

The Future of Futurism

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Under the Auspices of the European Project SCIENAR

G.A. 2008-2254/001-001 CTU-MECOAN

Abstract

At exactly 100 years after its birth, Futurism is revisited in terms of the new potentialities offered by Digital Photography (via *"Painting with Light"*). It is discussed how Futurism aimed at depicting "dynamism" and why Digital Photography, generating variations of the same basic ideas, can offer a "Future to Futurism".

From the "Technical Manifesto of Futurist Painting": *"All things move, all things run, all things are rapidly changing. A profile is never motionless before our eyes, but it constantly appears and disappears"*.

1. Futurism

In 1909 (exactly one hundred years ago) in Milano, Italy, the "Futurists" had a new artistic vision. They wanted to create imagery that contained and expressed movement. They saw the world with cars, bicycles, trains and people rushing down the streets as a world in motion. Traditional Art had all but ignored movement in its depictions, but now the Futurists wanted to make it central to their work. The *"Futurist Manifesto"* was published by the Italian Poet and Editor **Filippo Tommaso Marinetti** for the first time on February 5, 1909, in the *"Cronache Letterarie"* of the daily newspaper *"La Gazzetta dell'Emilia"*, and retaken on February 9 in the same year in *"L'Arena di Verona"*. Just two weeks after, on February 20, a French version of the "Manifesto" was finally published by the prestigious newspaper *"Le Figaro"* in Paris, France, giving to Futurism the highest possible international footlights; [1],[2]. *Futurism* was officially born....

1.1 The Futurist Art Movement and The Depiction of Motion

Futurists explored all possible forms of expressive Art, from Painting to Sculpting, but also Music, Architecture, Dance, Photography and Cinema. The signs of this artistic revolution were already present since the beginning of the new Century but the year 1909 marked their transformation from the world of ideas to the world of concrete Art. Futurism followed the rapidly spreading wavefront of the technological revolution at the beginning of the first years of '900 (*Belle Époque*), by exalting an unlimited confidence in "progress"; as an example, Marinetti himself pushes forward the belief that *"dynamism"*, velocity and industry will eventually wipe off the old ideologies (so-called *"Passatism"* in contrast with "Futurism", by this

meaning a form of decadent and pedantic Art related to the “past” and stigmatized, e.g., in the freshly produced “*Parsifal*” of **Wagner**).

The first quarter of the XX Century was undergoing a great evolutionary phase, in which the whole world of Art, Science and Culture in general was stimulated by a number of important factors: wars, social transformations, political struggles and changes, new scientific and technological discoveries. A few years before, exactly in 1905, the great German Physicist **Albert Einstein** had *de-facto* changed the Physics of the XX Century, through a not less important revolution: in that “magical” year he laid in fact the foundations of the *Theory of Special Relativity*, changing the view from a static and rigid description of Physics on the basis of the fairly established Galilean framework, with *Space* and *Time* separated and immutable, to a new vision in which Space and Time were inextricably fused instead into a single four-dimensional new entity, called *SpaceTime* [3]; but he also laid the foundations of the *Theory of Chaos* (through a paper on Brownian motion) and the foundations of *Quantum Mechanics* (that would emerge later from Einstein’s investigations on the photoelectric effect). A few years later, in 1915-1916, Einstein would reach an even more dramatic revolution, with his *Theory of General Relativity*, destined to change again the vision of Physics from the static and rigorously flat Universe of **Newton** to a newer conception of four-dimensional SpaceTime dominated by curvature (see [4]). Einstein’s revolution was in a sense a revenge of Time and Dynamism against Space and Staticity, as well as it was a revenge of *light* as a universal phenomena to cope with whenever one has to speak of causality and contemporaneousness; see also [5].

It seems now appropriate to mention what **Guillame Apollinaire** declared in 1913: “*Today scientists no longer limit themselves to the three dimensions of Euclid. The painters have been led quite naturally, one might say by intuition, to preoccupy themselves with the new possibilities of spatial measurement which, in the language of modern studios, are designated by the term: **the fourth dimension**. Regarded from the plastic point of view, the fourth dimension appears to spring from the three known dimensions: it represents the immensity of space eternalizing itself in all directions at any given moment. It is space itself, the dimension of the infinite.*”

On the other hand and at the same time Technology was rapidly changing the World. New devices and communication means such as the wireless telegraph, radio, airplanes and cameras were also contributing to a change of perspective about distances and Time, contributing to getting nearer to faraway pieces of our Planet. In a sense the World was being crossed by a new wind, a wind bringing into mankind’s consciousness the new reality of “*velocity*”: velocity in the production of manufactured goods, velocity to reach a destination and velocity to communicate news. New spaces, new Technology, new Science: all was contributing to make the Future something less remote and more directly perceived in the collective imagination.

