PROCEEDINGS OF THE PERFORMING SPACE 2023 CONFERENCE

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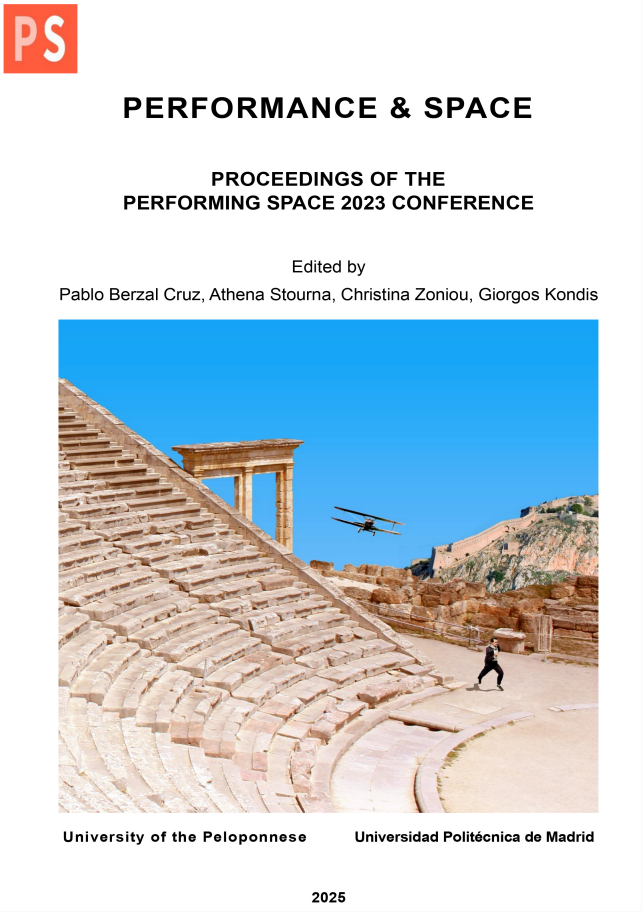

Adrien M & Claire B's Design Strategies for an Interactive Digital Space

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Abstract

Contemporary digital technology is shaping a new form of spatiality. The interactive space, proposed by Adrien M & Claire B, offers an escape from contemporary uncertainty by displaying that interactivity can be a legitimate and autonomous contemporary aesthetic pursuit. AM&CB's creations, which respond dynamically to body movements in real-time, encourage dialogue between the body, digital projections, and space. This interactive spatiality also reflects a contemporary conception of space as a relational entity that no longer dominates over the body but rather can be inhabited by it.

Adrien M & Claire B's designs initially isolate the viewer from everyday reality, creating an environment that negates external stimuli and establishes internal logic based on visual principles. They employ a metalanguage of simulation and the representation of digital elements to captivate the audience. All this culminates in a spectacle that distorts, transforms, or even deletes the previously created virtual space. The transmission of emotional information and spatial perceptions occurs through a visual language combining gestures, dance, and digital elements.

Keywords: Adrien M & Claire B, digital, interaction, spatiality, body.

Digital Interactive Space

Digital technologies are changing how individuals engage with the space that surrounds us – both physically and virtually. Furthermore, the digital revolution is transforming the foundations of contemporary aesthetics. Through the reinterpretation and recontextualization of pre-existing information –including text and images– the digital medium helps the creation of new images and meanings. The term "simulations" is shedding its negative postmodern connotations and is increasingly becoming a familiar concept. Another aspect of the digital era is the potential for interaction with non-human entities. From an aesthetic perspective, this may

be one of the most expressive resources in the *Society of Spectacle* (Debord, 1984) and visual culture (Darley, 2000; Mitchell, 2005). It is the case that, in our contemporary Western society, interaction seems to have developed as a genuine aesthetic ambition.

With all of this in mind, we can hypothesise that interactive space is more than a multimedia scene (Paul, 2003). It is a new spatiality. This is because interactive spatialities introduce a shift in the relationship between the individual and space. Traditionally, we have accepted the concept that human bodies exist *within a* space (Van de Ven, 1987). However, due to recent developments in the visual arts, this idea is no longer the only possibility. In a post-metaphysical era –as Vattimo (1991) would say–, digital spatialities allow for a more horizontal and relational connection between space and bodies. Interaction means engaging in a dialogue. It implies that when an action is performed, there is also a response at the other end. When applied to a spatial environment, this dialogue requires a physical materialisation. It must take the form of a visual message and therefore requires its own code and language.

