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Expressiveness in popular music performance and production: a reasoned review of interviews with leading engineers, producers, and performers

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Abstract

Defining expressiveness in musical performance is a complex task. In the case of popular music, one must also consider contemporary production practices, which see a strong interaction between musicians, producers, and engineers. Research in the pop field has not thoroughly investigated the issue of expressiveness from the perspective of those who work professionally in music production, often favouring the analysis of the parameters associated with expressiveness from the perspective of listener perception. In this contribution, views on expressive musical performance in popular music were gathered and brought into dialogue through original interviews with high-profile practitioners in the field. The interviewees work in contemporary music production as producers, engineers, and/or musicians, and they present well-diversified backgrounds and reference genres of music. A critical and reasoned overview of the different sensibilities and interpretations collected on the subject is offered.

KEYWORDS: music performance, expressiveness, popular music, music production, computational expressive music performance

Introduction

The concept of expressiveness in music performance is complex and multifaceted. The topic can be approached from different perspectives, and a full comprehension of it can only ever be deeply multidisciplinary. Moreover, the inherent complexity in understanding the phenomenon of performative expressiveness in music is compounded, in the case of pop, by an amount of scholarly literature and reflection of decidedly smaller proportions than what is available in relation to classical music (Bontempi, Canazza, Carnovalini, and Rodà 2023).

This study aims to offer a reasoned overview of at least a significant part of the sensibilities related to performative expressiveness through interviews with high-level practitioners in popular music production. Therefore this research spotlights the views of professional producers, musicians and engineers working in music production as opposed to listeners

The remainder of the article turns to an essential summary of the relevant scientific literature, a detailed presentation of the study's nature and purpose, a description of the methodology followed in collecting and processing the materials, an exposition of them, broken down by thematic macro-areas, and finally discussion and conclusion.

Essential literature review

The reflection on the potential expressiveness of the musical performance is already present in Frescobaldi (Stembridge 2005). Modern scientific investigation about music acoustics and perception, fields that can be considered liminal and preparatory to the systematic study of performance, can be traced back at least to the second half of the 19th century, to the work of Hermann von Helmholtz (see Helmholtz 1863). Since then, there have been numerous studies that approached musical performance from diverse perspectives, including biomechanics, cognitive psychology, musicology, and computer science (Palmer 1997; Gabrielsson 2003; Cancino-Chacón, Grachten, Goebl, and Widmer 2018; Bontempi, Canazza, Carnovalini, and Rodà 2023).

The most influential definition of performative expressiveness has probably been that given in Seashore 1938, where it is described in terms of deviations from the score. These deviations may concern one or more parameters related to time distribution of notes and pauses, intensity and timbre. Nevertheless, it has been pointed out that this approach is too Eurocentric and marked by the Western classical tradition to be extended to other repertoires (see the *Introduction* section in “Expressiveness in music performance: Empirical approaches across styles and cultures”, Oxford University Press 2014).

Repp (1997) proposed a more inclusive approach, in which the deviation in expressive parameters is observed not with respect to the score but to a standard, “normal” performance of the pieceAnother possible perspective is based on the complex and multifaceted concept of gesture (Godøy and Leman 2010).

To the obvious complexity inherent in any attempt to shed light on the phenomenon of performative expressiveness in music, popular music has specific peculiarities that distinguish it from classical and folk repertoires. In pop production, it is complex to separate song (the key compositional elements identifying the piece), track (the audio recording) and performance (of the musicians involved) (Dibben 2014). Moreover, comparing a popular performance to a score is problematic (Bontempi, Canazza, Carnovalini, and Rodà 2023). It could prove equally problematic to draw today any clear dividing line between the roles played in the construction of expressiveness by performers and producers or engineers (McIntyre 2008; Savage 2011; Moir and Medbøe 2015). Moreover, the multiple roles in which the work in large-format studio settings is traditionally segmented often merge in the DIY scene (Goold and Graham 2019), further potentially complicating the understanding of the nature and origin of the expressive performance produced.

