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CHAPTER 6

The pantomimic origins of the narrative arts

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The evolutionary study of pantomime provides important insights into the origins of the narrative arts, including visual art, theatre, and narrative forms of dance (e.g., ballet). Drawing, as a motoric activity, shows a strong resemblance to tracing pantomimes. The main difference is that drawing generates an enduring image on a surface, whereas pantomime is “drawing in the air.” The theatrical arts – including dramatic acting, mime acting, and narrative forms of dance – take a more egocentric approach to pantomime than drawing, employing full-body mimicry of the expressive actions of a referent person. Overall, iconic gesturing through pantomime provides an evolutionary foundation for all of the narrative arts. On the flip side, a consideration of the narrative arts themselves provides many new avenues for the exploration of pantomime, including shedding light on gestural models of the origins of language.

Keywords: pantomime, arts, narrative, theatre, storytelling, visual art, dance, music

Introduction

While pantomime has been used to account for the origins of language capacity (Arbib, 2012; Armstrong & Wilcox, 2007; Hewes, 1973; Tomasello, 2008), I will present some new proposals in this chapter that pantomime also provides a reasonable foundation for many of the arts, most especially the category known as the narrative arts. I will proceed in this chapter by first talking about the nature and classification of the arts. I will next discuss the nature of pantomime, as based on an account presented in Brown et al. (2019) in which we made a distinction between two categories of pantomime: egocentric and allocentric, where egocentric pantomime is done from a first-person perspective and allocentric pantomime from a third-person perspective (see also Zlatev & Andrén, 2009; and

Zlatev et al., 2020, for a similar use of first-person and third-person). I will then apply this distinction to the narrative arts in accounting for the origins of visual art, theatre, mime theatre, and narrative forms of dance, including the latter's association with music.

The narrative arts

It is interesting to point out that gestural theorists of the origins of language admonish people against conflating the evolutionary notion of pantomime with pantomime's artistic rendering in mime theatre in contemporary culture. However, it is exactly this conflation that I would like to achieve here. We need it in order to understand the "panto" aspect of pantomime. In ancient Greece, the pantomime was someone who performed all (=panto) of the characters in a drama (Hall, 2008, 2013). Hence, the concept of pantomime is about personal mimicry and character portrayal. It is an intrinsically theatrical concept. While this approach to pantomime has not been taken by gestural theorists of language origin, I will argue that they need to adopt it.

In *The Republic* (380BCE/1968), Plato classified narrative communication into the two complementary forms of *diegesis* and *mimesis*, where diegetic forms of narrative are those that are produced from the perspective of the storyteller (e.g., oral storytelling) and mimetic forms are those that proceed through an impersonation of the characters of a story, as seen in theatre (Berger, 2000; Halliwell, 2014). Diegesis involves describing characters using a narrator's voice, whereas mimesis involves describing characters using the characters' own voices, as produced by actors portraying these characters. These two manners of storytelling can be conceived of using the more common terms of *narration* and *acting*, respectively. Gestural theories of language origin have not come to terms with whether the pantomimic precursor that is posited in these models was diegetic or mimetic. Given that pantomime can be produced in both manners (see below), then we need to develop a principled understanding of this dual route to pantomime production. Were the first pantomimes third-person descriptions of objects and people, or were they first-person impersonations of people's actions (and potentially animal actions as well)? Were they perhaps a combination and/or interleaving of the two formats of pantomiming?

Figure 1 presents a classification scheme for the arts that will serve as a guide for the discussion of the arts in this chapter (Brown, 2019). The scheme is based on a classification of the arts into the two broad functional categories of the *narrative arts* and the *coordinative arts*. The narrative arts are used to tell stories, often to promote social learning through the modeling of prosocial behaviors (Boyd,

2009; Gottschall, 2012; Mar & Oatley, 2008; Scalise Sugiyama, 2017). They are comprised of both diegetic (narrated) and mimetic (acted out) forms of narrative. In contrast to this, the coordinative arts of dance and music are the arts of interpersonal coordination. They function to stimulate collective participation and synchronized action, thereby serving as a reinforcer of group affiliation, a symbol of group unity, and a promoter of social cooperation (Brown, 2000; Launay, Tarr & Dunbar, 2016; Reddish, Fischer & Bulbulia, 2013; Savage et al., 2021). Narrative forms of dance can sit in both categories.

