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## **Participatory sense-making in physical play and dance improvisation: drawing meaningful connections between self, others and world**

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## Chapter 7. Joint action and joint attention: dance improvisation and children's physical play as participatory sense-making activities<sup>49</sup>

In this chapter, I discuss the artistic outcomes of the first re-enactment. The original play event consists of a rough-and-tumble play of four 13-year-old boys at the Conservatorium of Amsterdam. The play event is then re-enacted by first-year students of the Modern Theatre Dance department, at Amsterdam University of the Arts. Dance improvisation and children's physical play events are considered organisational practices (Noë, 2015)<sup>1</sup>. Both activities reorganise and reorganise our lived experience. Even more, both activities are socially shared and culturally shaped – and thus highly relational. According to the enactive approach, sense-making evolves out of self-organisational processes in which the brain, body and environment are linked. In this chapter, the concept of participatory sense-making serves as an underlying theoretical framework to explore the shared elements of physical play and dance improvisation. The main focus lies on joint action and joint attention. I will specifically look at the co-constitution of meaning through coordination of action, interaction rhythm and shared intentionality.

### Physical play event of four boys at the age of 13

In December 2017 I invite four boys of 13 years old for a physical play session. The session takes place in the big theatre studio, in the basement of the Conservatory of Amsterdam. I am interested in their spontaneous physical play activities.

There are as many as sixteen different play types (Hughes, 2002) that include role play, object play, fantasy play, symbolic play, socio-dramatic play etcetera. In this research study, I focus on one specific play type, namely Rough-and-Tumble play (R&T play). R&T play refers to “vigorous behaviours, such as wrestling, grappling, kicking, and tumbling, that appear to be aggressive except for the playful context” (Pellegrini & Smith, 2005, p. 79), and that are almost always performed without hurting each other (Di Pietro, 1981). See Figure 26 for an example of R&T play.

Both boys and girls engage in physical play. However, R&T play is mostly initiated by boys across a variety of cultures (Pellegrini & Smith, 1998; Di Pietro, 1981). Physical play activity seems to have different functions: the refinement of social skills, the training for the unexpected (Pellis & Pellis, 1996) which subsequently leads to the improvement of self-regulation and a more accurate encoding/decoding of emotions. In addition, physical play also increases strength, endurance and movement skills. The boys play with dominance relationships through the exertion of corporeal power (Pellegrini & Smith, 1998).

On a Sunday morning, I invite the boys over for a physical play session at the Conservatory of Amsterdam. When we arrive in the studio, the four boys seem slightly disappointed since there are no (play) materials available in the studio except chairs, music stands and a really expensive Yamaha concert grand piano. However, when taking a closer look, the four boys discover a blue mat, some foam materials, a broom and long black curtains on one side of the studio that provide a perfect spot to hide. No hesitations anymore, let the game begin. Two boys rush to the mat, while the other two take off their coats and shoes (see Figure 27).

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<sup>49</sup> This chapter is published in 2018 in *Choreographic Practices*, 9(2), 311-322. I made the following adjustments concerning the original article: I revised the abstract and omitted the sections where I introduce the enactive account and the theory of participatory sense-making. I also made some textual adjustments and added a few notes.

R&T play is more than just a physical encounter. Imagery, symbols and make-believe form a fundamental part of the play event. The blue mat becomes a war zone, a battlefield, a ship and an island. These images are not only implicitly present but also explicitly referred to. The boy in the blue sweatshirt for example calls himself a king (see Figure 28).

At other moments the boys introduce images such as (ninja) turtle, mole, crab and giraffe – many of them borrowed from the animal world. They also use verbs such as killing, quartering and wiping away. Here we see that meaning-making becomes a fluid and ambiguous process that is mediated by the environment and the interaction between the four boys. The concrete, physical play event transforms into something else, as a result of alienated<sup>50</sup>, virtual meaning.

According to Di Paolo et al. (2010, p. 77), this is truly enactive since the youngsters bring forth “an adaptive equilibration (the absence of which would make play unchallenging and unreal)”. The four boys search for an equilibrium that is dynamic and temporarily constructed.



