

Real, virtual, augmented... a continuum

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ABSTRACT

All forms of art and all spaces are today augmented. Technically, goggles and glasses are still marketed, but in practice, lighter devices seem more effective, for instance smartphones and projectors, used in caves or IPTs, and more and more directly on the real sites with projection mapping.

That takes to multimedia and urban planning projects, calling for larger teams, multivariate cooperation led by architects and new professions. In such an "augmented seamless word", philosophy and traditional wisdoms may be precious to protect and develop our "I".

Keywords. Digital Creation, Art, Painting, Sculpture, Architecture, Cinema, Theater, Interaction, Transmedia.

Goggles and glasses for VR and AR were trendy in the graphics environments in the 1980's. They have made little progress in the last 30 years. The recent announcements of Google glasses and cardboard kit, Oculus Rift [1] and recently Microsoft for Windows 10 may open a new wave of development and artistic creation,

But, beyond the hype, we can still remain dubitative. AR requires costly and heavy headsets, and raise comfort and security issues. Then, for the present years, reality is more generally augmented by other means, mainly projectors and tablets (or smartphones). Even Disney [2], after a serious investment in HMDs, stresses the effectiveness of IPTs (Immersive Projection Theater), or caves.

Then, art "augmentation" may make use of AR strictly speaking, but more important is augmentation by digital technologies on new stages, through augmented creation processes and augmented marketing channels, and questioning an "augmented I".



Augmented paint: Calameo (Emard), Joconde (Heudin)

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AN AUGMENTED SEAMLESS WORLD

The world we see, we travel in, we design and build, this world is more and more artistically augmented. We will take several examples, mainly in France, but similar trends can certainly be observed in all developed countries.

A simple sketch, black and white, can be recognized by a tablet camera, which adds color and more graphics. It is the case of *Calameo*, by Justine Emard. By the way, this work has been presented in something like an augmented museum, more specifically a mobile museum [3] which in 2014 presented digital art in the public space of several French towns. Any work of art publicly presented has today an augmented audience since many visitors use their smartphone to bring home some images, or to send them immediately to friends. It's a minimal form of transmedia. The Living Joconde [4] opens also new ways, after the Duchamp's LHOQQ.



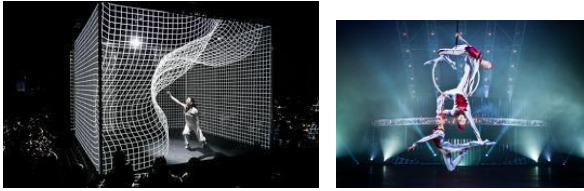
Augmented cars : GPS, Mercedes F015

A video can be augmented in a large space, for instance a church. It was the case with *Mistral*, by Jacques Perconte, a generative artist. You can look at the work in a small format, like a canvas. But it is much more impressive when projected on a chapel's wall, 9,50 x 3,90 meters at Les Bernardins cultural center [5], thus creating a sort of continuum between the close space of the chapel and the open air landscape of the video.

Films are augmented by 3D and stereoscopy. They can also take a more immersive place in the spectators vision with goggles, or the recently present cardboard device of Google. And the IPT can be considered and augmented traditional cinema room. TV, of course, extends the cinema space to whole Earth.

Transmedia is a new and quite fascinating extension of these spaces, or quite seamless, in the spectators mind, coordination of different spaces. But the concept, as defined by Jenkins [6], and as we commented it in [7] and [8], is prone to disillusion in 2015, notably because it requires important funding (see [9]). Jenkins himself in 2013 used the less clear expression "spreadable media" [10]

Cars are augmented with radio, GPS. Autonomous cars open new opportunities to internal design and interior decoration.