In academic research on popular music, the subject of possible expressive deviations studied more than any other has been that of temporal micro-variations. In Davies, Madison, Silva, and Gouyon (2012) the topic was investigated by synthesising typical rhythm patterns for jazz, funk, and samba, with variable micro-timing deviations. Idiomatic patterns for each style were taken into consideration. Untrained and expert listeners were asked to evaluate the combinations of samples, micro-timing style and magnitude of deviations. It emerged that systematic micro-timing deviations had led to a decrease in groove ratings, as well as in liking and perceived naturalness. In Frühauf, Kopiez, and Platz (2013), micro-timing variations on rock drum grooves were analysed in relation to listeners' perception of quality. The highest ratings were given to the rhythmically quantized versions of the grooves. A similar contribution is Senn, Kilchenmann, Von Georgi, and Bullerjahn (2016). Here, swing and funk-style bass and drum grooves with varying degrees of deviation from the quantized version were submitted for evaluation by experienced and non-expert listeners. Specifically, the following indicators were proposed: entrainment, enjoyment, and the absence of irritation. Once again, quantised versions or those with not particularly pronounced deviations were preferred over the others. Considering that performative expressiveness is typically traced back to deviations from a reference, the results of these studies prompt reflection on the relationship between perceived quality and expressiveness of the performance, which apparently are not always overlapping. It should also be noted that in all these studies, the object of investigation is the listener's perception of materials subject to micro-variations, not the viewpoint of those who professionally produce popular music.

In Sogorski, Geisel, and Priesemann (2018), the inter-beat interval time series from long-range and short-timescale perspectives were analysed in jazz and pop/rock recordings. No relevant differences emerged over the long term, while jazz recordings showed higher variability on short timescales. In Datseris et al. (2019) it is observed that micro-timing patterns are genre-specific, particularly in relation to jazz and swing music. In this case, the observation point is neutral and based on systematic materials analysis. In Nelias et al. (2022), the relationship between the soloist and the rhythm section in jazz is investigated, and it is

demonstrated that slightly delayed downbeats and synchronized offbeats enhance the swing feel.

Studies have also been conducted on subtle pitch deviations in popular music, although scientific production in this area is smaller than that relating to temporal micro-variations. In Hayashi, Bachelder, and Nakajima (2014), vocal recordings of the blues singer and guitar player Robert Johnson are analysed from the perspective of microtonal deviations. Hart (2016) investigates the use of microtonal intentional deviations in electronic dance.

In popular music, dynamics and loudness received more academic interest as parameters analysed at the piece level rather than the performance of each instrument. However, relevant information can also be extracted in this regard through Music Information Retrieval (MIR) techniques (see Lerch et al. 2019).

Nature and aims of the study

While all the pop-focused contributions mentioned above are valuable and helpful in understanding the nature and characteristics of parameters that can also be associated with the expressive dimension in popular music, the emphasis is often not specifically on the investigation of expressiveness and, at least to the best of our knowledge, not accounting for the views on the subject of producers, musicians, and sound engineers, who have been investigated only marginally in the past.

We interviewed leading industry professionals about positions and production practices related to expressiveness in musical performance in the popular sphere, analysed their answers through thematic analysis (see Braun and Clarke 2006), and discussed the materials collected. Thus, we hope to have been able to offer, with a critical approach, an overview of at least a relevant part of the different sensitivities and interpretations related to expressiveness present among practitioners today.

As popular music production is a constantly evolving living and current practice, we believe it is essential to involve those who work in the field in any effort to understand it, even as a function of later, more critical reflection. We ask questions such as how they interpret the very concept of performative expressiveness, how expressive intentions are communicated among practitioners and should a role in the construction of expressiveness also be recognized for professions commonly considered more technical, such as those of engineers and producers Indeed, is there an education in expressive performance? It seems clear to us that, at the very least, industry professionals' viewpoints and production practices are must-have pieces for a complete and articulate understanding of the topic.

The main objective of this contribution is, for us, to investigate the phenomenon of performative expressiveness in popular music, to use the knowledge gained to develop innovative models for computational performative expressiveness. The research areas of the Centro di Sonologia Computazionale - CSC (Canazza, De Poli, and Vidolin 2022; Canazza and De Poli 2020) at the University of Padua, to which both authors are affiliated, include the fields of affective computing and computational expressive music performance. The scientific investigation carried out in the past in relation to classical music was `based on analysis of audio recordings of real performances, interviews with musicians and relevant