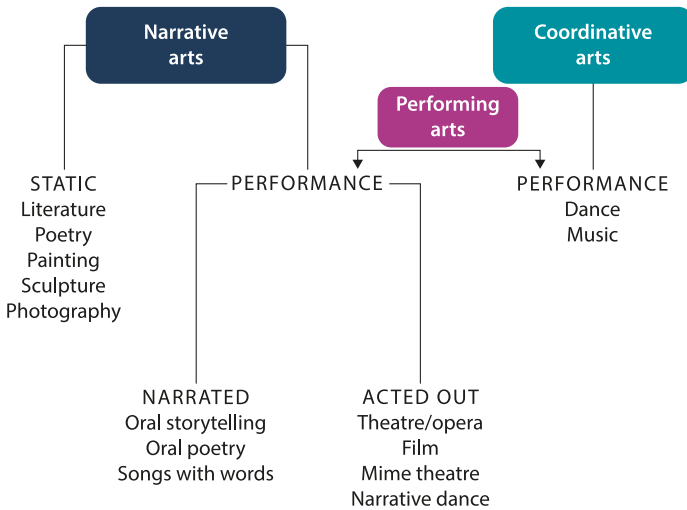


Figure 1. A classification of the arts into the narrative arts and coordinative arts. The performance-related forms of the narrative arts are divided into narrated forms (diegetic) and acted out forms (mimetic). The static forms of the narrative arts (visual art) are all diegetic. This figure is based on Brown (2019)

The nature of pantomime

Pantomime refers to iconic gesturing, typically done in the absence of speech or other forms of linguistic communication. By iconic gesturing, I mean the kind of gesturing that spatially resembles the actions and/or objects being depicted in the pantomime (Arbib, 2012; Perniss & Vigliocco, 2014). As Arbib writes, pantomime is “a performance that resembles an action of some kind and can thus evoke ideas of the action itself, an associated action, object, or event, or a combination thereof” (2012: 217). Pantomime is done for the purposes of narrative communication, most especially when speech is not available. It sits in contrast

to other kinds of behaviours, such as instrumental actions (e.g., hammering a nail) and the gesticulations that accompany speaking. Pantomimes also differ from emblems – conventionalized gestures like the “thumbs up” gesture – since they are iconic, rather than being abstract or conventionalized. According to Żywicznyński, Wacewicz, & Sibierska (2018), other salient features of pantomime beyond its iconicity include that it is improvised, non-conventionalized, holistic, and open-ended, thus having a broad semantic potential. It is also referential, or triadic (Arbib, 2012; Zlatev, 2014). While Żywicznyński, Wacewicz, & Sibierska (2018) argue that pantomime is a whole-body process (see also Zlatev, 2014), it is quite easy to think of counter-examples to this, such as when a person uses their index and middle fingers to represent somebody walking. Hence, while pantomime can indeed engage the full body, it can also employ body parts alone.

Pantomime is frequently conceptualized as a behaviour that occurs in the absence of speech (McNeill, 2005). However, nothing precludes pantomime from being done with sounding, and I would contend that much about co-speech gesturing is pantomimic, meaning that it is iconic. So the idea that pantomime and speech are mutually exclusive categories of communication seems inaccurate to me, creating a slippery slope for those gestural models of language origin that divorce vocalizing from gesturing. All that we can really say with certainty is that pantomime *can* be effective in the absence of speech. However, it can also work in combination with speech, as occurs in certain forms of co-speech gesturing. Therefore, I strongly agree with Żywicznyński et al. (2018) and Zlatev, Żywicznyński, & Wacewicz (2020) that vocalization can and should be part of the behavioural suite of pantomime.

Various classifications have been put forth to account for the forms of pantomime (Boyatzis & Watson, 1993; Overton & Jackson, 1973). My colleagues and I argued for a five-category typology in Brown et al. (2019), with a primary split between what we called “egocentric” and “allocentric” forms, as shown in Figure 2. In an egocentric pantomime, the parts of the body that are used in pantomime production preserve their identity. What is absent is the object being manipulated in a transitive action. This is typically referred to as an “imaginary object” (IO) pantomime (Boyatzis & Watson, 1993; Dick, Overton & Kovacs, 2005; Suddendorf, Fletcher-Flinn & Johnston, 1999), and is typified by the pantomiming of a tennis serve in which the dominant hand grasps an imaginary tennis racquet, and the non-dominant hand holds an imaginary tennis ball. Egocentric pantomimes, almost by definition, are *empty-handed* gestures; they symbolically convey transitivity without the presence of the manipulated object. Because egocentric pantomimes preserve the identity of the body parts that are used in the action (e.g., the hands are hands), their gesturing occurs in peripersonal space. The extreme version of an egocentric pantomime is a full-body pantomime, especially of an intransitive action, such as a pantomime of walking or swimming.

