

Interaction, Narrative and Animation in Live Theatre

Andrew Bluff
University of Technology
Sydney

Andrew Johnston
University of Technology
Sydney

David Clarkson
Stalker Theatre

Editors:
Bruce Campbell
bcampbel01@risd.edu

Francesca Samsel
figs@cat.utexas.edu

Before embarking on their most ambitious project to date, a cosmically-themed participatory theatre event with interactive 3D visuals housed inside a bespoke dome structure, the interactive artists Andrew Johnston and Andrew Bluff joined the director of Stalker Theatre, David Clarkson in a round-table discussion. They reflected on what it was like to combine physical performance with interactive graphics in a children's theatre show and discussed how the 360° format might be used to explore the cosmos in their upcoming *Big Skies* production.

In 2010, two interactive digital artists/researchers at the University of Technology Sydney teamed up with a physical theatre company, Stalker Theatre, to create an interactive dance work titled *Encoded*. The collaboration has been ongoing since then, producing a number of works—the most recent of which are two complementary performance works for children: a physical theatre show, *Creature* (<https://vimeo.com/199996091>), and an interactive installation, *Creature Interactions* (<https://vimeo.com/175791648>). Both were inspired by Ethel C. Pedley's classic Australian children's novel, *Dot and the Kangaroo*, in which a young girl becomes lost in the Australian bush. She befriends a mother kangaroo and, after eating some magical berries, the two share a fantastical journey, during which the little girl talks to a number of native Australian animals and learns of our negative impact on the natural environment. Both the theatre show and the interactive installation explored the ecological themes and narrative of the novel and featured large-scale interactive visuals that responded to physical movement. The theatre show was presented in a relatively standard proscenium arch theatrical format, with the nine-meter high interactive projections occurring behind the stage. The participatory installation was presented with 360° interactive visuals surrounding the audience, and has been shown in both 2D and stereoscopic 3D.

AB: Let's start by discussing the evolution of our collaboration from our first use of particle-based fluid simulations, through to the integration of more complex graphical systems and the leap into more literal graphic representation.

DC: We played around with abstract graphics for a couple of years and that worked really well with a dance narrative. Dance is abstract. Dance can be literal, but the form is an abstract form. Theatre has many different forms, but if you look at the origins of theatre, narrative structure and story have always been fairly integral. People expect a story from a theatre production, and so a more literal visual helps to generate that narrative. We understood and worked with abstract dance and interactive visuals and came to ask, “Ok, we’ve done that... now what’s the next challenge?” The answer led us to pursue realism through literal graphics of objects, or items, or characters, or creatures, or bushland and utilize that to tell the story.

AB: I can see our earlier works as being more of an exploration of what we can do with interactivity and what we can do with graphics. *Creature*, on the other hand, was very much like “Now that we have our techniques, how can we use these techniques to serve a story?” It’s like we’ve been developing one show across many shows—evolving the process.

DC: Yes, and in a traditional theatre sense it’s all about the palettes. First you create your palettes, and then construct your show from that. I’ve come from a physical theatre background and often it’s, “Oh, we’ve got a catapult... what can we do on a catapult... We can do ten things... How can I make these ten things fit a narrative flow?” Whereas a traditional dramaturg will ask, “What is the story and what tools should we use to serve the story?” And it’s quite good to have both ways of operating because it creates a dynamic tension. Form vs. function—does form follow narrative or does narrative follow form?

I think, in that way, you need to take the audience on a journey. One of the telltale moments for me was in the story’s transition into the berries of understanding [a pivotal moment in *Creature*, where the little girl eats some magical berries and can understand nature and talk to the animals around her]. The transition was a little abrupt and we needed to spell it out a bit more. What we did was to introduce the old *Encoded* black and white fluid simulation particles, which actually allowed a transition from abstract to narrative (see Figure 1). People got what they were seeing, whereas if you just leap into an understanding... it’s not necessarily what the audience understands in regard to the natural evolution.

DC: The interactive visuals quite effectively depicted the magic of this transformation, but how meaningful to the actors is the interactivity? It always feels a lot more meaningful at the beginning and then they are just actors at the end.

AB: Yeah, there is definitely a natural progression that we’ve noticed. When you first introduce the interactive technology it’s about improvising and playing with things to see what works best, and then as a production comes together, we progress to a more choreographed state. Do we feel like that is a problem or just a natural progression of how theatre is made?

AJ: It’s not a problem, but I think that live interactivity and improvisation is something that could be dialed up more in performance. There is something compelling about watching someone in the moment really juggle or grapple with something—or discover something. It’s a rich conversation and you are witnessing that conversation. I think you really get the sense of that. Sometimes people say they can’t tell if something is interactive or not, but they can—deep down they can tell.



Figure 1. The evolution from black and white particles depict the “berries of understanding” in the performance of *Creature Interactions*. Photo: Darren Thomas © Stalker Theatre (Used with permission.)