stakeholders, and the definition of computational models of expressiveness with related software development (Canazza et al. 2000; Canazza, De Poli, Rodà, and Vidolin 2003; Canazza et al. 2004; Rodà, Canazza, and De Poli 2014; De Poli, Canazza, Rodà, and Schubert 2014; Canazza, De Poli, and Rodà 2015). Currently, studies are being conducted on the specific field of computational expressive performance in pop music, which has been covered only marginally by research, compared to classical music. Computational expressive systems can have practical applications (e.g., in automatic composition, music production, music notation and arrangement software). Still, they can also have more general positive effects on the understanding of the phenomenon of musical expressiveness. Such models can be fully autonomous or require the direction of a human operator (in the latter case, we speak of conductor systems). In popular music, a parallel can be detected with conductor systems in the relationship between the artistic producer (who gives the musician indications on the desired performance rendition) and the performer (who performs the parts per the producer's instructions).

Given the topic's strong multidisciplinary nature, we hope this work might be useful in academic contexts beyond our specific objectives

Methodology

The interviewees were selected from professionals in the contemporary music production industry, where they work as producers, engineers, and/or musicians for global artists and labels. Some of them also have an academic or disseminator profile. We tried to involve professionals with well-diversified backgrounds and reference genres of music to broaden the perspectives of observation as much as possible. It was not deemed necessary to include the personal biographies of the interviewees in this paper, as they are well-known practitioners, and their credits can easily be found on the Web. Only the type of activity carried out and the main musical genres associated with the professional and artistic career of each one are noted in the Appendix.

The interviews took place between August and October 2023, and they were conducted via video call, except for Michael Arrom, who answered the questions in writing. They lasted between 30 minutes and about an hour. All interviews were based on a fixed set of questions, but at the same time no interactions of a more extemporaneous nature between interviewer and interviewees were censored or restricted. The list of questions is given in summary form in the Appendix.

The initial codes identified in the thematic analysis were the definition of performative expressiveness, the role of sheet music in pop, verbal description of expressiveness, individual dimension of expressivity, creativity, musicians' interplay, music genres and expressivity, position relative to the beat, non-verbal description of expressiveness, role of the artistic producer in building expressiveness, role of the sound engineer in building expressiveness, use of technological tools for expressiveness, training of the musician in relation to expressive performance, interaction between musicians, interaction between musician and producer or sound engineer. From these codes, four main themes were developed: music performative expressiveness in popular music, interaction

between musician and recording team, technological tools, and expressiveness training for the musician. The collected materials are analyzed and organized by themes, and presented and commented on below.

Music performative expressiveness in popular music

Susan Rogers associated expressiveness with performance gestures, and at a lower level of abstraction to the timing, the velocity, the notes' onset and offset displacement. All these components, she said, convey intentionality and allow the performer to express her/himself. A strictly personal dimension of expressiveness returned in the words of Ed Stasium, who emphasized the need to "open one's heart, following the instinct" and express oneself without thinking while performing, and in Carl Verheyen's, who described expressiveness as the musician's ability to convey her/his feelings, something not necessarily related, in his thinking, to purely technical skills. Hayden Maringer also defined performative expressiveness as the artist's personal ability to convey his or her feelings and emotions in close conjunction with the compositional dimension. Mike Senior highlighted that certain singers and musicians can be identified by their expressive mannerisms, bringing as examples the typical fast vibrato of Billie Eilish and the peculiar breaks in the voice of Michael Ball. A similar observation came from Michael Arrom, who invited us to compare the distinctive vocal inflexions of Amy Winehouse, Adele, Florence Welch, and Brittany Howard. Daniele Vantaggio emphasized the link between performative expressiveness and individual creativity and recognizability. Ed Stasium also talked about "creative flow" in conjunction with expressive performances.

At the same time, the expressive performance dimension can be traced back to general currents and trends associated with stylistic genres and/or historical periods. Dennis Moody was peremptory in this regard:

> I feel pop music is created for the consumer. It is limited in its "expression" as it is made to be enjoyed by the consumer (listener) and not so much as a creative expression of the artist. Of course, the artist is expressing his or her personal emotion in the song, but what is important for pop music is that it is commercially viable and not too complex as to lose the audience [...] Jazz is personal expression, in my opinion. Rock. They want to sell records, too. But you know, there's a band.

Bobby Owsinski noted that there are genre-specific expressive feels, recalling, in particular, the jazz, blues, and pop ones. Concerning the position relative to the beat (the musician may be ahead, behind or straight on the beat) he observed:

> In jazz, the emphasis is on top of the beat; it's a little ahead or right on it. In blues, it's behind, sometimes very behind. In rock, it is behind, and in pop, it's closer to right on top of the beat.