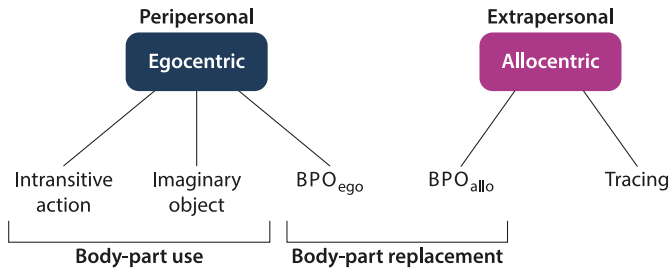


Figure 2. A classification scheme for pantomime proposed in Brown et al. (2019). Five categories of pantomime are shown, divided into egocentric and allocentric varieties. Body-part use pantomimes are egocentric, whereas body-part replacement pantomimes can be either egocentric or allocentric, depending on the space being depicted (peripersonal for BPO_{ego} and extrapersonal for BPO_{allo}). Abbreviations: allo, allocentric; BPO, body-part-as-object; ego, egocentric

In an allocentric pantomime, the parts of the body that are used for the pantomiming change their identity and come to symbolically represent an object other than the body part itself. This is generally referred to as a “body-part-as-object” (BPO) pantomime (Boyatzis & Watson, 1993; Dick et al., 2005; Suddendorf et al., 1999), and is typified in adults by the “call me” pantomime, in which a person’s hand gets formed into the shape of a telephone receiver and essentially becomes a telephone receiver from the standpoint of communication. Allocentric pantomime is thus characterized by a process of body-part *replacement*. As such, it generally occurs in extrapersonal space, rather than peripersonal space. For example, hitting the two fists together to represent two cars crashing into one another indicates an event that is far removed from peripersonal space. The exception to this is the unusual category that we called BPO_{ego}, such as running one’s fingers through one’s hair to represent a comb, hence a BPO in peripersonal space.

In Brown et al. (2019), we provided a detailed account of the various manners of performing egocentric and allocentric pantomimes with the two hands. For two-handed IO’s and BPO’s, a pantomime is said to be “double” if the two hands represent two different objects (e.g., a tennis racquet serving a tennis ball [double IO]; a pen writing on a pad [double BPO_{ego}]). A pantomime is referred to as “joint” if the two hands represent or contribute to a single object (e.g., lifting a large box [joint IO]; rain falling [joint BPO_{allo}]). Combinations of different types of pantomimes by the two hands are referred to “intra-category mixes” if both hands perform either egocentric pantomimes alone or allocentric pantomimes alone (e.g., ladling soup into a bowl [IO/BPO_{ego}, where both are egocentric]). Combinations of different categories of pantomimes by the two hands are referred

to as “inter-category mixes” if one hand performs an egocentric pantomime while the other hand performs an allocentric pantomime (e.g., pressing a launch button [IO, egocentric] to make a rocket take off [BPO_{allo}, allocentric]).

Gestural theories of language origin have not come to terms with *whether pantomime originated as an egocentric or allocentric form of gesturing at its origin*. This is an important point that needs to be clarified. In Brown et al. (2019), we proposed two contrasting evolutionary models in which either egocentric or allocentric pantomime holds evolutionary priority. In the People First model, the original pantomimes were egocentric depictions of people’s actions, including their tool-use gestures. By contrast, in the Environment First model, precedence is given to the allocentric representation of scenes and objects. I can now see that the People First model of egocentric pantomiming is mimetic, while the Environment First model of allocentric pantomiming is diegetic, although this point was not made in the original publication. As mentioned above, there are also mixed egocentric/allocentric pantomimes. In addition, a mimer can alternate between egocentric and allocentric formats in a sequential fashion. There is thus a great diversity of manners in which pantomimes can be carried out, and gestural models of language origin need to take this diversity into account.

The principal objective of the current chapter is to look beyond theories of pantomiming per se, and to apply these ideas to evolutionary theories of the arts. Figure 3 integrates the thinking of the last two sections by presenting a *pantomimic model of the origin of the narrative arts*, which will occupy the rest of this chapter. The central plank of this model is that the diegetic arts evolved from a pre-existing capacity for allocentric pantomime, whereas the mimetic arts evolved from a pre-existing capacity for egocentric pantomime. The mimetic arts themselves are broken down into formats that incorporate vocalization (dramatic theatre) and formats that tend to be mute (mime theatre and narrative dance). I use the term mute here, rather than silent, to indicate that vocalization is actively suppressed in such contexts. The remainder of the chapter will explore the origin of these various narrative artforms from a pantomimic perspective.