**Figure 26.** Four boys engaging in R & T play. Conservatory of Amsterdam, 2017 © Carolien Hermans

Collective sense-making occurs through coordination and interaction rhythm. Interaction rhythm must be understood here as the rhythmical attunement of bodies on several levels of movements, such as gestures, postures and facial expressions. Interaction rhythm is here understood as “the self-organisation in time of several elements and processes that span the individuals, i.e. the temporal organisation of elements across and between individuals” – and where the process can “take a momentum of its own” (Di Paolo et al., 2010, p.33).

In the interaction process, we synchronise facial expressions, body postures and movements with our interaction partners in such a way that our behaviour rhythmically matches the social environment (Dimberg, 1990; Chartrand & Bargh, 1999). Gallagher (2010, p. 114) writes the following: “In communication, we coordinate our perception-actions sequences [...]. Our movements are often synchronised in resonance with others, following either in-phase or phase-delayed behaviour, and in rhythmic co-variation of gestures, facial or vocal expressions.”

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<sup>50</sup> Alienated meaning is a term that Di Paolo et al. (2010) use to refer to processes where meaning is detached from the actual (goal-oriented) situation so that new registers of sense-making become available. Di Paolo et al. (2010) use the example of pretend play where a toothbrush can become a flute. Pretend play is a play with similarities and differences by untying the relation between a concrete situation and its meaning. The toothbrush is not used in its ordinary way, but in a different, imaginary way. One could also say that the usual affordances of an object or a situation are replaced by unusual affordances. It is the friction between the usual and unusual meaning of a situation that creates a sense of ambiguity. For Di Paolo et al. (2010) this alienation takes place not on an internal mental level but a bodily level.



**Figure 27.** Two boys rush to the blue mat. Conservatory of Amsterdam, 2017 © Carolien Hermans



**Figure 28.** Boy becomes king by putting a blue mat on his shoulders. Conservatory of Amsterdam, 2017 © Carolien Hermans

The four boys also organise their physical play through rhythm and coordination. Notice in Figure 29 how the four boys share the same momentum. They all land on the blue mat, with a slightly different timing (specifically the boy in the grey trouser who already has landed) but with a shared intention and a shared sense of timing. Notice that the two boys (both with black socks on) have synchronised their movements entirely: not only in timing and rhythm but also in movement form.

This is not so much the result of a conscious decision: synchronization happens in the interaction and is the result of the way they subconsciously adapt their bodies to each other. In other words, through the interaction process the movements of the four boys are co-regulated (Fogel, 1993).

Another example of coordination is observed in the upper right image (see Figure 29): here we see three boys physically coordinating their actions to squeeze the fourth boy in between the blue mat. Again, the movements share intention and timing. Notice how the hands of the three boys are in the same position. Also, the way they push is synchronised. The boy in grey and the boy in black exert the same kind of energy and force on the mat, while the other boy in black is involved in the action, exerting however less force and energy. Notice also how the three boys all look down at the fourth boy that is squeezed in between the mat. Gallagher (2010, p. 112) refers to this as joint attention and he considers the capacity to share attention as vital for “our ability to understand others, what they intend and what their actions mean” and our ability to co-constitute meaning. Joint attention includes gaze following, that is, following the direction of the gaze of another person. It is believed that gaze direction, together with facial expression, hand gestures and body postures, serve as non-verbal ways to share and communicate the intentionality of a movement/action.

The upper left image also displays joint attention and joint action. The boy in the blue sweatshirt has conquered the mat and puts his hands triumphantly in the air. Two boys are collaborating to tilt the boy in the blue sweatshirt from the mat and a third boy is approaching. One boy holds the left corner of the mat, and the other boy holds the right corner of the mat. Spatially as well as temporarily, they coordinate their movements, and they also share focus and attention. It is not that they look at each other but their gaze is directed towards the same objective (namely tilting the boy in the blue sweatshirt from the mat).

Finally, I want to mention one other aspect that becomes evident in the play event of the four boys and which can best be described as serious attention to having fun. The studio is filled with tremendous fun, excitement and enjoyment. At the same time, the four boys display a serious attitude. They are dedicated and absorbed into the play. Rules are treated seriously. Rules set and define what should, can, should not and cannot be done. Even more, rules are made up during the play. One boy for example introduces a broom into the play. ‘You have to jump over. If I touch you with the broom, you’re done’, he says.