Mike Senior spotlighted how popular music has evolved through the ages, focusing on the obvious changes from the vocals of Frank Sinatra and Elvis Presley to those of Britney Spears or Beyoncé.

Interestingly, multiple interviewees emphasised the interplay of musicians in the context of the band as a relevant source of performative expressiveness. For Susan Rogers, the point is often to support voice leading:

> Musicians tend to have an innate awareness of how their gestures fit into the whole composition and how they might adjust their expressivity to help the listener pay attention to the most important elements.

Moreover, if the position of a band member with respect to the beat characterizes her/his performative expressiveness, at the ensemble level an overall expressiveness can be constructed by "orchestrating" the positions with respect to the beat of the different elements. Again Susan Rogers:

> If a performer is consistently ahead of the beat, consistently, let's say it's rhythm guitar out in front of the beat, what he or she's doing is allowing that snare to be a little bit behind the beat. So, there's elasticity, the push of the rhythm guitar, the pull of the snare, and it's a little bit on the order of milliseconds, but, still, it stretches time a little bit. And this lets the singer either be really excited out in front there, in front of that snare drum, or hang back with the snare drum and let that rhythm guitar go forward.

Obviously, the dynamics described above may change when you do not have real musicians playing but rely on the machines for some or all of the musical parts. However, this does not mean that electronic music has to be quantized or expressionless. On the contrary, according to Mike Senior, the most interesting electronic music is precisely that which breaks away from rigid grids. Of the same opinion is Daniele Vantaggio, who said that he devotes great attention to expressiveness in his productions, through manipulation and even minimal but intentional timeline shifting of audio materials. According to Susan Rogers, electronic music is expressive, but in relation to a gesturality that develops along longer time arcs than traditional expressiveness.

Regarding the relationship between expressive dimension and musical score, often used in the classical field to define performative expressiveness, Mike Senior observed that just because classical music is much more prescriptive, it doesn't mean that popular music doesn't have any sense of score. Contrasting classical music as based on the score/performer dualism with popular music by seeing in it the complete lack of a score is, in his view, a highly reductive approach. According to him, behind the scenes, we can see a kind of notional score, which defines the pivotal elements of the piece. An additional level of complexity comes from the fact that the perception of what the defining elements of the song are can vary depending on the artist, as evidenced by numerous, even very different, cover versions of the same songs and remixes of them, which directly sample and reassemble parts. Michael Arrom also talked about implied scores in case there are no actual ones. In any case, the relationship to the written text never emerged in the interviews as a possible foundation for a general definition of performance expressiveness in the pop field.

Interaction between musician and recording team

As noted earlier, in popular production, there is significant interaction between different parties (at least musicians, producers, and engineers are involved in recording and post-production). This interplay also touches on the dimension of performative expressiveness in several respects. In particular, the communication of expressive intentions between practitioners seems of primary relevance. The verbal terms or other communication strategies adopted and their translation into sound parameters can indeed assume cardinal importance in understanding insiders' perceptions of expressivity. Verbal language is the most common way to convey communication between people in everyday life. It can also play a key role in the interaction between the different parties involved in a pop music production. In music, particularly classical music, it is common to associate expressive and emotional dimensions (Juslin 2001). The interviews remarked that terms related to emotions are commonly considered appropriate also in relation to popular music. Michael Arrom declared that all the expressive vocabulary used in the classical context and related to emotions can be profitably used in popular music. Bobby Owsinski pointed out how categories such as happy/sad, etc., are essential in music licensing. Dennis Moody and Hayden Maringer emphasized that every musical genre expresses emotions.

Positions and approaches became more multifaceted when addressing other direct verbal expressive cues explicitly related to performance and used in the popular context. Such indications mainly involve energy or positioning relative to the beat. The first category includes "dig in" (Susan Rogers, Bobby Owsinski – meaning with more energy, more aggressive), "relax" (Owsinski - with less energy, basically the opposite of "dig in"), "burning/smoking/with fire" (Dennis Moody - meaning very energetic). In terms of timing, it emerged in particular "lay back" (Michael Arrom, Bobby Owsinski, Carl Verheyen, Hayden Maringer - playing a little behind the beat). Other indications were "airily" (Mike Senior - giving a bit more breath, making the sound a little bit lighter), "bouncy" (Senior - kind of rhythmically staccato or happy), "darker", "lighter" (Carl Verheyen), "funky", "driving", "swing", "sparse", "thick" (Michael Arrom), "delicate", "thin", "heavy" (Daniele Vantaggio).