Augmented live : Marzouki (dance) and Cirque du Soleil

Live performance, such as theater, dance, opera and even circus, is more and more frequently augmented by real time projections. A clever device uses two screens one at the bottom of the stage, one parallel, on the middle of the stage, with projection on a translucent curtain, so you can see actors play in front of as well as behind it. Typical of this trend is Pixel. show by Marzouki, The Cirque du Soleil is famed worldwide for its special effects. The Dolmens project [11] aims to an in depth study of augmented theater. It stresses a particular form of continuity in a problematic "spectacle machine", where actors and audience are "mere cogs"

Many architects, and particularly Frank Gehry (at Guggenheim Museum in Bilbao or Fondation Pinault in Paris), augment the functional part or the building with complex and lifelike forms. And of course, here also, projections become an important augmentation as soon as night falls. Projection mapping techniques add to the realism and engagement. LEDs also are used, be they integrated in specific structures (sculptures, sort of), in powerful and large screens, or used as lighting means, less energy dissipating than the traditional bulbs and neons.



Augmented City: Paris Metro, Quartz mall.

The augmentation may be more deeply integrated in the structure itself if the designers use advanced techniques for designing and casting (an enlarged form of 3D printing).

Underground train stations, in Paris or Barcelona, use now a lighting by LED lighting, not only for ecological reasons but also for new artistic possibilities. [12]

Commercial malls offer even more interesting possibilities of augmentation, due to better funding and an environment interactive by nature, with a transgenerational public. We have a beautiful example in the Quartz, North of Paris. Digital art was from start included in its design, with ten interactive works scattered in the mall, and one of them monumental, in the main

hall [13]. The full Paris-la-Defense esplanade also is digitally lit at night (perhaps not permanently).

Sport stadiums are "augmented" to the global graphic world, mainly through TV.



Augmented city: Lyon-Confluence, Overexposure (Bianchini)

This approach can be extended to a whole district, for instance Paris-La-Défense or Lyon-Confluence [14]: "Our town combines harmoniously the dynamics of a urban hypercenter and the balance of a district where everything is accessible". In these spaces, locative media [15] adapt the presentation, the augmentation, to each spectator. For a quite old reference on this continuity, see [16]

And the World itself is augmented by global images such as The emptions mechanics of Moben (Maurice Benayoun). And, as says Norbert Hillaire : "Digital is not a special region of reality, but the skyline in which the whole reality can be reinterpreted" (our translation from [17]).

AN AUGMENTED CREATION PROCESS

Augmented reality and augmented works of art call for augmented creation processes and role distribution between actors. With a sort of paradox.

On the one hand, an artist can, for a reasonable price, get at home a full creation studio, from graphics to music, and why not direct sales on the Internet.

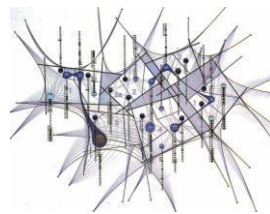


Traditional design then digitization (Frank Gehry)

On the other hand, generally, that will no be enough, and augmented art calls for the cooperation of multiple kinds of crafts, talents and resources (funding, to begin with).

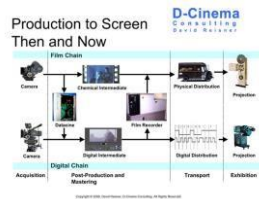
Until recently, an architect like Frank Gehry could keep on old design methods, using clay, wood or cardboard to give form to their ideas, and then proceed further with digital tools. The virtual mode is only an ancillary step in the creation.

Nowadays, teams like OTA+. do their teamwork directly on a net of workstations, and the design goes on through multiple interactions within the team and its partners [18]. Here, virtuality brings continuity and collective thinking all the way long, including 3D large scale printing for the “concrete” implementation.



Augmented design : Riemenschneider (for RATP), OTA+

The filming process itself takes place in more and more augmented environments, such as Outilnum. [19]. Cinema creation processes (production, post-production, distribution) are also augmented through dematerialization and sophisticated workflow management tools (here, a scheme by David Reisner).



Cinema: virtual studio (*Outilnum*) and workflow (Reisner)

On a smaller scale, a project like *Avatar*, in Centre Pompidou, by Pia Myrvold, intending to create a continuous space including several works, involved in depth the show’s curator, Boris Tissot, a seasoned artist and curator, as well as other artists and programmers and the contribution of partners firms. About museums and scenography, see a recent survey [20] and a more ancient synthesis [21].



Augmented sport: *Sideiq* upstream, TV downstream.