All of this is perfectly exemplified through the creations of the Adrien M & Claire B Theatre Company, founded in France in 2011 by Adrien Mondot and Claire Bardainne. Their artistic creation revolves around a digital, interactive, and simulated space, conveyed primarily through the movement of the bodies –dance– as the medium of communication (Dixon, 2007). It is essential to note that the proposed interactivity is authentic. The digital projections interact in real time with the movements of the performers. This feature is significant as it provides a fluid and perceived accuracy, and, in doing so, the simulated environment feels authentic. By analysing Adrien M & Claire B's entire production –so far, ten scenographies and nine art installations– their design strategy can be summarised in three phases. First, there is the need to abstract from reality; this strategy serves to cope with the context. Secondly, a new visual code is implemented; the new digital universe needs a model of relationship between body and space. Thirdly, on extremely specific -and intense- occasions, the virtual world that has been established is surpassed, broken; such occasions are the climax of the spectacle, instances of true fascination and amazement.

Abstraction from Reality

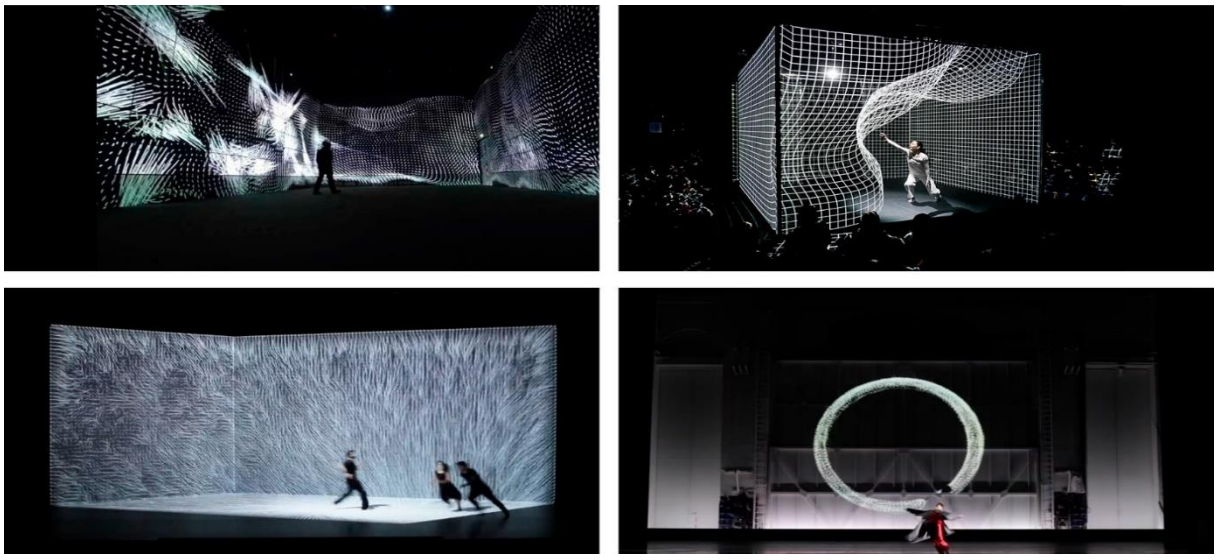
In most of their proposals, the container in which the event takes place (the architectural space) has a single purpose: to function as a barrier to the outside reality. To establish a physical boundary for this new space appears to be crucial. A controlled environment is essential for the digital interactive space to be fully deployed. Apart from this, the architectural container is as meaningless as the outside world. When the audience is confronted with these spectacles, the only spatiality acknowledged is the simulation; everything else is negated.

Adrien M & Claire B seek total abstraction when working in a room or a theatre. They first darken all surfaces and avoid objects or decorations that might contextualise the scene. The result is a clear sense of emptiness, essential for the realization of their complex projections. In fact, on those occasions when it is not possible to dematerialize the architecture (either because it is impossible to hide the structural reality or because it is impractical to apply a black surface), the immersiveness of the space is reduced.