Fun and serious attention are thus intertwined within play. Fun is the “exploration of the limits thus imposed on bodily activity and social interaction” (Di Paolo et al., 2010, p. 78). Fun is needed to change and revise the rules in such a way that it becomes a self-structuring process. However, without a serious attitude, the fun will soon lose its grip.

In summary, different elements of the participatory sense-making process emerge in the physical play event of the four boys. First of all, imagery (such as ‘king’ or ‘turtle’) is used to transform the play activity in such a way that meaning becomes fluid and alienated. Secondly, joint action, interaction rhythm and shared attention all attribute to the co-creation of meaning in play. Finally, the boys display serious attention to having fun. This fun-factor is required to explore the boundaries and limits of their play and to generate new rules that structure and re-structure the physical play activity.



**Figure 29.** Synchronization, joint action and joint attention in physical play. Conservatory of Amsterdam, 2017 © Carolien Hermans

[Image left above: the boy in the blues sweatshirt has conquered the mat and puts his hands triumphantly in the air. Notice how the two other boys work together in order to push the boy in the blue sweatshirt off the mat. Image right above: example of a coordination task. Three boys work together in order to squeeze the boy that is caught in-between. Image below: example of rhythmic interaction and synchronization of movement.]

## Dance improvisation workshop at the Modern Theatre Dance Department

In March 2018 I am invited to the Amsterdam University of the Arts, Modern Theatre Dance department to give a dance improvisation workshop to eleven first-year dance students (six male students and five female students). In this phase of my artistic research, I am handing over the photo material and video footage collected in December 2017 when I observed the play activities of the four boys. The dance workshop aims to revisit and relive the play event of the four boys by moving through the selected imagery, picking up traces of energy, intentions and foremost affects.

Sheets-Johnstone (2015b) describes dance improvisation as the spontaneous articulation of sheer movement. Dance improvisation is a broad concept that includes solo and group exploration, studio work and performative practice. The term covers an entire range, from choreography with real-time compositional elements to contact jam sessions. De Spain (2003, p. 27) defines dance improvisation as “a way of being present in the moment”. Lynne Anne Blom and Tarin Chaplin (1988, p.x) consider dance improvisation as the “dynamic daughter of dance, at times self-indulgent, at times concise and determinant, but always developing and changing. She has a free spirit: she should be given free rein within wisely and flexibly set boundaries.”

After a short introduction, the students divide themselves into groups of three and four. The groups look at the photographs, pick the ones that hold their attention and move to the dance floor. First, they are slightly hesitant, but gradually the dance students tune into the imagery and recollect traces of energy, intentions and affects.

Just as in the physical play event of the four boys, the dancers synchronise movements spatially and temporally. Figures 30 and 31 show how two dancers share momentum, energy and intensity. Notice the position of the arms and the shift of weight in the legs, as if they were looking in a mirror. The bodies are clearly resonating with each other. Although the movements “differ in detail, they adopt flow and use of space, their tempo, rhythm and weight, their kind of responses and style” (Blom & Chaplin, 1988, p. 23). The dancers integrate the other way of moving into their own.

Notice also the attentional focus<sup>51</sup>. Not only is the gaze directed towards each other, but also the movement of the head is synchronised. Here I believe, lies a crucial difference with rhythmic synchronization as it usually happens in daily life. The communication in dance improvisation does not depend as much as daily communication on language. Interaction in dance improvisation takes place, almost entirely, on a kinetic and kinaesthetic level. As a result, meaning is not easily captured. Cross (2014) uses the term floating intentionality to describe how meaning appears to be intimately bound to the contexts in which it is experienced. Intentions unfold, shift and evolve during the dance improvisation. Intentions are moulded into a perceivable form as a response to the ongoing movement. Some intentions lead to a dead end: others are taken up and transformed into something else. In the unfolding of intentions patterns of movement arise and form solidifies. Additionally, in dance improvisation intentions are shared and co-modulated by the interaction itself. The interaction “gains a life of its own” (Fuchs & De Jaegher, 2009, p. 471).