Diegesis: The gestural origins of visual art

Let us begin our exploration of the narrative arts from the side of diegesis. In the realm of pantomime, this would correspond with allocentric pantomiming. I want to propose that the capacity for allocentric pantomiming provided the representational basis for drawing as a human-specific activity. In order to ground this idea, I first need to describe a concept that I call “emanation.” While viewers of action-based art have to suffice with the *implicit* motion contained in still images,

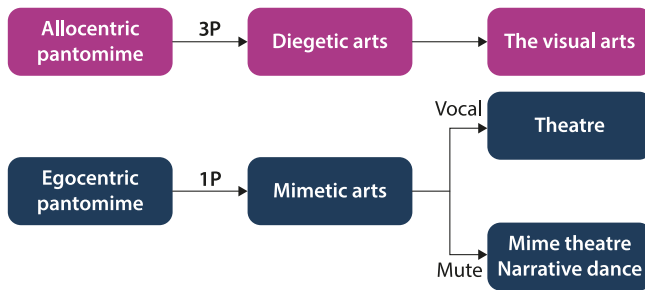


Figure 3. The pantomimic origins of the narrative arts. 1P, first-person; 3P, third-person

artists perceive *actual* motion during the creation of these artworks in terms of the unfolding of a visual image on the canvas during the course of drawing. In other words, the production of an image on a canvas creates optic flow that is perceived as visual motion by the brain of the artist (Yuan & Brown, 2014). I refer to this phenomenon of optic flow during the process of drawing as the “emanation” of an image (Brown, 2022; Yuan & Brown, 2014), since the image essentially emanates from an initially blank canvas. This is intimately related to the visual feedback that the artist receives during drawing. Although the end result of the creation of a drawing is a static product, the motoric act of drawing itself is a dynamic process, both in the sense that it requires ongoing coordination of the eyes, hands, and body, and more uniquely in that it involves the emanation of an image, in other words the progressive expansion of visible trail on a drawing surface as the motor action takes place.

Emanation is critically connected with pantomime, most especially allocentric pantomime. To think about this, imagine yourself pantomiming a rectangle by tracing out a rectangular shape in the air with your index finger. Now imagine grasping a drawing tool in your hand and drawing a rectangle on a surface. From a kinematic standpoint, these are nearly identical motor actions. However, the act of drawing lays down a trail on a surface in the form of the image of a rectangle in a way that a pantomime does not. Looking at this in reverse, pantomime is drawing without the drawing tool; it is drawing in the air. As a result, it is a type of proto-drawing or what Zlatev et al. call proto-depiction, “which given time and appropriate context could have evolved into depiction proper” (2020:164). Ekman and Friesen (1969) refer to the pantomimes of objects as “pictographs,” referencing their implicit pictorial nature. Despite this name, there are no actual pictures generated during pantomiming, since no emanation occurs. Therefore, while both drawing and pantomime are forms of re-creation, pantomime achieves this without leaving a lasting physical trace, while drawing achieves this by leaving a trail behind as the emanated image unfolds on the drawing surface. As Arnheim

pointed out, “[t]he hand that traces the shape of an animal in the air during a conversation is not far from fixating this trace in the sand or on a wall” (1974:172). I suggest that the human capacity for figurative visual art was built upon a pre-existing capacity for representational gesturing through pantomime, in particular allocentric pantomiming as a third-person diegetic device.

Figure 4 presents a neuro-evolutionary model from Brown (2022) of how visual art may have emerged in the human species and brain. The starting point of the model is the general ability to perceive complex visual forms, a capacity mediated by the ventral visual stream of the brain (the “what” pathway). The next step in the model is the transition from the general ability to use tools to the specific ability to use tools to fashion intentional marks on object surfaces, leading ultimately to visual art as we know it. I contend that the evolutionary emergence of mark-making as a novel human skill required neural changes to the motor-sensory system for emanation, including its connectivity to the motor system, such that the optic flow coming from emanation could now be used in a voluntary and intentional manner to guide drawing, serving as both a source of visual feedback during mark-making and as an indicator of the success of the intended drawing. I argue that this is the pivotal change that underlies visual art as an evolved human activity. The end result of this process for ancient humans is the realization that tool-use gestures can leave stable traces on a surface, and ultimately that these traces can become narratively and communicatively meaningful and can thus serve as images whose content can be shared with others as *static social displays*.

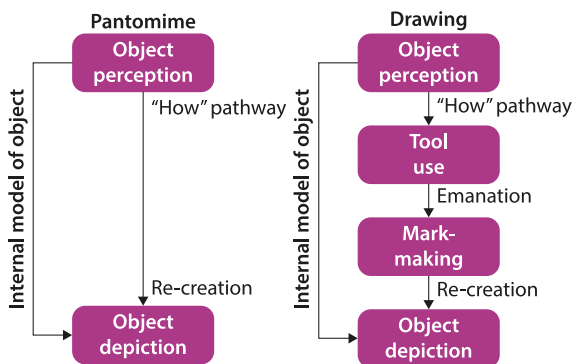


Figure 4. A gestural model of drawing origin. Drawing is seen as an evolutionary offshoot of the representational capacity of pantomime. Drawing adds the processes of tool use and marking-making through emanation onto the object-depiction capacity of pantomime. This figure is taken from Brown (2022)

The initial step in the evolution of mark-making, preceding the *de novo* creation of dedicated artworks, would have been *the modification of existing objects*, such as through the incising of marks onto the surface of stones and other objects (Beaumont & Bednarik, 2013; Bednarik, 2003; Morriss-Kay, 2010). The archaeological record is inconclusive with regards to the antiquity of this practice, with reports of the earliest modifications of existing objects occurring anywhere from 100,000 years ago (Henshilwood et al., 2011) to 500,000 years ago (Bednarik, 2003). The mark-making stage of visual art's evolution established drawing as an indexical activity by marking the recipient object as distinct or special, whether this be an environmental object or a human body. The last stage, then, is the transition from index to icon and then to symbol. This involves the emergence of *figurative* representations in visual art through the generation of iconic re-creations of environmental objects or living beings. This is clearly a late appearance in the evolution of visual art. Geometric and abstract mark-making predate figurative images/objects by tens if not hundreds of thousands of years.

