goal of the musician. It is, in my opinion, not only the "impulse" that influences the perception of possibilities in the situation as such. The goals of the performing musician, in my examples including the task of following a composition, also limit and rank the perceived possibilities in a prioritized order. To apply the explanatory scheme of Rietveld (2008, 159-160), the possibilities for action from which we can choose in the situation are those that are "relevant" for us (I assume Rietveld tacitly means "given our goals"), and thus some actions are "privileged over others." In a music performance, the norms of the performance context (as conceived of by the musician) are exactly what "privileges" some lines of action over others.

Further, still in the context of composition-based music, the strategy for reaching the initial goal may itself entail subgoals, since goals in a composition-based performance will often have a more long-term character (e.g. goals for the entire performance of the composition) than in a 'mere' improvisation. Regardless of whether the performance is improvisation- or composition-based, as the performance develops and the other musicians shape the sonic output, the individual musician gradually becomes more concerned with the coherence of the performance as a whole, and the resulting need for coordination with the other musicians brackets her potential creativity (with respect to forming *new* goals).

In the following I will show, with the aid of formalization, how intentions (understood here as goals) combined with the focus of the (compositionbased) situation help shape the decisions of the musicians. If, by intentions, we refer to both high- and low-level intentions in music making (recall the distinctions of Dipert (1980) as discussed in 5.3), these are themselves ranked by the musician in some order of priority. I will, however, primarily discuss the role of intentions pure and simple, including as possible intentions specific priority-rankings of the norms of a composition (or of the performance context as such).

9.2 Intentions

As I have just described, musicians always have goals for their performance, however small they may be. This means that they have *intentions* for the performance. Normally, intending to do something entails, to a certain degree, a conscious inclination towards something. For our overall purposes, however, a more general notion of intention that also covers the goal-directedness which is so internalized that the musician hardly notices it, will not be too inclusive. Firstly, we should keep in mind that descriptions of prior thought processes are always interpretations of these and that we can therefore never be *sure* which motives (if any) the musician was consciously aware of in advance. Secondly, whether or not the musician is conscious of his own goals does not necessarily affect his ability to choose strategies that comply with his own goals, since one's goals often 'act from behind the scene,' only gradually revealing themselves (to the agent as well as his co-players) through the pull felt by the musician towards or away from different possibilities.

My formulation "feeling a pull" is perhaps unfortunate, because it suggests that the pull is not due to rational considerations. Yet, when small children recognize that an object with a certain shape fits into a certain hole in a box, are they not at one and the same time recognizing an actual, structural (pattern) relation and being moved by some norm for the activity ("put the objects in the holes"), although they may not be able to articulate this for themselves in advance? Similarly, it makes sense to claim that the unarticulated goals are exactly un*articulated*, that is, non-verbalized, but that this does not mean that the goals are not consciously taken into consideration in the situation (Recall also my discussion of non-linguistically structured thought processes in 2.6.) Nevertheless, we will, for simplicity, bracket these considerations in our attempts to formalize deliberations with intentions and speak *as if* all intentions were fully articulated in the minds of the musicians.

Articulated or not, I have assumed throughout this dissertation that it is not possible for a musician to have an intention that is logically contradictory, or, to use Olivier Roy's formulation, I have assumed that intentions must be "internally consistent" (see e.g. Roy (2008, 139)). Of course, it may be relevant for a musician to consider whether the other musicians are 'out of their minds,' but when describing deliberation processes from a first person perspective, it does not make much sense to spend time drafting an analysis of which conclusions a musician can draw from absurd premises.

A perhaps more troubling question is whether or not we should allow that a musician can have intentions the fulfilment of which he does not necessarily consider possible. Roy (2008, 137-169) devotes considerable space to a discussion of whether a demand for the opposite combined with the condition of internal consistency amounts to an actual cognitive constraint, or if the conditions should rather be viewed as *pragmatic norms*. By "actual cognitive constraint," I mean something that *always* affects how we form intentions. By pragmatic norms, Roy means norms for how one *should* form intentions if they are to be helpful in one's conduct, e.g. in reaching coordination in a group. I agree that it is certainly of pragmatic value only to have intentions if one considers their fulfilment possible, and most certainly only to have logically consistent intentions. With respect to the former, in my analysis below, I bypass the possibility of having intentions that are not in *any* possible way realizable. Since coordination is (virtually) always a subgoal of every performing musician, it seems unreasonable to think that musicians would not always consider what they find possible when forming intentions. 'Being wrong' in one's assessment of possible scenarios is a different matter that can be captured by refinements on the total model for coordination, as suggested in the sections below.

9.2.1 Action-Intentions vs Outcome-Intentions

Olivier Roy (2008, 22) divides intentions into two groups, *action-intentions* and *outcome-intentions*. I might have the intention to perform a specific action or a series of actions. If this is so, I have an action-intention. If I have the intention to reach a specific outcome, I have an outcome-intention.

Outcome-intentions have a composite nature: What we intend is not just one outcome in isolation, but a *set* of outcomes. If I intend to achieve the taste of coffee in my mouth, I seldom have this intention in isolation: It will usually be part of the intention to e.g. be sitting down in a good chair and drinking the coffee while reading a good book (my example). Roy consequently defines a set of outcome-intentions (for an agent), I_O as a "collection of sets of outcomes."

The elements of an agent's set of action-intentions, I_A are on the other hand, *plans* of action – that is, they may, to unpack Roy's definitions, be plans consisting of just one action, but they may also include several, more or less connected actions.

Roy defines that an agent's intention structure (that is, his sets of actionintentions and outcome-intentions taken together as a pair) is means-end coherent, if the agent's action-intentions are in accordance with his or her outcome-intentions. To be more accurate, if the outcome of at least one specific action-intention belonging to I_A for this agent is part of the intersection of the subsets of I_O , then the agent's intention structure is means-end coherent. Less formally, the agent has to have at least one plan that will lead to part of one of the outcomes she intends. This is assuming that the agent knows the outcome of a specific action. Since this is a rather strong requirement, we should perhaps settle for a definition where, if at least one actionintention belonging to the agent's I_A -set has a *probable* outcome, which the agent is aware of and which belongs to the intersection of the subsets of the agent's I_O -set, then the agent's intention structure is means-end coherent.

Informally speaking, if we want to model an agent as having an actual chance of rationally achieving what he wants, we would like him to have action-intentions that he believes will make it possible to actually reach the most basic part of his outcome-intentions. This is what Roy (2008, 48) refers to as being "intention-rational."

Means-end coherence aside, action-intentions have a more binding character than mere outcome-intentions. While it is a rather common thing not be able to achieve the outcome you want, it is slightly less common to intend the performance of an action but not perform it. It might, however, be that you are unable to perform the action in question. In that case, if you know this in advance, you are not being completely rational in intending that action. If you sincerely think you can perform the action you intend, but fail in the moment, you have probably misjudged your own capabilities, or there may be external factors (external to your will power that is) that prevent you from succeeding.

All of these ways of failing to achieve an action-intention are probable scenarios in a music ensemble. Situations can occur where the musicians are not technically skilled (or have not practiced) enough to perform the actions they intend to perform. Sometimes they know this, but choose to ignore it or 'take a chance' because they would like to play anyway (or perhaps because they do not want to admit their technical inferiority). In other situations, a musician might sincerely think that he is able to perform a specific action, but, when the moment comes, he is – to his regret – not able to perform the action. This could be due to his own lack of self-criticism, but it could also be due to external factors such as a sudden sneeze, a wasp or something else.