Daniel Lepkoff refers to another aspect of attentional focus, one that is closely related to intention and presence. According to him “being present is actually a movement [...] a movement of attention” (Lepkoff, as cited in Buckwalter, 2010, p. 90). When a dancer moves his attention, he

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<sup>51</sup> Susan Williams (2019) has done an artistic PhD research on the attentional focus of musicians. According to Williams, the learning of complex movements (as in music) is better achieved through external rather than an internal attentional focus. Instead of focusing (solely) on the technical aspects of music performance (the how), more attention should be paid to musical expression and intention (the what). The external attentional focus moves away from the internal complex process of motor learning towards a more holistic form of learning. In my PhD research holistic learning is also considered important, however, I am mostly interested in how *internal listening* (attending to internal dynamics of a movement, to the affects/intensities/forces that are experienced in the body) and *external attentional focus* (to the other, to the environment, but also the external dynamics of a movement) work together to facilitate the sense-making process.



opens up the space, thereby refreshing the field of possible intentions and actions that are present inside this space. Dance improvisation – more than choreography – also opens up the meaning-making process to the present, to what happens in the here and now. This is often described as spontaneity, as “an acute awareness of the moment and the context one finds oneself in” (Da Silva, 2017, p. 119).<sup>52</sup>

Let’s return to the attentional focus of the two first-year students in the workshop (see Figures 30 and 31). Sharing focus is necessary to coordinate the action. Blom and Chaplin (2010) discuss three basic ways of attending: focused attention, diffused attention and creative attention. Focused attention is rational, logical and verbal. Diffused attention is receptive and accommodating. Creative attention is the ability to attend to both the surrounding field as to possible and relevant associations, while still being able to oversee all the elements.



**Figures 30 and 31.** Two first-year students are chasing one another. Theatre School, Amsterdam, 2018 © Carolien Hermans

Miranda Tufnell and Chris Crickmay consider attentional focus a foundational mechanism of dance improvisation:

Group improvisation demands an opening of the attention, both to the work space and to the corpus of people in the space, as an ever-changing pattern of sound, activity, colour and energy. [...] Each person is at once responsive to others and independent of them, ready to be changed by, but not absorbed into, another person’s activity. The skill lies in being able to include what another person is doing while not losing one’s own momentum of thought. This is a fine line and a difficult balance to strike. It is all too easy to make interventions which cut off another’s person ability to respond in their own way, or to give up one’s own line of thought in preference to another’s. (1990, p. 72)

This is in line with what Thompson (2005) defines as autonomy, namely agents that actively bring their own identity into play in a social situation. Dance improvisation can be seen as an encounter of autonomous agents that constantly seek the balance between shaping others and t space, and letting themselves be shaped by others and by space.

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<sup>52</sup> For a critical reading of spontaneity and risk-taking in dance improvisation, I refer to the work of Da Silva (2017).

Figure 32 shows how the dancers mould and sculpt their bodies to become a multi-sensory organism. The movement continuously evolves as a result of something bigger, namely the accumulation of bodies that together merge dynamically into a form. Through touch, the dancers create a third entity in between them. This third entity is the rolling point of contact between two or more movers (Steve Paxton in Pallant, 2006).

“The third party in the dance [is] the point of contact: that fugitive and always temporary centre and edge common to both yet outside both, a “blind spot” through-in-with-around-for-and-by which the two bodies orient their play.” (Williams as cited in Dey & Sarco-Thomas, 2014, p. 121). Through physical contact, a third entity is established that allows the bodies to change through interchange (Dey & Sarco-Thomas, 2014). Synchronization and coordination take on a different appearance here. The dancers move into a third entity while still remaining autonomous agents; bodies unfold and shape themselves around this point of contact. It is co-agency in its fullest sense since the course of movements is entirely dependent on this third entity: the encounter itself is shaping the agents that are involved. It must be noted that this kind of synchronization/coordination is not limited to contact improvisation, it also happens in the physical play event of the four boys described earlier (see Figure 33).