Arnheim (1969) referred to iconic gestures as the “forerunners of line drawing” (p.117). I propose that the human capacity to create figurative visual art was built upon a pre-existing capacity for representational gesturing through pantomime, and that the new ability to work with visual emanation transformed this from a pantomime system into a novel drawing system during human evolution. This idea forms the foundation of my *gestural model of drawing origin* (Brown, 2022). In thinking about a pantomimic origin of drawing, it is important to consider that both pantomime and drawing can be done in three different manners: through copying of a present model (i.e., imitation), through tracing, and from memory. This provides three distinct but related routes by which figurative drawing may have evolved out of pantomimic gesturing during human evolution.

What does this analysis of visual art add to existing pantomime theories of human communication? Figure 5 is a summary figure that applies to the remainder of the chapter. Part A summarizes the contributions of visual art to a theory of pantomime. First, visual art adds the evolved human capacity for tool use (dating back 2.4 million years) and the related capacities for praxis, demonstration, teaching, and creative production that are extensively discussed in the human evolution literature (Gärdenfors, 2017; Osieurak & Reynaud, 2020; Wynn & Coolidge, 2014). Second, the emanative nature of drawing leads to a product that can endure over time, namely the generated image. Such images have the capacity to be not only private symbols, but public symbols with shared meanings. Hence, drawing leads to the origins of visual symbols, which themselves can be transmitted across generations and cultures through cultural evolution. The earliest form of figurative image in 2D dates back to 45,000 years ago (Brumm et al., 2021), as of this writing. However, pantomime, as a communication system, is no doubt far more

ancient than this. It is important to note that while pantomime is obligatorily figurative, drawn images can be abstract as well, hence devoid of explicit iconicity, for example through the use of geometric marks (Hodgson, 2006; Lewis-Williams & Dowson, 1988; Malotki & Dissanayake, 2018).

Figure 5. A summary of what the narrative arts contribute to an understanding of the nature and social functions of pantomime

A. Visual art (allocentric)

- Tool use
- Praxis, demonstration, teaching
- Creativity
- Emanation (mark-making) to generate images
- Images as enduring social displays
- Cultural evolution of visual symbols

B. Theatre (egocentric)

- Personal mimicry: proto-acting in human life
- Theatrical acting
- Multimodal communication: vocalization and gesture combined
- A unification of vocal and gestural imitation
- The origins of fictionality and pretense

C. Dance (egocentric)

- Theatricalization of pantomime
 - Ritualization of pantomimic gestures
 - Interpersonal coordination in group rituals
 - A coupling of pantomime with music and rhythm
-

Mimesis I: The theatrical arts

Having discussed the diegetic route to narrative production in visual art, I will spend the rest of the chapter discussing the mimetic arts and their proposed origin in egocentric pantomime. I will divide this into two parts. In the current section, I will discuss the theatrical arts, whereas in the next one, I will discuss mime theatre and narrative dance. This distinction is basically one between vocal (theatre) and mute (mime, dance) forms of the mimetic arts (see Figure 3). A key argument that I will make in this section is that nothing necessitates that a pantomimic theory of language origin be non-vocal and thus mute. To my mind, gestural theories of language origin have created a false dichotomy between pure gesturing and pure vocalizing, as if one process had to preclude the other. Abandoning a commitment to muteness greatly enriches the scope of gestural theories.

In the mimetic arts, a narrative can be communicated not only in the third-person by a narrator, but also in the first-person by an actor portraying a character, whether that character be real or fictional. An actor tells a story about a character by *being* that character, not by describing the character in words the way that a narrator does in folk tales and novels, or by depicting that character graphically the way that visual artists do. The gestures produced by an actor are not their own personal gestures, but instead those of the character being portrayed in the story. In Brown (2017), I proposed a new concept that I called “proto-acting” as an intermediate process between the role playing of everyday life and that of dramatic acting. Proto-acting is similar to dramatic acting, and different from everyday role playing, in that it involves character portrayal. However, such portrayal can occur in everyday contexts, as well as in stage performances. In fact, the contexts for proto-acting are quite diverse. Proto-acting is, first and foremost, a process of *personal mimicry*, often carried out in a multimodal manner using the voice, face, body posture, and body movement. It is a means of re-creating a person through an imitation of their superficial gestures and/or manner of speaking. From the standpoint of communication, it is a means of “staging” the scene being depicted in a story (Clark, 2016). While dramatic acting focuses on literary characters, proto-acting generally involves a mimicry of familiar people, such as members of one’s social circle or contemporary celebrities, such as media figures and politicians.