DC: In the video of *Creature Interactions*, there’s a moment when the girl runs and it’s so clear that she is not running to catch up with a pre-rendered graphic, but that they are dancing together. They are playing—she’s playing with it. There were a number of times that I saw people go, “Awww, look at this,” at that moment when there is a unity between the system and the participants. So, I think it is the ability of the interactivity, whether that is for participant or actor to generate, that somehow creates a new layer of meaning.

DC: And of course, interactivity with the fluid simulation is a form of abstraction. You are abstracting the figures and what was interesting for me in particular was the interactive broлга visuals. The brolgas are still the brolgas but they kind of do a fuzzy little dance (see Figure 2). I wonder if that subtle interaction is a bit ‘mickey-mouse,’ or is it meaningful as an interactive moment? Is it generating a new player in the room, a new meaning in the content, or could it be done just as easily with someone blurring the graphics. Is the interaction truly meaningful?



Figure 2. The Brolga dance. Photo: Darren Thomas © Stalker Theatre (Used with permission.)

AJ: I think the interactivity helped to break the barrier between the screen and the stage: the fact that people’s movement caused the graphics to move—even just a little bit. It was subtle, but you could see that it was their movements causing that shimmer. That helped to put them in the same place—the same environment as the projections.

AB: It definitely helped to immerse them in the same world—to place them in that digital world, to become one cohesive storytelling environment. But in *Creature*, we did still have three elements of visuals: for the semi-realistic landscapes (or background), the semi-literal interactive characters (line drawings) that would move in response to the actors’ movements, and the actors themselves. For the most part, the elements were separate and layered. It was a realistic background with a performative interactive element on top. For a few of the moments, we started to make the interactive stuff reveal the pre-rendered and started to blend them together. The brolgas and the berries of understanding did that a little bit, because of the shimmer onto the background—real-time blending between interactive and pre-rendered layers. I’m quite interested in how we can further incorporate the beauty of pre-rendered visuals with the abstractness of interaction. Do you have any reflection on how it was to aesthetically compose with all of these different elements?

DC: That’s the great mystery of what happens on stage, ha ha. It’s very much the team coming together—each line specializing in their own field and then it’s my job to talk to each of those lines and hopefully bring them together holistically.

AB: I noticed that you paired back the colorful bush landscape visuals at the start of the show until Dot went on this magical transformative journey and started to understand the bush and the

animals. I think you used the introduction of color graphics as a storytelling device quite intelligently, but I also noticed that you could more easily compose the performers with the graphics at the beginning because there was more blank space.

DC: That's probably an aesthetic choice, because I'm a bit of a minimalist. Less is always more in theatre (see Figure 3). And again it's about building the palette. If you have an ability to have a single actor on stage and they are carrying that without anything else... fantastic. One of the profound meanings of theatre is a human alone—'naked' if you like. But the world can also be a cacophony, so these are both options that I have when building a palette.

AB: You mentioned the human aspect of theatre and I think that's something that Stalker Theatre is very strong with—not letting the visuals dominate the humans. Could you elaborate on how you design for that?

AJ: I think that using physics in the interactive graphics is a key part of this. There is something primal about interacting with water and basic physical objects that goes back to our earliest childhood. This can help reduce the dominating tendency that large projections can have if they only play prerecorded material.

DC: From a theatrical perspective, it is also important to have moments in the work where there is pause and ability for reflection. In *Macbeth* or *Hamlet*, there are moments where you go, "Oh my God, what are they going through?" You feel the starkness of the human alone in the world around them. It's just those moments. In *Creature*, there is a little girl lost in the bush and there is wonder and beauty in that.



Figure 3. The minimal aesthetic of the “kookaburra and the snake.” Photo: Darren Thomas
© Stalker Theatre (Used with permission.)

DC: But then, perhaps at times my work gets too hypnotic and too repetitive. So you need a mix between excitement, narrative driven story-line, and then space where the human actually reflects on their place in the universe. The Stalker mission statement is “to create or reflect on meaningful experiences in the human condition.” I think that's always important in a work—that there is a space for reflection.

With film, the space for reflection is more difficult to find. There's a 30-second to one-minute burn for each image that you present—"Seen it, oh wow, seen it, seen it. OK, we've got to move on now." That's just the nature of an increasing visually stimulated culture where edit points become increasingly shorter and shorter. As a theatre artist you actually have the freedom to move away from that increase, because you've got this history of a form that goes back thousands of years. It actually has access to a different type of space. I think media is calling for that space, even if it's a subconscious calling. That's why with the introduction of virtual reality or a 360° screen environment, people are starting to ask, "Who do we work with to make sense of this?"

AB: Yes, I have heard from many different virtual reality filmmakers that they are looking more toward theatrical experts to help craft their experience.