Augmented performance depends on stage setting and set designer (for instance Peter Bingeman). Sport, seen as a form or creative process, makes more and more use of virtuality, for instance with the Sideiq software for football [22].

But digital art lets emerge actors of a specific kind. Quartz mall design, for instance, has been subcontracted to Raymond Interactive, a firm dedicated to point-of-sale digitization and

digital commerce. It is a subsidiary of Saguez and Partners [23], a sort of new urban planners. Their works are visible also at La Défense esplanade and at the SO Ouest mall in Levallois.

Digital Slaves Cy. [24] offers “digital solutions for your creative work/event/show/brand”. Note the term “brand”, which is central in the new augmented continuum, from cinema to transmedia if not tourism.

AUGMENTED MARKETING CHANNELS



New companies: Digital Slaves, Raymond Interactive

Galleries, traditional museums, art shows and auctions are ill adapted to augmented art. They are specialized spaces, typically "white cubes" where plastic art (painting and sculpture) is materially set and presented to a public which walks and stands in front of the works. They are now striving to host digital art and augmented reality.



Galleries and art shows : creativity. (Charlot, Variation).

Galleries have to "augment" themselves. To succeed and sustain the resources of their artists, they must develop their network of collectors, private persons, corporations and public authorities. Even at their quarters and their shop windows, they must don their digital engagement. Galerie Charlot, for example, uses a video projector to animate its window, made of an ad hoc glass.

The main art event at fall 2014 in Paris the Fiac (Foire internationale de l'art contemporain). Digital art was even less present there than in 2013, and an important actor of kinetic and digital art, Galerie Denise René, was not accepted under the Grand Palais vault. By contrast, Variation show, dedicated to digital art, made important efforts to present its most recent forms. That demanded the setting of two "black cubes", if I can say so, to host kinetic and interactive works. At the entrance of the show, Orlan (known for her use of her own body as an art support, and comparable to Stelarc), was acting IRL (in real life) to present a tablet/smartphone version showing her as an avatar moving on a sort of chessboard. This last presentation reached success. But several tablet works, in spite of a good localization in the show, remained largely out of the public attention.

Another "black cube" at The Centre Pompidou, was dedicated in Fall 2014 to a complex exhibition by Pia Myrvold. The idea was to engage the public (in particular the teenagers) in a fully coordinated augmented world, where they could create their own avatar and interact with it in several different works.



Public (Pompidou Center) and private (Google) funding

Large corporations are willing to pay for spectacular communication events. Typically, the *Duet* animation film by Glenn Keane was funded by Google to enter the field of augmented reality with its low cost cardboard box. We know of several other examples, but they are frequently private events, and artists are required not to communicate about them.

Commercial compounds and malls, by contrast, are widely open to the largest possible, including sometimes suburbs where you would not expect advanced forms of art. For instance, the Quartz, in Villeneuve-la-Garenne, in the North of Paris.

AND THE "I" IN SUCH A WORLD ?



An augmented I (Huang) in an augmented world (Moben)

To live in an augmented world puts the "I" at risk. It adds a more and more thick layer of "medias" between me and the world, me and my fellow humans. I it drowns the I into an overwhelming flow of data, images and sound, down to drunkenness and addiction.

In this continuum, how can "I" survive, exist as an individual, keep and develop my will, my willpower. Well, not everybody lets itself be addicted and dissolved. The issue is not new. But maybe the permanent growth of the digital continuum will demand some effort to protect the real I as well as the virtual I. For this quest (shall we dare the words), an "augmented philosophy" can find its meditation process enhanced by virtual and augmented tours. And perhaps oriental philosophy, better than the Occidental rationalism, will bring us the right answers, as shows us Yiyuan Huang [25].

This theme is explored also by science fiction as well as by management experts. For fiction, the last novel of William Gibson, *The Peripheral* [26] describes, in a difficult language, the complex feelings and actions of people in a highly technicized

world. LoveStar [27] by Andri Margnason is (more easily) on the same topic. But, more surprisingly, it is in management literature that we will find the words of our conclusion. Westerman [28] recommends indeed : "Seamlessly mesh your digital and physical experience in new ways". To do that, and to really augment the "I", art can and must play its part.

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