In the Brown et al. (2019) article about the classification and evolution of pantomime, we talked about a fundamental conundrum about the performance of egocentric pantomimes: how does a viewer know if I am miming my own actions or those of another person (or even those of an animal)?¹ In other words, how do I communicate to my recipient that I am representing my own actions vs. engaging in a process of personal mimicry through proto-acting? How do I distinguish between “I killed the bear,” “John killed the bear,” and even “The bear killed John,” since all of them can involve highly similar gestures? While there is no simple

1. Another fundamental problem about personal mimicry that was brought up in Brown et al. (2019) is about how to characterize mimicry from a pantomime perspective. At an intuitive level, mimicry seems to be a form of full-body egocentric pantomime. However, if allocentric pantomime is defined as a process of body-part replacement, then the act of impersonating another person or an animal is actually a process of full-body replacement. If I do an impersonation of a friend, then no part of my body is my own, hence violating the stipulations of an egocentric pantomime. The same is true if I impersonate a bird by flapping my arms the way that a bird would flap its wings. This is another example of full-body replacement, in this case a cross-species replacement. Zlatev et al. (2020) refer to this as a “first-person embodying” mode of pantomime, but I do not think it gets around the contradiction of how a gesture can be first-person and, at the same time, be an embodiment of some non-self entity.

solution to this self/other conundrum for egocentric pantomime, I contend that adding vocalization to the process of gesturing provides an important means of disambiguating these gestures. For example, “the bear killed John” would almost certainly be accompanied by different vocalizations than “John killed the bear.”

It is thus far better to theorize that pantomime evolved in a *multimodal* manner (Zlatev et al., 2020; Żywiczyński et al., 2018) than it is to propose that it evolved in a manner that obligatorily excluded vocalization (see also Kendon, 2014, for a perspective outside of a pantomime context). The latter does not offer any theoretical advantages, even if the motivation is to argue that pantomiming preceded full-fledged speech. As Zlatev, Wacewicz, Żywiczyński, & van de Weijer have argued: “[i]n assuming that early hominins, who had already parted evolutionary paths with (the ancestors of) chimpanzees, first communicated with whole-body pantomime, there is no reason to suppose that this would have been fully ‘silent’” (2017: 471). There are numerous ways to incorporate vocalization into the gesturing that do not require full-fledged lexico-syntactic speech. The vocalizations need only be acoustic pantomimes (e.g., the growl of a bear) or emotive vocalizations (e.g., John’s cry of terror upon being attacked) to achieve a sense of multimodality in the communication process. Clark’s (2016) staging theory provides a rich repertoire of “sound effects” that can accompany communicative gesturing that do not require speech. Overall, I believe that making the primordial pantomime system multimodal, rather than mute, aids recipients in identifying if an egocentric mime is a depiction of the mimer’s own actions or those of another person (or animal). While the game of Charades imposes specific rules about muteness onto its players, human evolution requires no such constraints.

While a muteness requirement offers no theoretical advantage to a pantomime theory of language origin, a multimodal theory does provide a key advantage. It permits a unification of the two novel human-specific means of producing imitation, namely vocal imitation and gestural imitation. These capacities are discussed in completely separate literatures, and yet the phenomenon of personal mimicry through proto-acting provides a means of unifying these two imitative capacities into a single newly-evolved behaviour. I argued in Brown (2017) that the personal mimicry of proto-acting was underlain evolutionarily by the capacity for full-body (egocentric) pantomime, but that it supplemented this with vocal mimicry as well.

The mimetic arts not only shed light on the nature of pantomime, but provide additional insight into the origins of pretense and fictionality in the human species. Personal mimicry through proto-acting serves as the most fundamental mechanism of someone pretending to be a person who they are not, as seen universally in the pretend play of children, another important form of proto-acting. In fact, one could not imagine the emergence of theatre in human cultures with-

out the pretend play of children. The phenomenon of pretense reflects the unlimited ability of people's imaginations to produce simulations of possible scenarios and characters. Importantly, the pretense of the theatrical arts is a socially sanctioned form of impersonation. Viewers appreciate the skilfulness that actors bring to their portrayal of fictional characters. However, there are also non-sanctioned forms of character portrayal that involve deception and false impersonation, such as when people act as imposters of others (Goffman, 1959).