Also related to music performance is the concept of "staying in the pocket". Susan Rogers said in this regard:

> A pocket holds things, and there's a boundary between what's in the pocket and what's not. If you got a pocket on your coat, you put things in the pocket, and they stay in the pocket. They don't leave the pocket. So, when we say that music is in the pocket, it means the way the elements are working together right now is perfect, and we want to keep it in the pocket. Don't break out of that. Don't leave. In other words, drummer, do not speed up. Do not slow down. Stay in that pocket. Don't change your dynamics. Keep the relationship between your kick drum, snare, and hat. Keep it exactly where it is. Bass player, your relationship and your timing to the drummer. Keep it right where it is. Don't move. Stay in the pocket. Essentially, what it means is "don't break our attention".

Hayden Maringer instead connected the concept of "staying in the pocket" to that of "groovy".

Verbal language can also be used to communicate expressive intentionality indirectly. It is possible to suggest a certain expressive feel, for example, evoking a specific context. Susan Rogers talked of "painting a picture for a story" through the performance. The story could be, for example, about the weather (is it a sunny, shiny day, or maybe ominous clouds are gathering in the sky?).
The same can be done by observing (potentially moving) pictures. Having worked extensively for TV and film, Carl Verheyen has experience in situations where images determine expressive intention:

> [You might hear them say] ok, it's in the key of A minor. I want you to sting it when she comes through the door with a blues lick [...] "Sting it" means something to me. It means, you know, something kind of sharp, quick and not legato and pretty.

Turning now only to non-verbal modes of communication, colours may also be used to indicate a certain expressive approach. For Bobby Owsinski, "make it more red" means "make it more intense", while the opposite is true for blue. Carl Verheyen also recalled being told things like "play more orange" or "make it greener". Ed Stasium remembered Dale Ashby telling him about working with Laura Nyro, who used to express her vision in colours ("make this more purple", or "more blue"), making it difficult to have a clear understanding of her intentions. If it should be kept in mind - as Mike Senior pointed out - that the moment you start using words to describe music, you come into the problem of the connotations of your listener being different than yours, it seems all the likely that finding general agreement about the exact meaning of colour/expressive intention associations might prove even more complicated. Nevertheless, it seems to be common practice to use light and colours in recording studios to subliminally direct the expressiveness of performers. Daniele Vantaggio and Dennis Moody discussed this.

As noted by Hayden Maringer, specific expressive intentions are also often indicated nonverbally through voice, humming or "beatboxing," or through real-time interaction between different musicians, who guide and follow each other by acting on their musical instruments.

Generally, we can observe various approaches among producers regarding indicating or inducing in performers a certain expressive intention. They range from working modes such as Ed Stasium's, who only gives technical musical indications (on pitch, phrasing, etc.), to less technical approaches such as Susan Rogers', to peculiar and extremely personal communicative modes (that may include colours and geometrical shapes), which, however, do not always allow for an unambiguous communication of the desired expressive intent. Nevertheless, thinking that these less rigidly characterized communication methods can never usefully convey expressive intentions between different people would be a mistake. Susan Rogers highlighted this point, reporting anecdotes in which she could correctly interpret expressive intentions starting from geometric shapes, and recalling that the human

perceptive system is highly integrated, and the auditory sphere cannot be understood fully if seen as separated from the other senses.

Use of technological tools for expressiveness

Popular music is born from close interaction between musicians and producers or engineers. With the spread of digital technology, the latter can intervene relatively easily in all the major parameters traditionally associated with performative expressiveness (pitch, timing, timbre, dynamics). How much of the performative expressiveness that can be heard in a production today is attributable to the performing artist, and how much is the result of subsequent technical interventions? Should we talk about "distributed expressiveness"? Or is technology mostly used just to correct errors?

As noted by Hayden Maringer, the answers to these questions vary greatly depending on the artist. In the case of trained and experienced musicians, the role of the producer or engineer may be limited to faithfully documenting, with minimal intervention, the performance, a situation that in the past was more common. Then, particularly in recent years, there are cases in which the musician is chosen not so much for musical gifts as for his or her "marketability." In this case, the scales may lean heavily, in all respects, including expressiveness, on the side of producer and engineers. Basically, the same dichotomy was described by Carl Verheyen and Michael Arrom.