DC: There needs to be another type of space available to us in virtual reality, and that is a humanized space—a space that is a contemplative, reflective, playful, rhythmic, and has a range of tempos available to it. The huge step for me is how you tell a narrative, or how do you take people on a theatrical journey in a 360° space?

AB: Yes, so with our next project, *Big Skies*, we plan on taking the nuanced performing and storytelling aspects of *Creature*, the theatre show, and combining it with the participatory nature and 360° format of *Creature Interactions*. The 360° format is both exciting and incredibly problematic for theatre. "How do we solve staging? Where should the audience be looking? Do we want the audience to have some autonomy in certain parts? ... How do we craft that audience engagement?"

DC: I go back to my street theatre roots where I was telling a story in the street and the audience was all around me. I'm used to those open environments. You can still have a frontal presentation but somehow it is a larger space that you are dealing with. With the dome, we will have the ability to create a virtual street—a virtual space in 360 degrees. So I feel like I know some of the ingredients, but it is new territory for everyone. VR is new territory and immersive space is a new territory, and it's great to be figuring our way into it.

AJ: The 360° format might help the interactivity a bit as well. If the projections are all around, and you are wandering around as a performer, you would be able to see those projections much more than you would when you are on stage—and therefore interact and engage more effectively. You wouldn't have lights and things in your eyes.

AB: Yes, that has been a bit of a shortcoming in our interactive theatre works to date—the actors are facing the audience with lights in their eyes and their back to the projections. It is very difficult to do meaningful interaction with that setup, so I think the 360 format at least gives the performers an excuse not to face the audience directly, because the audience is all around them.

DC: The way I was thinking about it, there will be times when the audience is on one side, and times when the audience is all around. Again, it's like building a palette where there are ten possibilities of audience positioning that we can shift during the show.

DC: It's the same with the 3D technology, I would suggest that we save the 3D interactivity for the salient moments. You don't have it throughout the entire production. You go through lots of flat rendered stuff and at the right moment, something 3D appears inside the audience space. Once you establish that, you can expand it out past the physical space of the dome and into the infinite. It's the sophistication of a graphic interactive narrative journey that has presentation stages.

AB: What I am personally excited about with *Big Skies* is the marriage of two things that I love. The first is the ability to be transported to another world, another space, which is what traditional theatre does and of course what virtual reality does really well. The second thing, which is what we got out of *Creature Interactions*, was an amazing shared experience. The audience was there together and they were experiencing it together. They were watching each other interact, which was the opposite of isolating—it was incredibly inclusive. I think that theatre inside a 3D dome will have the ability to transport people into a fantastical world and journey, but bring them there together. You get more out of it if you are experiencing it together.

DC: *Big Skies* is a journey of place, of land, of abstraction, of participation and of course the cosmos. The trick will be then bringing that larger journey into the human or personal scale. We have a real person in front of us, but we can also digitally reproduce them—abstracting their atoms and blowing them apart and bring them together. It's like the journey of creation and destruction, it's the eternal cycle of life of the universe that we can bring into this new type of playspace.

AB: It will be great to play with these scales. In this new virtual world, we can be human-sized, sub-atomic or we can also be “god-like,” viewing the entire universe from the outside. But how we actually craft this journey to infinity... who knows?

DC: That's the excitement and also the terror of this new form. We are jumping into something we don't know how to craft yet. Existence is creating and destroying itself continuously, and hopefully we can show these multi-layers of reality while also keeping it grounded. You can see the profundity of place via these media forms where you can play with the illusion of reality. As an artist, you need to make a living, but if you can be ground breaking and explore new territories then that is hopefully the meaning that you can contribute to society.

Creature and *Creature Interactions* debuted in Queensland Performing Arts Centre and the Sydney Opera House in 2016, and is currently touring regional Australia. *Big Skies* is scheduled for premiere in early 2019.

ABOUT THE AUTHORS

Andrew Bluff is a digital artist and researcher at the University of Technology Sydney where he recently received his PhD in Interactive Art. His research interests include immersive visuals, spatialized sound and interactive technology for live performance. Contact him at andrew.bluff@uts.edu.au.

Andrew Johnston is an associate professor at the University of Technology Sydney (UTS). He received his PhD in Interaction Design from UTS. His research interests include interaction design for live performance and the relationships between performing artists and the various technologies they use. Contact him at andrew.johnston@uts.edu.au.

David Clarkson is the artistic director at Stalker Theatre. In 2015 he was awarded the Art and Technology Fellowship in New South Wales, Australia for his work researching the interface of technology and theatre practice. His artistic interests are many but currently focus on the use of live performance in 360 degree interactive environments. Contact him at david@stalker.com.au

Contact department editor Bruce Campbell at bcampbel01@risd.edu or department editor Francesca Samsel at figs@cat.utexas.edu.