The case where a musician intends to perform an action, but does not perform it because other factors, such as the fear of ridicule creeps up on him, could also be reduced to a case where external factors interfere (by external we thus understand external to the musician's action-intention and his own technical capability of performing the action in question).

If we want to include these quite probable occurrences of failing to perform an action in our model, we have to add extra factors to a musician's computations of the actions of other musicians. He has to consider how likely they are to fail at achieving their action-intention, including the cases where they ignore their own lack of skill, misjudge their technical abilities or are impeded by external factors. I call these factors *chance factors*, since they are factors that are, presumably, unsystematic, but may occur now and then. Whether we pool the chance factors into one or consider them separately depends on how descriptive we want our model to be. Since chance factors are, as my term indicates, somewhat unpredictable (although statistics on the quality of the performances of the other musicians might help me) it makes sense to bracket them in a discussion of how far rational deliberation can get musicians when trying to solve coordination problems. We will, however, include chance factors in our general model for normativity and coordination in chapter 10.

A different problem to consider is whether we really want to model our musicians as having means-end coherent intention structures. It is quite plausible that a musician (especially someone who is not technically skilled) has an intention to achieve a specific (sonic) outcome but does not know which action(s) will help him achieve this outcome. He can therefore not form an action-intention that will allow him to achieve the latter outcome (at least not by his will). We can include in our model being means-end incoherent in this very specific way by distinguishing between whether or not a musician can identify a strategy of actions that will allow him to reach his outcome-intention. For a moment we will bypass this descriptive refinement, important though it may be. We will, however, completely exclude meansend incoherence in the sense where a musician knows which actions can possibly lead to the achievement of his outcome-intentions, but does not include these in his set of action-intentions. In short, if the agent knows what he can do to $(possibly^1)$ achieve his outcome-intentions, he should intend to perform these actions.

With the considerations in the above paragraph in mind, we will therefore consider outcome-intentions only – writing "intentions" as a synonym. We do, however, still have action-intentions in our profile, only "camouflaged" by the requirement of means-end coherence – the action-intentions correspond roughly to the possible strategies defined by the intended outcome. Which possible strategies are defined for a player depends, however, on the intentions of other players.

¹In the context of music ensemble performance, where the reaching of virtually every possible goal is dependent on the actions of more than one person, a musician can never know for sure whether something *will* lead to his goal.

In the following, I will discuss, using the basic parts of Roy's vocabulary for coordination in general, how musicians form strategies based on their intentions.

9.3 Intentions at Play: Mining for Profiles, Following Strategies, Striving for Coordination

Given our considerations regarding the structural element in music in past chapters (see e.g. 6.2), denoting the outcomes musicians want from a performance as mere "sonic outcomes" may be an oversimplification. We do, however, need a terminology to distinguish between the outcomes musicians want from the music performance in virtue of being an act of making music, and the outcomes the musician wants to achieve *through* the act of making music. In other words, we are not interested in whether a musician intends the outcome that the pretty girl on row three will want to join him for a drink afterwards, even though this intention may affect the intentions he has for the performance as such. We are only interested in his intentions with respect to which sounds, structures, gestures etc. he wants to shape during the performance. I will call the outcomes he intends in the latter respect "performance outcomes."

If a musician *i* has the intention to achieve a certain performance outcome (or a range of performance outcomes), and he is intention-rational, that is, if he, in Olivier Roy's sense of the word acts in order to achieve this outcome ('gives it a shot' so to speak), then he has a strategy by which he imagines that he can achieve this outcome. In a music ensemble, however, the outcome of this strategy is dependent on the strategies of the other musicians. Hence, when a musician decides on a specific strategy, he is to some extent imagining how it may 'fit in' with the actions of the rest of the ensemble in some performance outcome he finds desirable. Formally, reflecting the definition of Roy (2008, 36), a musician *i* has a strategy s_i that is part of some *strategy profile*, σ containing a combination of strategies, one for each of the musicians in the group. The set of possible (performance) outcomes for this profile $\pi(\sigma)$ should correspond to (or include) the performance outcome the musician intends.

Stepwise: First the musician sets his mind on what performance out-

come(s) he wants to achieve. Then he identifies a strategy profile for the whole group that makes this (or these) outcome(s) possible. Then he identifies his own strategy in that profile and adopts this strategy.

Suppose, however, that two or more distinct profiles, such that the musician's strategy s_i is different in each of the profiles, have the same performance outcome(s) that *i* intends as part of their associated outcome sets. How does he decide what to do in this situation? If he wants to achieve coordination with the other musicians, he might quite probably take into account which intentions the *other* musicians can possibly have and try to coordinate with them on a profile that has an outcome set that includes the intentions of all the musicians.

(We define a strategy such that it is a function assigning to each possible situation that might occur an action for the player. Once I have a strategy, I know how to execute it – the problem is deciding on a strategy.)

Viewed from the outside, perfect coordination seems to be a matter of everyone following the same strategy profile. For the individual musician, the pursuit of coordination is, following the considerations above, a process of finding a strategy profile for the group that contains most (or, at best, all) of the musicians' intentions in its assigned outcome set. At the outset, the musician is, however, not necessarily considering "how to coordinate," but more likely, as indicated above, forms (personal) intentions for the performance that co-define a line of action for her. She is not concerned with coordination until it becomes a *problem*.

In this description, we have so far ignored questioning whether the musicians actually know each other's intentions. In the following, we will assume, for simplicity, that the actions of a player are always *deliberate*, in other words, that they reflect the musician's intentions. Consequently, given the history of a player's actions, the other players can rightfully assume a certain set of possible intentions for him given this information. (We will consider the possibility of making mistakes as a chance factor that we can add to our 'full' model of normativity and coordination in chapter 10.) We will also assume that a musician has an initial belief regarding the possible intentions of his colleagues that can then be revised during the performance. (Such a belief may be generated by our own informal statistics for that player.)

9.4 Revising Strategies

If a musician adopts a strategy and sticks to it, no matter what the outcome may be, the outcome might not turn out to be the one the musician wants. The musician might, however, not always have to wait until the end of a performance to realize that he does not achieve an intended outcome. It would be a rather stubborn musician who, in a performance situation, sticks to his strategy no matter what dissonances it may cause in combination with the actions of the other musicians. It therefore seems plausible that he may have to change strategies once in a while – or, to be exact, change his choice of strategy profile (the profile he is trying to play his part in, hoping that the other players will follow it too).

In order to describe how musicians revise their strategies based on the changes in their information, we need to employ methods similar to the field of *dynamic epistemic logic* (see van Ditmarsch et al. (2007) for a detailed survey of this tradition). Strictly speaking, the branch of epistemic logic I have applied in my analysis in chapter 7, also describes a change in information, and, in this sense, also describes something 'dynamic.' What makes dynamic epistemic logic (or *DEL* for short) dynamic (in contrast to classical epistemic logic) is, however, the *way* it describes information change: Rather than simply modeling every (relevant) round in the system in advance and 'pointing' to the changes from one global (information) state to another, DEL describes how an information state is changed into a new information state when it is *updated* with information – when new information is added to an information state. In this way it not only models the information *change*, but also the appearance of the information that causes this change.