A "non-invasive" role of the producer at the level of personal expressiveness was claimed by Dennis Moody (who, however, recalled instances when he had to build a song from scratch based on a tune hummed by untrained artists):

> I'm not going to hire the best drummer in the world and then come and tell him what to play. It's the best drummer. Same with guitar. That's the way I think.

Ed Stasium agrees. He said he usually leaves everything as intact as possible, with sporadic use of Auto-Tune or similar technologies.

Michael Arrom and Mike Senior stated that they intervened several times on sonic parameters to change the expressive feel of a performance. However, as Arrom specified, this does not mean that this is the most common or preferred way of working.

Susan Rogers observed that another way in which the producer can impact performative expressiveness is through the simple use of copy/paste. According to Bobby Owsinski, the mindset of younger producers is very much inclined to record only one version of each particular part, which they then copy and paste throughout the song. This has consequences for the expressiveness of the virtual performance at the level of the whole piece.

According to Hayden Maringer, on the one hand, new technologies allow us to correct and move much faster, thus offering the possibility of creating more music and more art. Generally speaking, digital tools give the producer an almost infinite palette of colours to draw. According to this view, the overall expressiveness of the song can, therefore, be primarily the work of the producer, who orchestrates and directs the creation and management of all the materials that make up the song.

This position is similar to that of Daniele Vantaggio, who observed that in most contemporary productions, the overall expressiveness of the piece is determined by the sum of the musicians' performances and the choices of the producer, who is the bearer of the overall vision.

A particular case is the one described again by Vantaggio, in which the producer records a lot of audio material, potentially inviting the performer to improvise freely, and then samples and reassembles small fragments into a newly created musical part. In this case, the creative and expressive dimensions are shared between musician and producer, but, in a certain sense, they pertain more to the latter than to the former.

Audio comping is a particularly relevant technique in contemporary music production, born with magnetic tape but made much simpler and more immediate by digital technology. This technique consists of selecting the best parts of multiple takes and combining them into a single virtual performance (Langford 2014). In this regard, it seems legitimate to ask whether an overall expressiveness of the performance still exists, or otherwise if we should talk about many "local expressive modules."

Ed Stasium stated that the problem does not generally arise, as there is usually great homogeneity among the expressive intentions of the different takes. It is just a matter of choosing the best parts of each, and this does not cause discontinuity or inconsistency of expression. On the other hand, when the performers approach each take with a different spirit, there are not the preconditions necessary to perform audio comping in the best possible way.

Carl Verheyen remarked that, although he himself uses comping, he generally favours true takes, as exaggerating with comping can achieve perfection, but at the cost of losing the vibe, that dimension that "pulls and pushes" the performance a little bit.

Dennis Moody declared that he tries to keep comping to a minimum, taking into account the performer's abilities. Ultimately, he said, "the listener doesn't care; he or she only wants his or her product". This position seems to collimate, albeit from different perspectives, with Susan Rogers's. According to her, we can still talk about global expressiveness despite the comping. The reason is that "music is so private. When we listen to music, no one else is up there in our heads, which means that every listener interprets music their own way". In other words, the dimension of overall expressive coherence is shifted from the side of production to that of perception and processing by the listener. Mike Senior also emphasized that, from the listener's point of view, comping does not exist. The juxtaposition of sections generates new global expressiveness; good producers know this and curate expressiveness locally and globally. From this point of view, therefore, the overall expressiveness should be traced back to the work of the producer/engineer: "In a sense, it's [...] an extra layer of performance over the original one", said Senior.

A relevant issue concerns understanding what technological tools to support the manipulation of materials in view of an expressive rendition or enhancement are available today or would be desirable in the future. Bobby Owsinski, while thinking that a tool to randomize many parameters at once automatically would be useful, doesn't see great interest in "expressivization" solutions. As Susan Rogers pointed out, the reason of that may be that, while she is deeply interested in what we could

call "traditional expressiveness", many contemporary listeners don't want nor need that. They are looking for something else, which could influence the plugins industry.