Figure 5B summarizes what theatre contributes to the study of pantomime. This includes the basic egocentric process of personal mimicry through proto-acting. It also includes the human cultural phenomenon of theatre. Compared to mute gestural models of language origin, theatre adds a multimodal component to communication by combining vocalization and gesturing into a single communicative behaviour. This provides an important unification of vocal and gestural imitation as the two novel imitative capacities that evolved in humans. In addition, we see the origin of human-specific cognitive functions like pretense and fictionality. As a final point, I would say that our capacity for personal mimicry is not restricted to explicit acts of communication through proto-acting, but also to our implicit ability to imitate the actions of others around us. Cultural evolutionists point out that humans have a strong "conformist bias" (Boyd & Henrich, 1998; Boyd & Richerson, 1985; Legare & Nielsen, 2015; Mesoudi & Lycett, 2009; Sternberg & Lubart, 1995) and that this is underlain by our ability to imitate the actions of the majority and to follow the pack.

Mimesis II: Mime theatre and narrative dance

In addition to mimetic artforms that are vocal, there are those that are mute by convention. Mime theatre is a clear example of this. The artform of pantomime dates back to the ancient Greeks. The word pantomime contains two roots. The "mime" part refers to the well-known process of personal mimicry, or what I have called proto-acting. However, the "panto" part of pantomime is far less familiar to most people. The root "panto," like "pan," refers to the concept of all or every. The pantomime got its name from the fact that they portrayed *all of the characters* in a story, rather than just one (Hall, 2008, 2013), effected through the use of multiple masks. Ancient Greek theatre had its origins in the performances of single actors, typically interacting with a chorus (Storm, 2016). The great playwright Aeschylus is credited with the innovation of adding a second actor to the cast, where each actor performed a different character. The pantomime, by contrast, was someone who performed all of the characters, rather than just one. I mentioned earlier in the chapter that gestural theorists of language origin admonish people against

confusing pantomime with mime theatre, but it is important to recognize that mime theatre is a *theatricalization* of pantomime, and that it serves as a unique form of the narrative arts. In fact, the ancient pantomime's craft was truly a "total work of art," integrating storytelling, poetry, theatre, dance, music (both sung and instrumental), and visual implements such as costumes, make-up, and masks.

Pantomime in the modern sense is characterized as being not just a mute form of gesturing, but an *empty-handed* form as well, most especially in the performance of transitive actions. In order to pantomime a tennis serve, one holds an imaginary tennis racquet in one hand and an imaginary ball in the other. If one held an actual tennis racquet and ball in one's hands in order to demonstrate a serve to someone, then this would not be called a pantomime. Mime theatre abides by the joint requirements for muteness and empty-handedness. Performances typically take place as a series of vignettes. The actions are a combination of transitive actions (e.g., holding imaginary objects) and intransitive actions (e.g., walking, climbing). Mime theatre is susceptible to the same self/other conundrum about pantomime mentioned in the previous section. It is not always clear who the mime actor is portraying. The mime has his/her mime persona – complete with the traditional white-face make-up and costumes of a mime actor – but it is not always easy to tell when the mimer is departing from this persona to depict another person.

Let us now consider the other major form of mute pantomiming, namely the kind that occurs in narrative forms of dance, such as ballet. The history of the ancient pantomime is strongly linked with dance, as the pantomime was considered to be first and foremost a dancer (Hall, 2013; Żywicznyński et al., 2018). It needs to be stated upfront that many forms of dance are not narrative, but are instead comprised of abstract movement patterns. In addition, many of the movements performed by a narrative dancer are not pantomimic, but are either expressive or are part of the conventionalized "language" of the dance, for example ballet's lexicon of 200 or so basic movement patterns (Foster, 1986). Iconic gesturing of the pantomimic type is only one type of movement and gesturing that a narrative dancer performs. While narrative dances are similar to mime theatre in being a theatricalization of pantomime, they show far more similarities to standard theatre than they do to mime theatre, since they tend to have ensemble casts, dramatic scenarios, costumes, and props. The ballet *Romeo and Juliet* has just as large a cast as the theatrical version. A sword fight in the ballet uses swords, whereas a sword fight in a mime vignette would only ever be empty-handed, and might only depict one of the two duellers. So, dance dramas really are danced dramas. They substitute the speaking with expressive and often times pantomimic gesturing, accompanied by a musical score congruent with the emotions depicted in the drama.