Describing the most common ways of formalizing DEL will take us too far off topic. Instead, I will develop my own notation for how a musician's information is updated during the performance (with information of what the other musicians have been doing so far) as an extension on the multi-agent system discussed in chapter 7. I am, however, strongly inspired by the use of (square) brackets to signify updates in Veltman (1996)² and van Ditmarsch et al. (2007, 73).

As a starting point, we use the idea of "runs" to describe what is actually

²Frank Veltman's article, entitled "Defaults in Update Semantics", is not explicitly a text in DEL. There are, however similarities between the systems for updates later utilized in DEL and the syntax employed by Veltman in his analysis of how new information changes our general conception regarding what is "presumably" (vs "plausibly") the case.

happening in the performance. In a given run r, different actions – modeled by their corresponding information state (being aware of performing the action) – are stipulated for each agent at each situation in the multi-agent system. For a group of players, $G = \{i, j, ...\}, r(t)$ thus (indirectly) models what each player in G is doing at t, such that $r(t) = (r_i(t), r_j(t), ...)$, where $r_i(t)$ denotes the information state – and thus, in our model, the action(s) – of i at t.

In addition to these concepts, which are similar to those of the classical multi-agent system, we need the concept of a *history* for each player at a situation t – in short, what he or she has been doing up until then. For simplicity, the histories are assumed to be public in G, in other words, everyone is assumed to remember and have the histories of the players in G as part of their information. A history is, however, exactly the type of information we want to model with respect to how it is changed by updates:

Definition 9.4.1 (Histories and Updates). Similarly to definition 7.5.2 in 7, we define a run r as a function over time describing how the information state of each agent $i, i \in G$ develops over time, such that for a situation in time, $t, r_i(t)$ represents the information state of i at t. The information state models what the agent does at t. For a situation in time, $t, t \in \{0, 1, \ldots\}$ (as in the regular multi-agent system, we model time as discreet), we define the history of a player i to be $h_i(t) = (r_i(0), r_i(1), \ldots, r_i(t))$. Similarly, we can define the global history $h(t) = (r(0), r(1), \ldots, r(t))$, tracking all actions performed by members of G up until and including t.

For a situation immediately following t, that is t + 1, we define the *update* of $h_i(t)$ to $h_i(t+1)$ this way: $h_i(t)[r_i(t+1)] = h_i(t+1) = (r_i(0), r_i(1), \ldots, r_i(t), r_i(t+1))$. Similarly, we can define an update of the global history h(t) to h(t+1): $h(t)[r(t+1)] = h(t+1) = (r(0), r(1), \ldots, r(t), r(t+1))$.

Speaking more generally, updating amounts, in our example, to adding the element appearing within the brackets "[" and "]" to the tuple, here h(t) or $h_i(t)$. (In other contexts, updating a tuple may involve *replacing* an element in the tuple with a new one. This is, however, not an issue here, since we are assuming that the musicians register and remember everything correctly.)

Next, let us develop our notation for strategy profiles to make it possible for us to relate different choices of strategies (among the members of G) to each other: **Definition 9.4.2** (Agent and Situation Relative Strategy Profiles). A strategy profile σ is a collection of strategies, one for each agent in the group G. For $i \in G$, we call the strategy profile i is trying to play his or her part within at time t, $\sigma_{i@t}$. The strategy prescribed for an agent j ($j \in G$), by $\sigma_{i@t}$ is notated $\sigma_{i@t}(j)$. Thus the action prescribed for j by $\sigma_{i@t}$ at time u is notated $\sigma_{i@t}(j)(u)$.

Now we can define what it means for a musician i to *perceive an incongruity* with his or her own choice of strategy profile:

Definition 9.4.3 (Perceiving Incongruities). For agents i and j, $i \in G$ and $j \in G$, let the tuple $p_{i@t}(j)$ describe the expectation i has for the history of j at t, $h_j(t)$, such that $p_{i@t}(j) = (\sigma_{i@t}(j)(0), \sigma_{i@t}(j)(2), \ldots, \sigma_{i@t}(j)(t))$. i perceives an incongruity with his or her choice of strategy profile at t, $\sigma_{i@t}$, when for some j, $p_{i@t}(j) \neq h_j(t)$.

(For larger groups, it may be convenient to define incongruity in terms of global histories: In this case, *i* perceives an incongruity if her expectations for the global history at t, $p_{i@t}$ differ from h(t).)³

Because the actions of the musicians are all deliberate, i knows that for all t, $h_j(t) = p_{j@t}(j)$. Hence, having perceived an incongruity, such that $p_{i@t}(j) \neq h_j(t)$, i can conclude that $\sigma_{i@t} \neq \sigma_{j@t}$, since $\sigma_{i@t}(j) \neq \sigma_{j@t}(j)$, because $\sigma_{i@t}(j)(t) \neq \sigma_{j@t}(j)(t)$. If i seeks coordination with j, ideally in the sense of agreement on a strategy profile, it seems plausible that she will subsequently, e.g. at t + 1 try to revise her choice of strategy profile, such that $\sigma_{i@(t+1)}(j)(t) = \sigma_{j@t}(j)(t)$ – this is possible because $p_{j@t}(j) = h_j(t)$. Less formally: i knows what j did up until and including t and can therefore mine for a new profile that prescribes a strategy for j that prescribes the action for j, that he or she actually performed.

If *i* finds herself in a new situation, say, t + 4, where she once again perceives an incongruity with *j*, she will be able to discard the possible strategy profiles that would result in an expectation for *j*'s strategy such that $p_{i@(t+4)}(j) \neq h_j(t+4)$. For t+5, she now has the benefit of having fewer strategy profiles to choose from than before.

³Strictly speaking, we could simply say that *i* perceives an incongruity at *t*, if $\sigma_{i@t}(j)(t) \neq r_j(t)$. I have, however, chosen to make the perception of incongruities dependent on histories, rather than isolated actions, because, if we eventually introduce the possibility of mistakes in our model, considering tendencies in the entire performance history might aid the musician in deciding whether something is a *real* incongruity between strategy profiles, or whether the other musician is merely making a mistake.

An important thing to note here is that the set of possible strategy profiles, let us call it S, that i is choosing from is *limited*. S does not contain every possible combination of every possible strategy (prescription for combination of actions). If S did, this would mean that no matter what the members of Gwere doing, they would always be following the same strategy profile (since their actual combinations of actions constitute strategies, and every possible combination of strategies would be a profile in S) – although perhaps not the one i intended to follow in the first place.

I conjecture that what limits the set of possible strategy profiles S are the norms for the performance context. The constraint on S that the set can only contain a certain collection of strategy profiles for the performance is a normative constraint: It indirectly limits and stipulates the amount of outcomes that can be part of *i*'s intention set for the performance, since the fact that *i* tries, at the outset, to find a profile that accommodates her intentions amounts to this criterion:

An agent *a* must always, if possible, choose his strategy profile such that for his set of (performance) intentions I_a , his profile of choice σ_a has a set of possible outcomes $\pi(\sigma_a)$ such that $I_a \cap$ $\pi(\sigma_a) \neq \emptyset$

In fact, this criterion, along with a demand that an agent a must follow the strategy prescribed for him by σ_a as long as he does not perceive any incongruities, results in the members of G gradually bettering their chances of coordinating: If a player's actions are always in accordance with his strategy, if this strategy is always in accordance with his profile of choice, if this profile is always in accordance with his intentions, and if these intentions are limited by the norms for the performance context, then the members of Gwill, whenever they perceive incongruences (e.g. in a coordination problem), be able to rule out a number of strategy profiles (as possible profiles to agree on). Each agreement problem thus narrows down the possible strategy profiles the musicians choose from, making coordination on a profile more and more probable.