Dennis Moody has little hope of adding expressiveness with computational tools, thinking there is nothing like a natural performance. Michael Arrom believes that, rather than using "expressiveness generation" algorithms, it is reasonable to enrich a song's expressive dimension using live performance samples. On the other hand, he observed that pitch and timing correction tools allow for more or less obvious intervention on the most important expressive parameters, depending on the desired effect.

Mike Senior recalled products such as Korg Karma and Toontrack EZ Drummer, which try to create real-time performances "bearing in mind" expressiveness. Both he and Hayden Maringer cited tools capable of converting a vocal input into an expressive MIDI part, such as Vochlea Dubler, as an excellent example of how new technologies can help to improve expressiveness.

According to Maringer, tools capable of introducing expressiveness by interacting with originally produced materials would be needed now. The big problem of today's music industry, according to him, is that everybody is using the same samples, virtual instruments, and plugins, so there's a stagnant situation in terms of sonority and, consequently, expressiveness and individuality. Daniele Vantaggio also drew attention to this problem.

Expressiveness training for the musician

While studying instrumental or vocal technique and music theory is expected in any structured and professionalizing music teaching programme, the same seems not to be equally granted regarding performative expressiveness. Quite a neat distinction emerged here between engineers/producers and musicians. Carl Verheyen and Michael Arrom observed that expressiveness is central to their work as educators. Both Susan Rogers and Bobby Owsinski, while declaring that they are not involved in vocal or instrumental teaching, observed that probably expressiveness is often not explicitly part of music programs. However, it may be sometimes, more frequently today than in the past, according to Owsinski. Dennis Moody sees expressiveness as something personal and innate:

> I think it's something that is born into the musician. It's coming from their soul. They either "get this" or they do not. I don't think it's something that can be taught, although it can be studied.

Susan Rogers made an interesting point by observing that musicians who have listened to and studied many records when they were young tend to understand how to be expressive when they get in the studio. At the same time, it also happens to have students who had a lot of formal musical training and know how to play on their own but do not know how to play with other people and be expressive by blending their sound with that of the other musicians. This position seems to be complementary to that of Mike Senior, who observed that in popular music

performers learn their instruments usually to mimic musicians they admire, or because they have certain music they idolise. So, they practise trying to express themselves in that way. Somehow, from this point of view, expressiveness training is often inscribed inside the DNA of the way popular musicians learn. Senior said this is frequently not the case in classical music, where the focus is on the score. Therefore, expressivity is more likely (but not necessarily, obviously) relegated to the background in the latter context.

Another issue concerns the relevance of technical preparation to expressiveness. As noted above, according to Carl Verheyen, the ability to be expressive should be divorced from technique. This does not mean that being expressive is within the reach of any musician. Susan Rogers argued that great musicians know exactly what they are doing and know how to be expressive, which succeeds in being difficult for beginners. Daniele Vantaggio stated that to be truly expressive requires great technique. Otherwise, you just have unintentional, random variations in sound parameters due to the performer's lack of precision. The key to harmonising these positions is probably to be found in the concept of intentionality. The technique required of the musician to be expressive is that which enables him or her to achieve the desired expressive intention. This should not be confused with technique understood as virtuosity, although that kind of technical preparation may prove to be useful in this regard.

Discussion

The previous sections revealed mostly shared positions among the interviewees and some areas where opinions appeared at least partially divergent. There was general agreement that performative expressiveness is linked to the individuality and uniqueness of the musician. At the same time, more than one interviewee observed how the manipulation of expressive parameters can also be traced back to the musical genre and, thus, to a shared sphere. The two dimensions are not irreconcilable but indicate an intertwining of different planes in constructing an expressive performance, which must be considered.Much cohesion emerged regarding the main parameters subject to manipulation and the expressive purposes for which these are handled. According to the interviewees, the general dynamics play an essential role in defining the expressive character of the performance. The other pivotal element, which emerged several times, is positioning with respect to the beat, i.e. the tendency to play slightly ahead, behind or straight on the metronomic pulse underlying the piece. It is interesting to observe how this expressive trick emerged in relation to the musical style, the construction of a functional interplay between the musicians or parts, and voice leading. Although this did not come up in the interviews, it should also not be ruled out that the tendency to play on, behind or ahead of the beat could be one of the peculiar traits individualising the specific musician.