The most straightforward method to achieve immersion is to associate the proposed new spatiality with the entirety of the place where it is found. For example, this approach used to create *Core* (2020) (Figure 1.1). However, other shows prove that this kind of directness is not necessary. It is enough to create an interior space as long as it is clearly delimited. An example of this is the production of the new cubic space built with four digital walls (translucent screens onto which projections can be made), such as the one exhibited in *Hakanaï* (2013) (Figure 1.2). An alternative definition of space can be achieved through a trihedron, which offers greater spatial dynamism and opens new possibilities for the interaction between body, projection, and space. This approach is exemplified in *The Movement of Air* (2015) (Figure 1.3). In order to create a new space within an existing one, the stage backdrop remains the most essential and conventional method. In *Scary Beauty* (2017) (Figure1.4), a translucent screen is used which becomes opaque or transparent depending on the projections and the degree of illumination of the architectural space behind it. Although essential, this spatial configuration allows for the creation of depth, thus increasing the possibilities for interaction.

Figure 1

Adrien M & Claire B. 1.1 (top left): Core *(2020), 1.2 (top right):* Hakanaï *(2013), 1.3 (bottom left):* The movement of air *(2015), 1.4 (bottom right):* Scary Beauty *(2017). Source: AM&CB.*



In other instances –and only valid for art installations– to achieve this "abstraction from reality," they use the strategy known as "virtual" or "augmenting reality" (Thurow, 2017). They add digital and three-dimensional elements to the space we already inhabit. In these cases, reality coexists with simulation in the same space, but, contrary to what intuition would suggest, this is actually a very restricted form of interactivity. The interaction does not feel fluid in any case –and this is a key condition– because it is mediated. A device is needed to perceive the transformed spatiality: a mobile phone or a screen of any kind. The success of augmented reality strategies relies on the technical fascination they produce, but that is usually all. The most important possibility of this strategy is that it allows working in a pre-existing context, but, unfortunately, it does not seem that Adrien M & Claire B are particularly interested in exploring that.

A New Visual Code

The interaction proposed by Adrien M & Claire B is authentic (Figueras-Ferrer, 2021). They employ real-time detection and recognition technology to adapt the digital animations to the performance. It is not a trick, neither a choreographed action that precisely synchronises dance, music, and visual projections. Rather, it is a projected virtual space that instantly adjusts to the movements of the performer. This brings a precision that is perceived, turning the interactive space into a universe that feels real.

The fluidity and veracity of the interaction are fundamental conditions for the immersion of the spectator. We must add music and ambient sound, which are equally important to achieve an immersive atmosphere. The combination of all this prevents the audience from being on the lookout for the flaw that dismantles the deception. Their focus is on deciphering the laws that govern this new visual reality. The spectators, once abstracted from their physical reality, need to find a logic that gives order to the simulated universe in front of them. In Adrien M & Claire B's creations, these will be visual laws (Charlet, 2015).

To elaborate on this point, we will take as an example the work of art *Pixel* (2014). Although it is early in their career, they already employ this visual language based on interaction and fascination. The scenography features a basic dihedral spatial disposition and several digital projections. The space is defined by a floor and a screen – which define the extension and limit the backdrop. The texture of the screen allows it to become transparent according to the light and the digital projections. This resource makes it possible for the actor to situate himself behind this veiling, an ability which, as we shall see, proves to be fundamental. The space, defined by the floor and the wall, serves as the basis for achieving three modes of interactive dialogue, three visual principles:

The Virtual Space Reacts to the Body

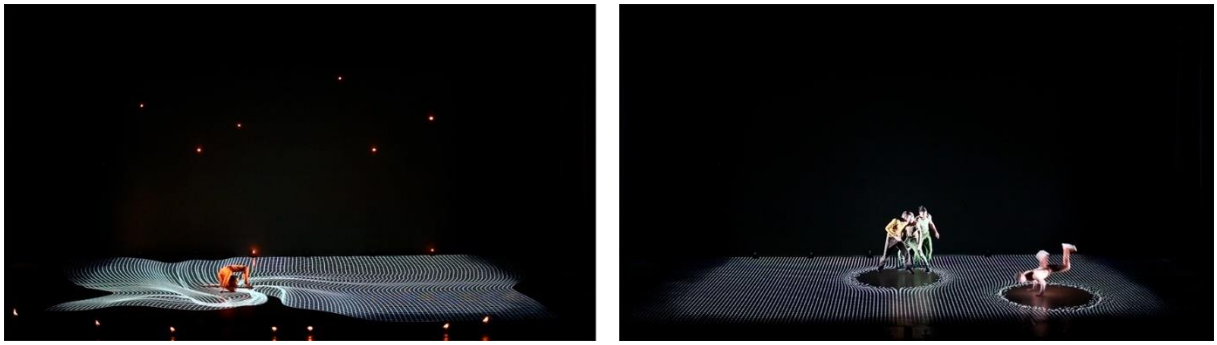
In a digital interactive space, all actions performed by the body will receive a response from the digital projection. The virtual shapes are transformed, sometimes even deformed. However, it is never seen as an aggressive imposition. On the contrary, the process unfolds with hypnotic calm and slowness. The aesthetic aspiration of this interaction is to provoke the fascination of being listened to by an entity – a simulated universe that acts as a living being. This experience encourages engagement, prompting the user to remain immersed in the environment and explore the multiple possible responses to their actions.

In this first modality (Figure 2), the relationship between the body and the digital is on the same level. Both elements recognise the presence of the other and set up a connection, but neither of them tries to take over the other. Projections are responsible for shaping the space and create its limits. Representations of two-dimensional patterns are used, which give dimension to the space and, at the same time, keep it abstracted from all contexts. The projection proposes a spatiality that is recognised as a *container*. Therefore, if the digital forms handle setting an external limit, then the body will be placed "inside."

This concept forms the basis of every interactive space created by Adrien M & Claire B (Charlet, 2015). Their aesthetic approach is based on this rule, regardless of whether it is a stage production or an art installation. Although it may be considered basic, it sets the tone for a playful and peaceful dialogue environment. There are no grandiose gestures, but still, the simulation achieves a serene immersion of the body.

Figure 2

Adrien M & Claire B. Pixel *(2014). Source: AM&CB*



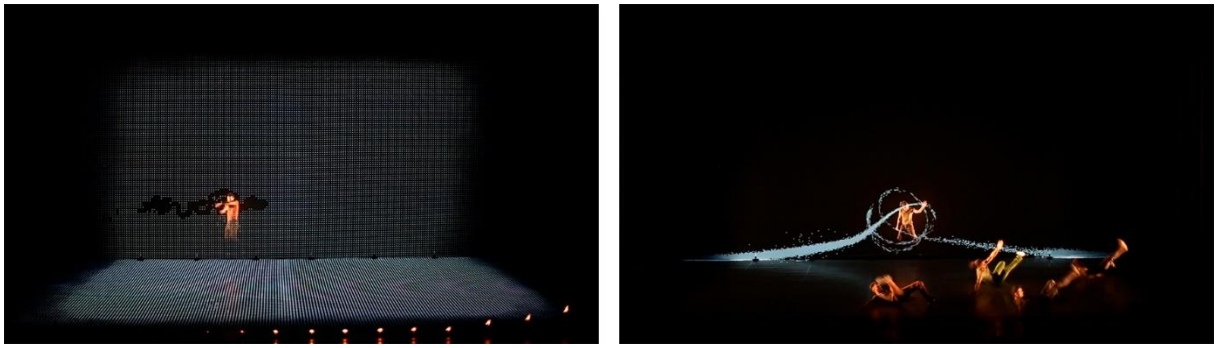
The Body Controls the Virtual Space

This time, the digital shapes are placed at the service of the body, which controls them at will. The digital is an extension of the body's corporeality (Figure 3). A visual dance is created that is only possible in a simulacrum: the body manipulates some kind of force field. The shapes allude to planetary or universal elements -such as wind, water, smoke, or gravitational fields- that would otherwise be uncontrollable outside the digital realm.

Unlike the previous category, here the digital projection ceases to define space. Space is abstracted, expanded, and identified with the idea of an infinite void (a kind of simulated universe). The digital component, on the other hand, is conceived as something objectual. The performer's body is no longer situated *in* the projection, but *above*, *behind* or *beside* it. The audience can recognise that the body and the projection exist in the same space and dimension thanks to the perspective. The scene is perceived as a three-dimensional interaction that establishes a visual link between the actor's body and the digital projection, especially when the performer is standing behind the backdrop screen. This strategy overcomes the two-dimensional aspect inherit in any projected image. As a result, the simulation is more captivating, thus intensifying the fascination experienced by the audience.