**Figure 32.** Common intercorporeality in dance improvisation © Carolien Hermans



**Figure 33.** Common intercorporeality in R&T play of the four boys © Carolien Hermans

Figures 32 and 33 are good examples of what Thomas Fuchs and Hanne De Jaegher (2009, p. 472) define as common intercorporeality, a state in which “body schemas and body experiences expand and, in a certain way, incorporate the perceived body of the other”. The surfaces of the other bodies guide and shape the movements of the bigger organism through the functional duplicity of touch since we touch and are being touched at the same time. The body is “in an ambiguous state, fluctuating between the incorporated body of the other and my own embodied position.” (Fuchs & De Jaegher, 2009, p.474)

A final aspect of dance improvisation that I would like to discuss is the self-structuring process. Dance improvisation often starts with a set of rules or instructions. However, along the way new rules are generated as a result of how the movements are organised in space and time. The dancers invest in the ongoing immediate but also search for overall structures. During the dance improvisation, a framework starts to unfold. This framework provides an internal structure to which the movement of all dancers is organised and re-organised.

In Figure 34 we see how three dancers are engaged in a self-structuring (improvisational) process. At first, they take up the physical challenge to pull the female dancer from her neck up. As soon as they have accomplished that, they engage in a game where one dancer in the middle tries to prevent the other two from touching each other. When the possibilities of this game are exhausted, they move into a balance. First, it is just a balance. But then, after some time, this turns into another game as well. Can they stay balanced without using their hands? When the balance is no longer tenable, they start playing tag while using the whole space.

Rules pop up during the dance improvisation as a response to the ongoing movements. The rules serve as a framework, as recognizable reference points that provide a repeatable structure to the dance improvisation. “Improvisation arises from rules and rules arise from improvisation”, says Steve Paxton (as cited in Buckwalter, 2010, p. 42).



**Figure 34.** Example of self-structuring process of three dance students engaged in dance improvisation. Theatre School, Amsterdam, 2018 © Carolien Hermans

In summary, different elements of the participatory sense-making process emerge in the improvisational work of first-year students of the Modern Theatre Dance department. First of all, synchronization becomes evident in how the qualitative movement dynamic (momentum, energy, force, intensity, form) of one dancer affects and resonates with other dancers. Second of all, meaning is ambiguous and novel values are created through co-agency. Third of all, touch serves as a way to

establish a shared intercorporeality. And fourth, dance improvisation is a self-structuring process that is two-directional: rules shape the improvisation while improvisation shapes the rules.

### **Finally**

“Form is the shape of something: recognition of form is a way we make sense of the world around us.” (Buckwalter, 2010, p. 34) Form is apparent in both dance improvisation and the physical play of children. We can see form in the way the bodies are sculpted through movement and arranged in spacetime. Form comes into existence through organising principles. Dance improvisation, like physical play, can be considered a self-organisational practice (Noë, 2015). One that is relational and contextual – out of which follows that the sense-making process is of a participatory nature. In the analysis of the two events (physical play and dance improvisation) the following elements of participatory sense-making can be distinguished<sup>53</sup>:

- Imagery is used to tap into reservoirs of meaning-making that transform reality.
- Intentions are dynamic and floating, always in a process of becoming.
- A common intentionality emerges through bodily engagement.
- The participants synchronise movements in terms of rhythm, timing, and phrasing but also in terms of force, direction and intensity (in short, the qualitative movement dynamics).
- Joint attention enables the participants to co-create intentions together.
- The participants are autonomous agents that bring themselves to the play or dance improvisation event.
- At the same time, the participants have a willingness to shape and let themselves be shaped by others and the environment.
- Both play and dance improvisation are self-structuring processes: some rules vanish while others emerge.

The term participatory sense-making has proved itself to be useful in understanding the basic elements of both dance improvisation and children’s physical play since both activities seem to rely on creative activities, relational dialogues and corporeal meanings.