(I have not described what happens, when i tries to calibrate her choice of profile against not only j's (possible) choices, but also those of other players in G. The analysis of this would be very complex, and I have left it out here for the sake of simplification, but in general, after each perception of an incongruity at a time t, i would mine for a new strategy profile that resulted

in expected histories for all of the other players that matched their actual histories up until and including t.)

I make several assumptions in the claims above: I assume that all the musicians in G think in the same way - that they are all at one and the same time sensitive to each other's possible strategies while at the same time hanging on to their own intentions for as long as possible. I assume that there are profiles satisfying the intention sets of all the musicians. And I assume that the musicians are logically omniscient, have perfect memory etc. In real life, these criteria will often not be met. Staying within the example, even if we maintain that the members of G cannot make mistakes, and even if their respective intentions are among those that can be realized given the norms for the performance context, we cannot be sure that there will be a strategy profile accomodating everyone's intentions at the same time. In other words, if the musicians want to reach agreement on *some* strategy profile, they must have other conditions for their choices. Summing up the criteria above and adding a few new ones, I think the following list captures the priorities musicians generally have in an ensemble, and, perhaps, *should* have:

- 1. Standard profiles over non-standard profiles
- 2. Accommodation of (some of) my intentions over non-accommodation of my intentions
- 3. Accommodation of (some of) everyone's intentions over partial or nonaccommodation of everyone's intentions
- 4. Agreement on *some* strategy profile over non-agreement on any profile.

(1) is simply a way of making explicit that a musician should, all things being equal, only choose a profile that is part of the set of possible strategy profiles for the performance, S. Whether the musicians in G agree how Sis delimited, or, in other words, agree what the norms of the performance context are, is an extra complication I have not considered in my analysis above. To the extent that they do agree on the limits of S, (1) seems like a reasonable criterion when mining for a profile.

(2) reiterates the criterion that a musician should always choose in accordance with her intention set. Put more informally, the musician should hang on to her intentions for as long as possible. Otherwise, it will make it much more difficult for the other musicians to 'guess' which strategy profile she is following.

Ideally, because they strive for a performance that sounds coherent, (3) is one of the conditions for a musician's choice of profile. Whether or not (3) is trumped by (2) depends on, I think, how *many* musicians a player is disagreeing with in. Sometimes the rule of the majority makes it difficult to maintain a personal interpretation of the piece in question.

Finally, if everything else fails, (4) arguably becomes the no.1 priority for the musician – at least the musician who wants to finish the performance.

I believe that if everyone in the ensemble follows these criteria, it will make it easier for their co-players to figure out their possible strategies and intentions, and hence, the group as a whole will be able to gradually better their chances of coordination when perceiving incongruities among their strategies.

9.4.1 Further Complications

A problem we have not considered is what happens if two musicians iand j both try to adjust their choice of strategy profiles to each other simultaneously: Such that not only $\sigma_{i@(t+1)}(j)(t) = \sigma_{j@t}(j)(t)$, but also $\sigma_{j@(t+1)}(i)(t) = \sigma_{i@t}(j)(t)$. If both i and j try to make sense of their own histories up until and including t, not just the other player's history, chances are that this will only bring them closer to coordination. If, however, they readily try to adapt to what they think is the other player's strategy profile of choice, we may have a problem similar to the one in which two people try to pass through a doorway at the same time – simultaneously moving left and right in the failed attempt to let the other person pass.⁴

I have no explicit suggestions for the solution of this problem. I have no ways of measuring how frequently the problem would occur in a scenario in which the musician could (for some reason) be sure that no one made mistakes, but perhaps the problem points to the occasional need for a musician to 'take the lead' in a group. Sometimes a musician already *has* a leader role in virtue of his place in the infrastructure of the ensemble, but other times, a leader-follower relationship is something that is defined during the

⁴Thanks to Jarl Primdal Mogensen for reminding me of this problem during my lecture on March 25, 2010, at the one-week Master's level course *Music, Meaning and Gesture*, University of Southern Denmark, Odense.

performance, as the musicians come to realize who is displaying the most 'confidence' in the group.

What I have described in the section above is partially the way I think musician *would* reason, if they could be sure that everyone's actions in the performance were deliberate. It is, however, also, as has been hinted at several time, a set of pragmatic norms, that is, a set of norms for how one should behave *if* one wants to better one's chances at reaching coordination. I appeal to the reader's imagination to think of what a situation would look like, in which the musicians had absolutely no ways of forming qualified guesses regarding each other's strategies – if they could not in any way approximate each other's intentions. This type of situation *does* occur: In the soloist-accompanist relation (described in 2.1.3), if it is not clear to the soloist whether the accompanist is keeping his own tempo or following the soloist's, coordination can be very difficult.

Most importantly, I have once again showed that coordination in a group (as a result of the musicians' own conscious decisions) cannot take place without norms: The pragmatic norms I have just described aside, the norms for the performance context (including the norms of the composition – if any – as conceived of by the musician) define the amount of profile choices the musician can make. To the extent that the musician can regard his view of the norms of the performance context as shared by the other musicians, it also makes it possible for him to gradually figure out what *their* choices of strategy profile are (given that he can assume that they are acting deliberately).

It is now time to integrate all the aspects of normativity in relation to performance coordination we have discussed in the previous chapters in one model, and in that connection add all the complications we have previously disregarded: The possibility of mistakes, limited reasoning capacities etc.

Chapter 10

An Integrated Model of Normativity in Group Conduct

In this chapter, I will construct a general model of the role of norms in group coordination. All of my examples will be relativized to a music performance context, but I will also try to indicate how my concepts may be translated to a more general case of interpersonal coordination.

The model divides into three areas addressing different aspects of the process in which coordination takes place: The first is the level of initial *motivation*, that is, the level where the musician forms the norms for his individual part in the performance. The second area is the level of *following norms*. Here, we will see (which should come as no surprise to the reader) that there is more than one attitude one can have to specific norms – they can e.g. be followed more or less automatically. The third area is the level of *interpersonal coordination*, in other words, the level where we have (presumably) passed through – or simultaneously find ourselves – at the two former levels, and now have to coordinate our actions in relation to those of another person.

10.1 Motivations for Norms

In chapter 9, I have discussed how the goals of a musician helps her find a strategy for her performance, and how this choice of strategy, or, rather, choice of strategy *profile* for the entire ensemble, is co-defined by the norms of the performance context. I have also briefly discussed which type of goals musicians often form. I have, however, not discussed how these goals are formed in the first place. What the musician is trying to achieve is also regulated by norms, namely those related to the musician's general ideals – though still in combination with the norms of the specific performance context.

The musician's strategy (and the profile she is trying to follow) is, in a broad sense of the word, a norm (or set of norms) for her performance, but it is a type of norm(s) that is more easily altered than the overall goal (intention) she has for the performance. Still, if we combine strategies with the more general norms characterized by the musician's goals in one category of norms directly guiding the musician's performance, we can say that this category of norms is influenced by three factors: The general ideal(s) of the musician (e.g. aesthetic ones), the context-specific norms (the norms of the performance context) and any norms the musician has formed in similar, prior performances (e.g. of the same piece of music). The situation is shown in figure 10.1.