One important feature that narrative dance adds to a theory of pantomime is *ritualization*.² If one looks at the narrative dances of indigenous cultures, one sees that the movements are often times ritualizations of everyday instrumental actions. For example, in some forms of traditional West African dancing, the wrist gestures of the dancers are choreographic representations of the hand actions that are used to spread seeds onto the ground in everyday agricultural behaviours. These actions tend to be repeated in a rhythmic manner. This rhythmicity allows the gestures to be performed by multiple dancers in a coordinated manner, since many indigenous dances are group dances. Dissanayake (2009, 2013, 2018a, 2018b) devised the term “artification” to refer to this transformation of ordinary behaviours into an artistic and aesthetic form. Narrative dances in many traditional cultures are indeed artifications of everyday instrumental behaviours that become ritualized and performed in a rhythmic manner. This applies not only to human actions but to those of animals as well, as animal dances are quite prevalent throughout the world (Sachs, 1937). For example, the Huli people of the Southern Highland region of Papua New Guinea perform a group dance that is mimetic of a local bird of paradise (Knauff, 1985). The dancers – donned in regalia and body paint that make them resemble the bird – engage in pantomimic dance movements that iconically resemble the bird’s movement style. Moreover, they vocalize musically like the featured bird while dancing, and coordinate their vocalizations into a synchronous chorus, one that is perfectly matched to the rhythm of the dance movements. This is yet another example of pantomimic gesturing that is accompanied by non-linguistic vocalizing in an integrated communicative behaviour.

This discussion of rhythm in dance highlights another unique feature of dance as an expression of pantomime, namely the inclusion of music. The relationship between dance and music – i.e., the choreomusical relationship – is a highly complex one (Hanna, 1982; Hodgins, 1992; Jordan, 2011; Mason, 2012). Historical accounts tell us that music was an intrinsic part of the performance of pantomimes in ancient Greece (Hall, 2008, 2013). However, while the pantomime’s performance was accompanied by music, it is not clear if the mime’s movements were done *to* the music. This contrasts with traditional African dancing and modern-day ballet, where the movements of the dancers are typically entrained to the beat of the music. When Romeo and Tybalt engage in a sword fight in the ballet version of *Romeo and Juliet*, the clank of their swords is choreographed to occur according to the beats in Prokofiev’s musical score for the ballet. The music, separate from its rhythmic properties alone, is generally a critical ingredient in the narrative of the dance drama, one that works to amplify the emotions conveyed in the story.

2. The discussion of ritualization in this section might have relevance to Arbib’s (2012) notion of “ontogenetic ritualization” for the evolution of gestural symbols.

The killing of Tybalt by Romeo is manifested not only by the dancer's pantomimic depiction of Tybalt dying, but by the tragic emotional music that Prokofiev composed to accompany this scene. Space limitations prevent me from getting into a discussion of the origins of music itself (see Brown, 2022; as well as Filippi, 2016; Fitch, 2013; and Mithen, 2005). However, I simply point out here that a consideration of narrative dance adds music and rhythmicity to the overall picture of pantomimic gesturing.

Figure 5C summarizes what mime theatre and narrative dance contribute to a theory of pantomime. This includes both a theatricalization and ritualization of pantomimic gestures, a sense of interpersonal coordination in group dances, and a coupling of pantomimic gesturing to music, where music enhances the narrative features of the gestural depiction in an emotionally-congruent manner, thereby creating an audiovisual intensification of the conveyed emotions.

Conclusions

I have argued in this chapter that the ancestral human capacity for pantomimic gesturing provides a reasonable foundation for the narrative arts, both their diegetic and mimetic formats. I proposed that the diegetic-*vs.*-mimetic contrast for narrative communication maps onto the contrast between allocentric and egocentric pantomime, respectively. Gestural models of language origin have not broached the issue of whether the ancestral state of pantomime was diegetic (third-person) or mimetic (first-person). However, one thing that many gestural models assume is that pantomime originated as a mute activity, since gestural models are presented as counterproposals to vocal models of the origins of language. I have taken issue with this muteness assumption by proposing that proto-acting was a joint vocal/gestural precursor state of egocentric pantomime. This proposal not only makes the behaviour more naturalistic from an ecological perspective, but also provides a basis for coupling the emergences of vocal imitation and gestural imitation into a joint communicative behaviour during human evolution.

With regard to the mimetic arts, I distinguished the vocal form of theatrical acting from mute forms, such as mime theatre. The latter category includes narrative forms of dance, which themselves are quite pantomimic. Many forms of narrative dance in indigenous cultures are pantomimes of everyday instrumental actions (such as agricultural behaviours) or animal movement patterns. Hence, dance provides a view of pantomime that is ritualized in addition to being theatricalized. A consideration of the evolutionary origins of dance allows for a coupling of pantomime with music. Music becomes an extra-pantomimic acoustic factor that reinforces the narrative signification of the gesture, not least its emo-

tional meaning. Figure 5 provided an overall summary of what the arts – most especially the narrative arts – contribute to an understanding of pantomime. The list is quite extensive. I believe that a consideration of the narrative arts can open up many new directions of inquiry into the nature and social functions of pantomime, not least to gestural models of the origins of language. But in some sense, this is nothing more than history repeating itself, as the pantomime theatre of the ancient Greeks and Romans was a highly integrative activity, combining all of the branches of the arts into a single performance ritual.

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