Figure 3

Adrien M & Claire B. Pixel *(2014).* Source: AM&CB



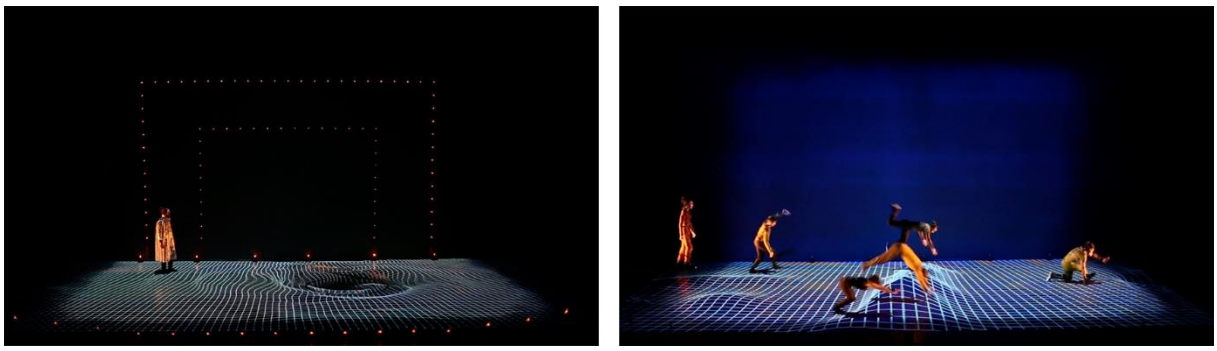
The Virtual Space Triggers the Body

Finally, the domination is reversed; the digital projection exerts control over the performer. For example, analysing *Pixel* (Figure 4): What should we expect if a black hole appeared in the simulation and gradually consumed the frame of the digital universe (bearing in mind that we are working with a two-dimensional projection and, therefore, an optical illusion)? And what if there were hurdles in the scene moving towards the performers? They would be compelled to retreat. The human beings -performers- need to evade them and leap. In other words, the simulation triggers the body's survival instinct. Again, we can see a playful universe. We can even define it like a playground. The performers are in some-kind of videogame interactivity; they play to survive the gymkhana into which the space has evolve. They must jump, move, or turn.

However, in this case, we must not ignore the fact that this interactivity is not real. The performers are only synchronised with the projections. And again, the feeling of interactivity is only credible from the audience's point of view. The digital projections are distorted to create that impression. It is a two-dimensional projection and therefore everything is an optical effect.

Figure 4

Adrien M & Claire B. Pixel *(2014). Source: AM&CB*



The degree of immersion needed to make this effect credible is so high that it appears achievable only within the context of a tightly controlled stage production. As in the second mode of interaction seen before, the degree of fascination is much greater than in the first case (when *the virtual space reacts to the body*). However, in the same way, its verisimilitude is only possible from the point of view of a third party -the audience-, the only one capable of visually unifying body and digital forms in the same space.

Simulation Exceeded

So far, the success of the interactive space relies on it being perceived as a credible universe. To achieve this, first, the audience is isolated from their everyday reality, and then, the new space is endowed with visual laws that give it internal logic. One last design strategy is still to be analysed, which, curiously enough, makes the opposite proposition. Nevertheless, it is probably the point of greatest interest (with a certain paradoxical perception).

In Adrien M & Claire B's productions, there are moments in which the digital universe exceeds the limits of simulation. These are moments in which the digital projections do not follow the established logic of the simulated space. On rare occasions, the limits in which the universe is held are exceeded, causing even greater fascination in the audience. We could argue that overcoming the simulation provokes in the spectator an awareness that they are, in fact, just in front of a simulation. At the same time, curiously enough, it is when it feels more real. All this occurs in just an instant, a couple of seconds in which the spectator experiences being fully inside the simulation.

Three More Examples, as a Result of Pixel's Analysis

At one point (Figure 5), the projection is on the vertical screen and creates the effect of a digital cloud inside which the actors -situated behind the curtain- appear to be immersed. So far everything is normal, in the sense that it is within the expected possibilities of the imposed

visual logic. Suddenly, however, the cloud of dots is thrown towards the audience as a falling wall. The result is the displacement of the projection to the floor, an aggressive and surprisingly expressive scene transition. The audience instantly goes from dreading being crushed by the digital cloud to being fascinated with the understanding that it was a visual trick.