As the reader will notice, I have for each of the three areas "The General Ideal," "Context-Specific Norms," and "The Process," indicated how these may be related, not only to music performance, but to situations in general. (The term "process" merely refers to the process of 'doing something.') The comparisons I think can be made between performances and situations in general will become apparent in the sections below.

The norms 'formed' during the process of performing moderate the musician's general ideals for the performance as well as her view of the norms of the performance context. Encountering mistakes (see 6.5.2) or exemplary passages (see 6.5.3) shape our aesthetic ideals (as we realize new things we like or do not like), and might, as I have discussed previously, refine our ideas of the over-arching, context-specific norms, e.g. our view of which rules constitute or support the rules of a given composition. At the same time, the norms I form in the specific situation (for 'what I want to do right now') influence my formation of norms in new situations similar to the present one.¹ These dependence relations are shown in figure 10.2. (These relations also reflect the nature of the norms of the performance context to be 'what the musician considers them to be.' Similarly, the musician's ideals

¹Put differently, the norms I form in the specific situation help shape my default norms for similar situations. These default norms may also come to influence my view of the general rules for the type of situation/performance context.



Figure 10.1: A model for how norms for action in a performance (or situation in general) are formed.



Figure 10.2: How the process (of performing, living etc.) affects ideals and norms for subsequent situations.

are, naturally, formed in part by the musician herself.²)

I have devoted much time to a discussion of context-specific norms such as those associated with compositions. Let us, however take a brief look at the other dominant factor in figures 10.1 and 10.2: The general ideal(s) of the musician.

10.1.1 Good Musicians

The idea of "general ideals" having an influence on our formation of norms for the specific situation has a strong resemblance with similar ideas within the field of *virtue ethics*. Within this branch of moral philosophy, what makes an action good or bad is whether it promotes or corrupts the virtues, that is, the sort of properties one would associate with a *good person*. Of course, during the history of philosophy (which is only slightly older than the history of virtue ethics – the latter normally being held as taking its beginning with Aristotle (see Aristotle (2003))) what is considered a good person and hence also what is considered virtuous has varied, but the main idea of the tradition is the same: That the focus of morality is not adherence to specific rules or principles, but an appreciation of (or aversion to) certain character traits. Further, character traits are sometimes regarded as a sort of *skills*.

Although, as Julia Annas (2003, 17) discusses, Aristotle does not identify virtues with skills, he *does* actually describe (in Aristotle (2003, book II, §1)) how being a good craftsman, e.g. a good builder is something that requires "learning by doing" (to quote the discussion of Annas' point in Christensen (2008, 73-74)), that is, by copying the movements of another craftsman, thereby gradually internalizing his practical knowledge. It seems, expanding the argument of Annas (2003, 17-18), that Aristotle's main problem with viewing virtues as skills is due to a lack of understanding of how a specific skill that is learned can become such an integrated part of a person's behavior that it exerts a normative influence on his decisions.

This discussion has, as the attentive reader will notice, ties to Rietveld's discussion of thought processes that are not linguistically structured (see 2.6): Being a carpenter requires special skills, but not just skills in the sense of having learned a lot of rules in the "handbook for carpenters" by heart. The good carpenter instantly knows when something is not quite right in a

²Of course, both the musician's ideals and her view of the performance context may be influenced by the tradition that went before her.

piece of work, and is prompted to fix it, although he may not at once be sure exactly *how* it should be fixed. He is, to quote Rietveld (2008, 20-21), "moved to improve."

Similarly for persons in general, as Robert C. Roberts (1995, 154-155) points out, being good (or "virtuous"), is not just a question of following the right rules in the right situations, but feeling compelled to do so, as well as feeling appreciation or aversion when observing other people's virtuous or unvirtuous conduct. The good person is moved to improve the situations he encounters where something feels "wrong." The same holds for the *qood mu*sician. Of course, this should not come as a surprise, since musicianship is a craft, something that requires a lot of practical experience, just like carpentry or any other craft. In contrast to carpentry, however, the specific tastes of listeners and musicians may sometimes weaken their power of judgment with respect to what is good musicianship and what is not. Regardless of genre preferences, however, there seems to be artists that people agree are good musicians in the vaguely formulated sense that they are somehow "in control" of their expression, "consistent" in their output, "know where they want to go with their music" etc. (Examples could be Michala Petri, Stevie Wonder, Chick Corea, Prince, Sting, the members of Dream Theater and many more.)

I conjecture that everyone who plays music wants to be a good musician. This does not mean that one necessarily strives to become a professional musician or that one grabs his instrument motivated by the goal of eventually achieving "goodness" as a musician. Mostly, people want to play music because they are motivated by the music itself. Engaging with music quite simply gives them pleasure in the broadest sense of the word, perhaps not at once, but pleasure is certainly involved at some point (if not, the person is likely to give up playing music after some time). But good musicianship is an ideal for everyone who plays – or listens seriously – to music.

Our assessments of musicianship are, however, always tied to specific situations, e.g. performances or recordings. What is experienced as right or wrong in a specific performance or recording is not solely dependent on whether it is exemplary of the admirable craft of the musician. Except for the rare case of completely chaotic amateur improvisations (e.g. in a kindergarten), there are always norms in the situation that the musician must relate to in order to be giving a proper performance. There are always some things that the musicians feel "ought" to be done in the performance, whether playing a bebop jazz improvisation or a Bach *Invention* – and often very different

things, depending on the piece or genre. Something similar may hold for a carpenter when having to fit doors to houses with very different architecture, but in the field of music, things are further complicated by the fact that a musician sometimes has to *interpret* what the normative constraints of the situation are, and their relative importance. (In other words, distill norms and prioritize them.)

10.2 Following Norms

I have implicitly addressed the fact that the way we follow norms varies depending on the situation. Some norms are internalized to such an extent that they are followed 'automatically,' other norms are rather ones we take into consideration when making conscious choices in the situations. More often, internalized norms and 'externally' considered ones supplement each other, as when we choose between different *routines* on the basis of our norms. "Routine" should simply be understood here as something we are used to doing, and remember how to do – in some cases, a routine can be internalized, in other cases, it instructs the mind 'one step at a time' (as when I tell myself, "first, I need to do this, then this, then something else..."). These different types of norms and their interdependence are shown in figure 10.3. (To remind the reader of my discussion in chapter 6.4, I have indicated that the norms for choices are *prioritized*.)

10.2.1 Swarming Behavior Revisited

The organization pattern often referred to as "swarming behavior" (see my brief rendition in 2.4) plausibly involves conscious decisions by individuals (rather than being something that happens unaffected by their will). Whether these decisions are decisions as part of a (non-internalized) routine or whether they are directly influenced by the musician's prioritized norms for the performance, depends on the situation. In most cases, I conjecture that the decisions have a routine-like character, in that they are decisions to follow specific rules that are laid out in advance (formally, as a convention of the performance context, or informally, and internalized through practice). The decisions do thus typically not involve much reflection on what the rules of the situation are.



Figure 10.3: How different types of norms affect choices and actions.