Some critical notes should be made too. First of all, gender differences have not been addressed in this chapter. Physical play, specifically, R&T play is mostly initiated by boys across a variety of cultures (Pellegrini & Smith, 1998; Di Pietro, 1981). Socialization plays a role here: parents promote physical play more often in boys than in girls. Fathers tend to engage more in R&T play with their sons while both parents engage mostly in imaginary play with their daughters (O’Connor, McCormack, Robinson & O’Rourke, 2017). In contrast, dance improvisation is more often associated with female than male dancers. However, in the dance improvisation workshop for first-year students at the Modern Theatre Dance department, the ratio between female and male students was reasonably well distributed. However, the question remains how and in what ways gender influences the sense-making process. Although this topic exceeds the scope of this chapter, it is important to realize that sociocultural conditioning lies at the root of gendered engagement in both physical play and dance.

Second of all, the concept of participatory sense-making is usually applied to daily interactions that require some sort of collaboration. However, physical play and improvisational dance differ from daily actions in several ways. One important distinction is that daily actions are goal-

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<sup>53</sup> These characteristics do not fully correspond with the five (and later six) elements of the PSM model of physical play and dance improvisation as described in chapters 3, 11 and 12. This is because this chapter has been written before the other chapters. Some of these characteristics however have found their place in the model, such as joint attention, movement synchronization and the self-structuring nature of physical play and dance improvisation.

oriented while both play and dance do not serve an immediate goal. We play and dance for the sake of the lived experiences that they afford. Dance and play “exist outside everyday life, creating their own time-space boundaries, seeking only their own profit and goal” (Blom & Chaplin, 1988, p. x). Dance and play move beyond goal-oriented actions and as a result, the sense-making process becomes fluid and ambiguous.

Even more, communication in play and dance does not rely as much on language, as most of our daily interactions do. Play and dance thus escape language, they tune directly into the lived experience of every agent that is involved. While language structures and decomposes the sense-making process in expressive semantic units, the sense-making process in physical play and dance improvisation remains inherently ambiguous. Because of this ambiguous nature, dance and play are capable to embody, entrain and intentionalise time in movement and action (Cross, 2014).

The point I am making here is that ambiguity, fluidness and dynamic sense-making are intrinsic characteristics of both dance improvisation and physical play. Novel kinds of values are produced every time we play or improvise. We can however not assume that this is true for all participatory sense-making activities. Fluid and ambiguous meaning-making may only occur in activities that are not clearly goal-oriented. In that case, physical play and dance improvisation do not serve as good examples of participatory sense-making since their intrinsic characteristics are not shared by other, more daily participatory sense-making activities.

Third of all, in both physical play as well as dance improvisation the moving point of contact plays a crucial role in the sense-making process. This is also referred to as the third entity, the in-between space between two or more bodies that are in touch but move independently. The participants mould and sculpt their bodies through and around this rolling point of contact. Co-agency emerges around this third entity. Touch thus plays a crucial role in the sense-making process in both physical play and dance improvisation. In daily life, however, and specifically in our western society, touch is highly formalized and regulated (Finnegan, 2005). In daily communication “touch is the most carefully guarded and monitored, the most infrequently used, yet the most powerful and immediate” (Thayer, 1982, p. 298). Although corporeal touch plays a prominent role in both dance improvisation and physical play, it seems not so relevant for daily participatory sense-making activities. I believe, however, that there is much to learn from the formative role of touch in the sense-making processes of both physical play and dance improvisation. I, therefore, press the need for further research into this domain.

Finally, physical play and dance improvisation can take on many forms, but the heart of physical play and dance improvisation is pleasure. The latter should not be underestimated. It is through fun that we can creatively explore the limits and the rules of social interaction. Fun can be seen as an affective state that reopens the playful process through the “creation of new meaningful constraints” (Di Paolo et al., 2010, p. 78). We engage in this fun part by seriously attending to the play and dance improvisation event. A serious attitude to fun is required otherwise fun becomes just a fugitive force that only superficially touches upon the sense-making process. To be self-sustaining the participants need to invest in the fun part – and they can only do that by seriously attending to it.

Through serious attending to fun, reality is inserted with new values, meanings and affects. The intensity of the investment thus shapes and modulates the experience. Playing the game requires a willingness to shape and to let oneself be shaped by the other participants and the environment – in such a way that both movement and the meaning of the movement transcends the individual. Being prepared to seriously engage in fun can thus be seen as a necessary requirement for the co-modulation and co-construction of meaning.