At another point (Figure 6), the audience is presented with a similar scene. This time with a more three-dimensional effect, a spherical cloud of digital dots invades the vertical dimension of the space. Again, we find two dancers behind the backdrop who are placed right in the middle of this strange anomaly. In this case, the surprise arrives when the dancers are frozen in space (they stop their movement as if they have been transformed into living statues). However, both -performers and digital projection- begin to rotate, first to the right and then to the left. The dancers, despite being petrified, turn with great fluidity (the effect of being on a rotating platform) and with them also the whole simulated space. It happens so fast that there is no time to process how this is happening. Everything appeals to intuition, to quickly understand that which escapes all logic. The audience, in tenths of a second, can only assimilate that it is they -from the seating area- who are revolving around a scene frozen in time.

Finally, Pixel closes with a shocking scene, both visually and symbolically. It ends leaving the audience with the sensation of having been left in a void (Figure 7). The spectators, after spending seventy minutes immersed in this simulated universe -which was meant to feel so real- must leave it. The scene seems to be projected with this idea in mind. An ending that can be aggressive or even cathartic. The scene begins with the space configured by a digital grid. The sense of three-dimensionality is amplified by a subtle optical effect of distortion. And in this spatial frame, there is, in the centre, a black square. An element that can be compared to a black hole that gradually absorbs the simulation as it moves towards the performer and the audience. Nothingness takes over the space. The show implodes. The simulated universe has disappeared, and the show is over.

Conclusions

In the interactive space, the digital projections (and the music that supports it) are as important as the body. Without the action of the body, the projection would remain an image (with a visual style of simulation). And vice versa, the projection allows the immersion of the body in a space that reacts (dialogues) to its gestures. Both are necessary for interaction to take place.

This interaction is set up through a visual dialogue. This, in a way, limits the communicative ability of the body, which is forced to resort to gestural action. Gestures which, on the other hand, will always be close to dance (consciously or not) due to its condition of body language. This is the most expressive channel available to the body to communicate in this simulated

space. Image, sound, and body synchronise in a dialogue that can be scripted, as in stage performances (dance); or it can be just a total improvisation.

“Historic time” plays no role in the aesthetics of interactive space. Timing, on the other hand, does. The control of the rhythms in which a work develops is a condition that has always been considered in any artistic proposal, and interactive space is no different. The peculiarity here is that any manipulation of temporal perception will be done based on the aesthetic criteria of visual culture. That is in favour of fascination and superficiality. Shocking effects are sought that differentiate the simulation from the -dull and chaotic- reality. Sometimes, a fleeting development of events is proposed that prevents the assimilation of what has happened.

But, most important, in an interactive space the movement of the body is necessary. Without the action of the body, the projection would still be an image, but it could never feel like a real space.

Figure 5

Adrien M & Claire B. Pixel *(2014). Source: AM&CB*

Figure 6

Adrien M & Claire B. Pixel *(2014). Source: AM&CB*

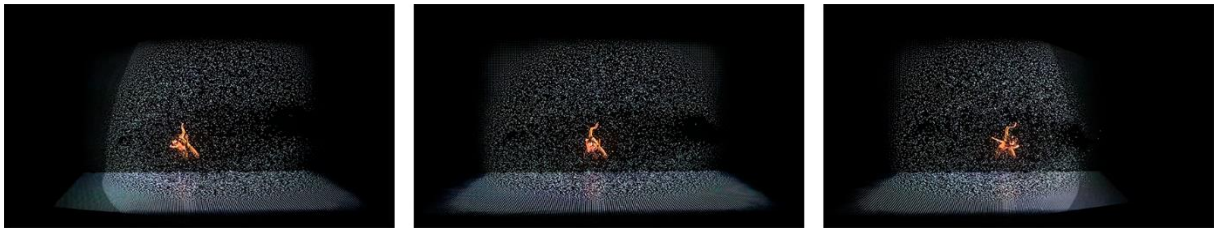


Figure 7

Adrien M & Claire B. Pixel *(2014). Source: AM&CB*

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