If we wanted to, we could formalize swarming behavior as a system of individuals (symbolized e.g. with letters), decisions – actual as well as possible ones, and a set of rules for the relation between an individual and specific decisions in different situations (combinations with other decisions). The rules would typically be of the form "if...do this:...)" What such a formalization could help describe would be how the group as a whole could achieve specific goals (e.g. coordinated movement of the entire group in some direction, physically or mentally) by every member of the group following a set of local rules.

In a string orchestra context, rules such as "if in doubt of the right bowing, look at the players that surround you" and the broader, "if in doubt of how to play, copy the player(s) in front of you" will plausibly lead to good synchronization in a lot of passages, if everyone follows them (especially the success of the latter rule is dependent on every musician in the group following it).

Since a description of coordination processes aided by *reasoning* also utilizes the basic concepts of agents and their actions/decisions, we could easily tie a description of swarming behavior to a general formalized scheme embodying both decisions based on beliefs regarding the information of other musicians, their intentions, and expectations for their way of interpreting norms in the situation. In the next section, I will, however, confine myself to a more general and informal synthesis of the modes of coordination I have



Figure 10.4: Factors in interpersonal coordination – communication aside.

discussed throughout the dissertation.

10.3 Interpersonal Coordination

When two or more persons try to coordinate their processes (of action) in a music performance or in another situation with similar limits on direct communication, they have a range of methods to to do so. I have condensed these into the list in the middle of figure 10.4.

The context-specific norms as conceived of by \mathbf{a} or \mathbf{b} combined with the extent to which \mathbf{a} considers them shared with \mathbf{b} (or vice versa) is one factor in their coordination: In a music performance, if the musicians consider some set of rules common knowledge in the group, they can simply follow these rules and rely on the each other to do the same. If the rules are *not* common knowledge, each musician must consider how likely the other musician is to delimit the set of rules in a certain way. I consider this a chance factor, that is, a factor which makes coordination rely on a person's (formal or informal) statistics for the other person (how likely he is to think or behave in this or that way given prior instances). In this respect, coordination works in a similar way whether we are talking about music performances or situations in general: for each person, the situation is conceived of alongside a set of norms for how he or she thinks one should behave in it. To the extent

person \mathbf{a} considers these norms shared with \mathbf{b} , \mathbf{a} can count on following the norms as a safe path to coordination with \mathbf{b} . Otherwise, \mathbf{a} must take into consideration, *how* likely \mathbf{b} is to share this set of norms with him or her, and take a sufficient amount of precautions for the case where \mathbf{b} does not share these norms.

a and **b** may also try to coordinate based on their expectations for how they prioritize different (normative) aspects of the situation: In a music performance, I do not necessarily take agreement on a specific, prioritized set of rules for granted, but rather initiate the performance with my own goals co-defining a first strategy, and then gradually learn, by observing the other musician, what his or her intentions and priorities (e.g. with respect to specific instructions in a composition) are. I can then gradually adjust my own strategy to accommodate what I think the other player is trying to achieve. Similarly, in situations in general, I have my own intentions for the interpersonal encounter guiding me at the outset, and then gradually 'learn' what the other person's intentions might be, and what I can expect from him or her. This type of expectation may also work in tandem with my assumptions regarding our shared norms and my general (statistically supported) expectations for how likely those norms are to be shared.

The chance factors in a situation embody quite a lot of different aspects: In a music performance, alongside my statistics for how likely I think another person is to follow a specific set of norms, and – in some cases – how he prioritizes these norms, I also work with – sometimes statistically warranted – expectations for how likely other musicians are to make *mistakes*, in the sense of involuntary mishaps. Not only do I have to consider how likely a musician is to make mistakes, I sometimes also have to consider whether a deviation from what I have expected a musician to do (e.g. in relation to a score or agreement during rehearsal) is a mistake or *not*. This sometimes feeds back into my expectations for how a given musician regards the norms of the performance context – e.g. whether his or her demarcation and interpretation of these norms allow the deviation just performed. In situations in general, chance factors simply capture the parts of another person's conduct that I cannot (try to) predict in any other way than by reference to (more or less informal) statistics for his or her prior behavior.

Once a set of statistics for chance factors are formed, the resulting expectations can be reasoned with, as we have seen both in relation to the model inspired by variable frame theory (see 8) and the model in terms of intentions and strategies (see 9).
10.4 Situation Dependence

How the specific norms for a person's actions are motivated, as well as how they are followed, and how they become relevant in interpersonal coordination, is situation dependent.

Some situations prompt such a rapid response that, to the extent that an internalized strategy is available, the person immediately follows it. This often goes for coordination problems in a music ensemble when they are caused by small deviations among the musicians (in phrasing, rhythmical precision etc.), or if there is only one possible strategy the musicians (are aware they) can adopt to solve the problem. In life in general, many situations prompt a line of action immediately, such as interfering – or wanting to interfere – when someone is being assaulted nearby. Norms thus internalized may stem from a person's upbringing or culture: in a music performance, the tradition in which a musician is trained arguably entails several internalized norms that the musician barely thinks of as having 'learned.' Similarly, many of the norms we regard as stipulating 'natural' ways to act in a situation, are quite probably just very well internalized rules of behavior. On a smaller scale than preventing violence, the nation-relative norms of traffic are surprisingly quickly internalized: I have often had (and have heard others refer to the same) experience of going abroad from a part of the world where cars drive on the right-hand side of the road (e.g. the European continent and the United States) to countries with left-hand oriented traffic (e.g. U.K. and Australia). After about a week, you learn to – automatically – watch for oncoming cars in the relevant direction when crossing a road, so that, when you come back to your own country, you suddenly need a few days to readjust your body (and mind) to the usual right-hand orientation. (The same example applies, of course, to going from an area with left-hand oriented traffic to one with right-hand oriented traffic and back.)

Although the example of adjusting to different systems of traffic is, as stated, less 'serious' than acting upon the norms often described as "moral," I think it supports a theory of morality at the level of spontaneous (re)action as essentially relative to cultural context (temporal, geographical and social contexts included). If simple norms such as "look right, then left before crossing the road" (or, conversely "look left, then right before crossing the road") can be internalized in a matter of days, it would not seem strange if norms that have been imposed on an individual during his or her upbringing – and on his or her ancestors through several generations – gain a very strong

degree of internalization in the individual, such that it may be virtually impossible for him or her to think of these norms as "relative."

The norms we consider when making actual *choices*, that is, not 'just' acting spontaneously, are those that are generated in an interplay between our ideals (being a good person, being a good musician, our hedonistic or aesthetic preferences) and the context-specific norms (norms we conceive of in relation to performing a particular piece of music or improvising within a genre, or, generally, norms prescribing what we think is 'standard' behavior in a situation). Some of our ideals, and certainly some of the norms we regard as defining of the specific context, are, as the internalized norms discussed above, influenced by our culture and education, but through the processes of living or performing, we form ideals of our own and shape our ideas of the norms we think governs the situation.

Although the norms affecting conscious choices between different actions have a different character than those affecting our spontaneous choices (namely the internalized norms), the former influence the latter, because the ideals and interpretations of norms I form in the situation are 'saved' for later. In other words, they become norms I gradually internalize, until they are parts of how I react (spontaneously) in the situation.