More variegated positions were expressed on the role of producers and engineers in constructing expressiveness, including through advanced technological tools. The two extremes, which can be declined in a continuum of intermediate possibilities, are, on the one hand, the view limiting the artistic producer to

coordinator and possibly director of the musicians' expressive intentions, with the engineers responsible for documenting the performance as faithfully as possible, and, on the other hand, the producer as the heart of the artistic creation, including its expressive output, also achieved through technologically innovative tools, with the materials recorded by the musicians considered as raw material from which to extract the desired diamonds.

From the point of view of developing computational expressivity models to be used in pop, this study has made it possible to highlight certain priorities to consider, namely the necessity to investigate performative expressivity both at the level of the individual musician and at the level of the musical genre, and the need to focus first of all on the parameters of dynamics and positioning with respect to the beat. This is as much in relation to fully automatic systems as in the case of conductor systems.

While this work has made it possible to define a starting point, it has also opened up possible new research directions. In particular, the dimension of expressiveness in musical genres less related to real-time human performance was only partially touched upon, mainly due to the pool of interviewees, most of whom work in different stylistic domains. With regard to the pool of interviewees, it would be interesting to expand it by gathering additional opinions from industry professionals working in specific musical niches underrepresented in this study.

Given the high relevance of the interplay between musicians in constructing the overall expressiveness that emerged from the interviews, more studies in this regard would be desirable, particularly if based on the collection of objective data that can be analysed with computational tools.

Conclusion

Through this series of original interviews, it emerged how performative expressiveness in popular music from the viewpoint of industry professionals is a complex and multifaceted topic, that finds even significantly different declinations depending on specific situations. This prevents offering unambiguous definitions of all the peculiarities of expressivity, but this does not mean that it is also not possible to identify recurring and shared traits.

In terms of the specific objective for which we have done this work, it seems clear that future computational models of performative expressiveness in popular music cannot fail to include the possibility of defining the timing of the virtual performance with respect to the beat. The relevance of dynamics and performative energy also emerged clearly. This investigation was also helpful in identifying the terminology commonly used in popular music to indicate expressive performative intentions. Expressions such as "dig in" or "lay back" could be used as labels in conductor systems, with substantial certainty that users would understand them correctly.

It seems clear to us that the richness and fluidity of this topic prospect a particularly interesting and multidisciplinary field of study. With this paper, we hope to contribute to a deeper understanding of performance expressiveness in

popular music, giving space to a perspective that previously has been little investigated.

Appendix

Respondents' field of activity and main musical genres

Michael Arrom
Musician, producer, educator. Main music genres: rock, jazz fusion, smooth jazz, pop, R&B, country pop, soundtracks.

Hayden Maringer
Musician, producer, engineer. Main music genres: rock, pop, soundtracks.

Dennis Moody
Producer, engineer, disseminator. Main music genres: jazz, pop rock, R&B, soul, world, Motown, soundtracks.

Bobby Owsinski
Producer, engineer, disseminator. Main music genres: classic rock, heavy metal, pop rock, punk.

Susan Rogers
Producer, engineer, scholar. Main music genres: blues rock, pop rock, R&B, alternative rock.

Mike Senior
Engineer, disseminator. Main music genres: britpop, alternative rock, pop rock, jazz.

Ed Stasium
Producer and engineer. Main music genres: classic rock, punk, new wave, hard rock.

Daniele Vantaggio
Producer, sound designer, engineer, educator. Main music genres: electronic music, melodic techno, house, electro-funk, IDM, indie pop, trap.

Carl Verheyen
Musician, educator, disseminator. Main music genres: rock, jazz fusion, blues, country, progressive rock.

Question list

1. How would you define expressive performance in popular music?
2. Are there established expressive styles or traits unique to individual musicians in pop?
3. What terms are commonly used to describe expressiveness in pop performances? Do terms like happy, sad, heavy, or light make sense when describing expressiveness in popular music?
4. Do you use nonverbal methods (e.g., playing, humming) to communicate expressive intents?
5. Is expressiveness in pop recordings derived from the musician's performance, the producer's interventions, or a combination of both?
6. Given the use of comping in the studio, should expressiveness be considered related to the individual assembled fragments or to the whole part?
7. Do audio production software developers consider expressiveness? If not, why?
8. What software tools would you like to enhance expressiveness?
9. Is expressiveness relevant in EDM and sequenced genres, or only in human performer-based genres like rock, jazz, and blues?
10. Is performative expressiveness explicitly studied in pop music?

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