To the extent that the norms we have formed for choices in a situation are in accordance with our intentions, and hence, presumably also our *values*, that is, what we find desirable or undesirable, part of our internalized norms certainly have an *importance* to us personally, that makes it impossible for us to dismiss them as conventions that 'could have been otherwise.' In other words, I do not mean to argue for a nihilistic view of morality – or normativity in general (to encompass the role of norms in music performance). Rather, I simply want to point out that the *ways* norms are at play is radically different in the spontaneous action and in the conscious choice between more options. Norms in the latter situation may affect norms in the former, but we should not – as a starting point – expect to find a unifying ethical theory that explains the role of the *same* norms in both types of situation.

10.4.1 Priorities Revisited

The classic 'conflict of duties' (or 'values') in ethics and the coordination problem in which a musician has to decide 'what to save first,' highlight the fact that norms are not just viewed as norms pure and simple, but alongside a priority ranking. In the real moral conflict, the problem is exactly that two norms are ranked as having (almost) equal importance, and the conflict endures until some ranking of the options are made. It is, however, worth noting the amount of norms in the situation that are *not* taken into account in the moral conflict, because these are regarded as 'less important.' In other words, even if it is not resolved, the conflict still entails a priority ranking.

Working in the field of *deontic logic* (logic for relations between normative concepts such as "ought" and "is permitted to"), Veltman (2010) has tried to specify how a person has a "to-do list", or, rather, a number of coherent to-do lists to choose from (the to-do lists thus work as full 'plans' for things to do in combination) in the situation.³ It is not completely clear to which extent Veltman regards these lists as internally prioritized, but he tacitly has a notion of some norms having priority over others: When faced with a norm in the form of an "imperative," a number of these to-do lists are "updated" with this norm. How large this number is seems to intuitively reflect the importance an agent ascribes to the norm, such that if *all* of an agent's to-do lists are updated with the norm, it has a very high priority for him or her.

The relations I have characterized between the rules of a score (or model performance), the rules of a composition as conceived of by musicians and the interpretation of these by the individual musician (see 6.4) are specific to composition-based music performances. As an analogy, we may, however, consider the following correlation between the performance and the situation in general:

- The score or model performance \approx The established conventions of a type of situation
- The composition \approx The norms associated with the situation
- The interpretation \approx The individual person's prioritized ranking of these norms

In short, I think the music performance provides a good example of something more general: In any situation, there are one or more 'default' conceptions

³Veltman has unfortunately removed his draft paper – an extended handout – from the Internet (where I have had access to it), but is, according to private correspondence, preparing an article based on these ideas. He also presented similar material in his talk "Who says so? Imperatives at the Semantics/Pragmatics Interface" at *Workshop on Deontic Logic*, Roskilde University, November 9, 2007 (very short abstract available here: http://akira.ruc.dk/~mamobe/veltmanabstract)

of different aspects characteristic of that situation. In a composition-based music performance, the score or model performance may constitute such a set of 'things we are prompted to take into consideration.' The norms that *are* important to us in the situation are, however, not *all* aspects of the situation, not even all of those that are 'typical' of it. In music performance as well as any interpersonal situation structured by those participating, a certain selection of norms are considered by the individual musicians to be those that constitute the boundaries of what can and what cannot be done. Further, these norms are always considered in some order of priority – in the case of composition-based music performance, this prioritization is the musician's interpretation of the composition.

Chapter 11

Conclusion and Further Perspectives

In this dissertation I have tried to answer the general question "why do we need rules?" (posed in chapter 1) by looking at how rules are necessary for interpersonal coordination, with the music performance as the main example. The music performance is interesting, because – apart from a few notable exceptions – verbal communication does not take place as part of the coordination process, and the means of communication are often unreliable in comparison with coordination processes in general (see for instance my discussions in chapter 2). I have chosen to focus on the composition-based music performance because, as I have showed in 10.4.1, the composition-based performance provides an interesting example of a situation with a strong center of norms attached to it – norms that, as in any other situation, are distilled from the situation and given a more or less explicit priority-ranking.

During this project, I have come to redefine the traditional notion of a "musical work," or, to use my preferred term, "the composition." I have argued that the composition is, first and foremost, a normative entity, or, to be more specific, a set of rules. The creative effort of a composer *does* sometimes include characterizing a "gestalt," e.g. melodic or rhythmic structures that are constructed in his mind, but a lot of composition (see chapters 3 and 5). The norm character of the composition is, however, defined in an interplay between the composer and the performer. In this sense, the view of which rules a composition amounts to exactly changes from person to person, although there may be traditional ways of defining its boundaries.

Further, and more importantly, a composition – or any set of rules for a music performance, genre conventions included – are conceived of in a prioritized order. I have called such an order an "interpretation," and defined the border between composing and interpreting in this way: If, in a performance or written arrangement based on a composition, norms are being followed which were not in the original composition, and these norms gain higher priority than those of the original composition, an act of co-composing has taken place (see chapter 6).

I have also given a lot of attention (in sections 2.6 and 2.5) to the problem of whether we can analyze how musicians think during a performance. I have argued that we can, because, even though these thought processes may not be linguistically structured, they can still be approximated linguistically in hindsight by the musicians themselves. The objection that one cannot accurately describe past thought processes applies to *every* area of human conduct. Hence, if we want to allow *any* analysis of human reasoning and action, we should allow it in connection with music performance.

My answer to the general question "why do we need rules?" is this: Apart from the "challenge" of imposing restrictions on our own activities (see 1.1), we need rules because they help us coordinate with other people, and because they help us make choices given what we want to achieve in a situation.

Rules promote coordination in several ways: The rules can be part of patterns of strategies for the group, rules that are internalized or otherwise followed as routines. In a coordination problem, if the rules are common knowledge among the members of a performing group, these members can reach agreement on a solution to a coordination problem by following the relevant rules (see chapter 7). Even if the rules are not common knowledge, they still demarcate the amount of actions I can expect from my co-players, in particular which combinations of strategies I expect them to choose from (see chapter 8). In this way, the rules still help me reach coordination with the others. For similar reasons, rules help us make choices in general, because they limit the amount of actions we can intend to carry out in a situation.

The formation of rules for a person's conduct in the specific situation is, of course, not only affected by how he or she conceives of the general rules for this situation (in music performance, the norms of the performance context, e.g. the composition or genre conventions), but also by her goals (see chapter 9). These goals may be specific to this moment in time (e.g. a creative experiment), but they may also be co-defined by the person's values or ideals. In the music performance, being a good musician or creating an aesthetically satisfying performance may be such overarching goals. In life in general, an ideal could be "to be a good person." In this sense, a discussion of individual motivations in a music performance provides insights for the field of virtue ethics (as discussed in chapter 10).

The way musicians follow rules in different types of situations also provides a good example of the contrast between the (internalized) norms we follow more or less automatically and the norms we take into consideration when making a conscious choice between more options.

11.1 Further Perspectives

In the field of management philosophy, there has been a reoccurring idea of comparing the interaction of a small ensemble, such as a string quartet, to that of employees in a workplace – see e.g. James Lawley (2001) or Ole Fogh Kirkeby (2004, 129-130). The latter Danish reference tries, more specifically, to show what leaders in business life can learn about empathic communication and constructive criticism from looking at the leader/instructor in a specific string quartet. Although it may be legitimate to observe how ensemble leadership in its least tyrannic form can be a fruitful catalyst for the musicians and to learn from this, Fogh Kirkeby (and several others) seems to take for granted that some sort of hierarchy with respect to authority (and with a leader at the center) is necessary in the ensemble. This need not be the case, as I have discussed in 2.1. There may, however, be other important insights to gain from comparing the music performance to situations in workplaces in general.

As I have discussed in 1.1, employees at a workplace often find themselves in situations that require coordination, interpreting and acting upon signals from others, reasoning with expectations for how other people normally act in a situation and quickly forming an idea of what these people are trying to do in the situation. Examples could be a surgical team with doctors and nurses operating, a group of cooks in a restaurant kitchen working to get 10 different dishes finished at a specified time, and any other group of people working together to reach a common goal. The music ensemble is one of these, but perhaps one in which "the common goal" is more clear: The presence of an audience in the performance creates a special tension that make the musicians particularly attentive to the goal of a coherent artistic output. The processes of coordination that are relevant in a music ensemble are, however, relevant to other working groups as well, whether we characterize these coordination processes as swarming behavior, routines, acting upon assumptions or expectations regarding how others interpret the situation etc.

A perhaps surprising ancillary conclusion of the discussion in chapter 9 is the importance of *dedication* to one's own intentions in a situation. By holding on to a strategy until it causes problems and by always trying to choose a new one in accordance with one's own intentions (goals), it becomes easier for everyone in the ensemble to gradually figure out each other's possible choices of strategy profile (for the entire ensemble) and thereby approach an agreement on such a profile. If we transfer this insight to the domain of workplaces in general, it gives us a further reason to promote a person's engagement in his activities: Instead of thinking of a workplace in terms of a factory making a product, and where a worker's efficiency is merely rewarded with money, highlighting the importance of dedication to a task in *itself* might hinder the alienation lurking in the background, when material goods are made the only motivation for a person. (Mustacchi and Krevans (2001) provides an example of how the 'factory paradigm' is resulting in exactly this type of alienation in the field of healthcare, while Smith (2005)discusses similar problems in relation to educational institutions.)

Of course, the type of dedication I have discussed in relation to ensemble coordination is not dedication to an ongoing 'project' in one's life, but, more modestly, the dedication to one's intentions and strategic choices in the coordination process at hand. A dedication to one's own choices in the specific situation may, however, indirectly be tied to one's dedication to a general ideal, such as being a good musician in the music performance, or being a good person in general.

The main idea I have wanted to highlight in my discussion of music performance is, however, this: That we cannot do without norms in interpersonal relations. Whether rules specific to the character of the situation, rules stemming from my goals, general values or from tradition, whether I follow them automatically or after careful consideration, they all play a part in the formation of my choices and in reaching coordination with the people around me.

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Contents of Example CDs

Disc 1

- Dmitri Shostakovich: of Symphony No. 5 In D Minor, Op. 47: "I. Moderato". Recorded by the Leningrad Philharmonic Orchestra & Yevgeni Mravinsky (SLG, 2008)
- 2. José María Vitier: of *Misa Cubana*: "VI. Misteriosa Transparencia." Performance conducted by the composer (MSI Music, 2002)
- 3. Dream Theater: "The Killing Hand" (my edit). Studio version from When Dream and Day Unite (MCA, 1989)
- 4. Dream Theater: "Metropolis Part I 'The Miracle and the Sleeper"'. Studio version from *Images and Words* (ATCO, 1992)
- 5. Dream Theater: "Metropolis Pt.1" (my edit). Live version from *Live* Scenes from New York (Elektra, 2001)
- 6. Jonatha Brooke: "God Only Knows." Beach Boys cover from *Back in the Circus* (Bad Dog Records, 2004)
- 7. Rush: "YYZ" from *Moving Pictures* (PolyGram Records, 1981)
- 8. Johan Svendsen: *Romance, Op. 26* (Arr. for Violin and Piano). Recorded by James Kirby and Lydia Mordkovitch (Chandos, 2002)
- King Oliver's Jazz Band (featuring Louis Armstrong): "Dippermouth Blues" (recorded 1923). Taken from Jazzmen Play the Blues (1923-1957) (Frémeaux & Associés, 2010)
- Antonin Dvořak: of Symphony No.9 in E Minor, Op. 95 ("From the New World"): "IV. Allegro con fuoco" (my edit). Recorded by the NBC Symphony Orchestra and Arturo Toscanini (BMG, 1953)
- 11. Same work as (10), but recorded by Fyns Amts Ungdomssymfoniorkester conducted by Lars Jensen in 2003 (my edit)
- 12. Pain of Salvation: "Fandango" from Remedy Lane (InsideOut, 2002)
- 13. Pain of Salvation: "Nauticus (Drifting)" from BE (InsideOut, 2004)

Disc 2

- 1. Crippled Black Phoenix: "Burnt Reynolds" from 200 Tons of Bad Luck (Invada, 2009)
- 2. Devin Townsend: "Deep Peace" from Terria (InsideOut, 2001)
- 3. Strapping Young Lad: "Oh My Fucking God" (my edit) from *City* (Century Media, 1997)
- 4. Threshold: "Pilot in the Sky of Dreams" (written by Richard West) from *Dead Reckoning* (Nuclear Blast, 2007)
- 5. Jeff Buckley: "Nightmares by the Sea" from *Sketches for My Sweetheart* the Drunk (Sony, 1998)
- 6. Katatonia: "Nightmares by the Sea" from *Tonight's Decision* (Peaceville Records, 1999)
- 7. Chroma Key: "Undertow" (my edit), written by Kevin Moore and Mark Zonder. From *Dead Air for Radios* (Fight Evil Records, 1998)
- 8. Devin Townsend: "The Complex" (my edit), written by Devin Townsend and Gene Hoglan. From *Physicist* (InsideOut, 2000)
- 9. Dream Theater: "A Change of Seasons" (my edit). Studio version from A Change of Seasons (EastWest Records, 1995)
- 10. Dream Theater: "A Change of Seasons" (my edit). Live version from *Live Scenes from New York* (Elektra, 2001)
- 11. Steve Vai: "The Animal" from *Passion & Warfare* (Epic/Relativity, 1990)
- 12. Oceansize: "Commemorative ___ T-Shirt" (my edit) from *Frames* (Superball Music, 2007)
- Living Colour: "Love Rears Its Ugly Head" (my edit) from *Time's Up* (Epic, 1990)
- 14. Living Colour: "Love Rears Its Ugly Head (aka Soul Power Mix)" (my edit) from *Time's Up* (Epic, 1990)

- Living Colour: "Love Rears Its Ugly Head (Live)" (my edit) from Stain (Epic, 1993)
- 16. Dream Theater: "6:00" (my edit) from Awake (EastWest Records, 1994)
- 17. Lenny Kravitz: "Are You Gonna Go My Way" (my edit) from Are You Gonna Go My Way (Virgin Record, 1993)
- 18. Antonio Carlos Jobim: "Samba De Una Nota So (One Note Samba)" from *The Composer Of Desafinado Plays* (Verve, 1963)
- 19. Liquid Tension Experiment: "Chewbacca" (my edit) from *Liquid Tension Experiment 2* (Magna Carta, 1999)
- 20. The Police: "Roxanne" (my edit) from *Outlandos d'Amour* (A&M Records, 1978)
- 21. George Michael: "Roxanne" (my edit) from Songs from the Last Century (Virgin Records, 1999)