Divisionist painters, sharing an interest in new research regarding Optics and the Physics of Light, like **Umberto Boccioni**, **Carlo Carrà**, **Giacomo Balla**, **Gino Severini** and **Luigi Russolo**, signed the “Manifesto” establishing the main rules of Futurist painting: abolishing traditional perspective (already mined by **Pablo Picasso**) in favour of a “*simultaneous vision*” able to capture dynamism. The first Futurist works were exhibited in Milano at the “*Mostra d’Arte Libera*” held at Galleria Ricordi in 1910. After the death of Boccioni in 1916, the center of Futurism moved from Milano to Roma, where in between 1918 and 1928 it was characterized by strong relations with post-cubist and constructivist ideas; while from 1929 to the eve of World War II, it was more related to surrealist ideas.

Futurism gave the best results in all artistic expressions related to Painting, Mosaic and Sculpture, but worthy of mention are also its strict relations with the new possibilities offered by Photography – that will form the core of this paper – and also in Architecture, Theatre and Literature. As far as the style of Painting is concerned, Futurism was mainly based on the post-Impressionist idea of “*Divisionism*” suitably re-elaborated in order to depict more expressive space that contained velocity and simultaneity. But also the *Cubist principles* of decomposition of forms along different visual planes to be displayed altogether on the same canvas was among its inspiring principles; the pictorial surface is split into multiple planes, each one registering a different space perspective. The crucial difference with *Cubism* is that while in Cubism this decomposition makes it possible to represent and imagine a static three-dimensional subject as embedded into a fourth dimension again of spatial character (the painter shows different aspects of it as seen from different views at the same instant of time) in Futurism a real SpaceTime appears and the decomposition is suitably used to embed a three-dimensional object into a four-dimensional continuum formed by Space and Time together, since images taken in different instants of Time are depicted altogether in a canvas or reproduced in a Sculpture or set into a Photograph.

Worthy of mention is also the difference between *Impressionism* and Futurism: while Impressionists - certainly looking at something freed from staticity and caring about the evolution of the image described - were concentrating on the need of “*capturing the moment*” (in the sense of freezing on the canvas a

luminous, unique and never returning instant of time), the Futurist were instead moving in an opposite direction, i.e. embracing into a single artwork not a single shot but rather the motion itself, representing it with a great emotional impact as being formed by a continuous sequence of movement.

As a consequence, the *"Aesthetic of Velocity"* generates a prevalence of truly dynamical elements; motion involves both the object depicted and the space in which motion takes place. Trains, Cars, Airplanes are peculiar subjects, but also human figures (dogs, dancers, children) animated by multicoloured and polyphonic brush touches, aimed at putting into evidence the propulsive push of moving forms. The difference of velocity (higher or lower) is usually represented by using either broken and rough-edged lines or more harmonious and fluid linear brushstrokes.

Futurism is well described by the own words of Boccioni (1913):

"I want to render the fusion of a head with its environment.

I want to render the prolongation of objects in space.

I want to model light and the atmosphere.

I want to transfix the human form in movement.

I want to synthesize the unique forms of continuity in space."

1.2 Futurism and Photography

A photographer, associated with the Futurist movement, **Anton Giulio Bragaglia**, wanted to create the same kind of imagery based on direct observation. He took photographs using slow shutter speeds to record people in motion. His photography rises in 1910's from a refusal to use this medium as a way of "passively" depicting reality, when he starts experiments to insert new creativity into the act, the perception of vital energy.

Crucial to both Bragaglia and the Futurist painters was the notion that a work of Art should show the continuity of motion, a picture of a subject over a period of Time, rather than a series of still sharp images that were taken in sequence, as had been previously achieved by **Edward Muybridge** and **Etienne-Jules Marey**. He called this type of Photography *"Photodynamism."*

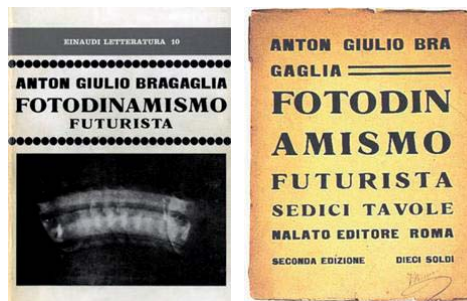


Fig. 1 "Fotodinamismo Futurista" by Anton Bragaglia

This lead eventually to a full acceptance of Photography by the Futurist movement and to the new *"Manifesto della Fotografia Futurista"* by **Marinetti** and **Tato** in 1930 [6], in which they declare that traditional Photography as "Science" was going to become "pure Art", through a series of new composition possibilities, related to a new way of perceiving contemporary reality. According to **C. Tisdall** and **A. Bozzolla** *"Bragaglia... was attempting to liberate the art of photography from the slavish imitation of reality to which it had been relegated. He saw untapped possibilities in photography as a means of experimentation, and was particularly attracted to its potential for capturing the sensation of movement - rather than... sequential stages [as photographed by Muybridge and others]"* (see [7]).



Fig. 2 "The Slap", by Anton Bragaglia

Unfortunately this quest for imagery of continuous movement came to an end around 1914. With the start of World War I, many of the Futurists joined the armed forces and a number were killed in the conflict. In addition, in 1915 motion pictures reached a milestone with the release of the big budget film *"Birth of a Nation"* by **D.W. Griffith**. With the success of movies, the desire to portray the continuity of motion in Painting and Photography was virtually abandoned since it was now clear that the Cinema could accurately and better display movement. And even Bragaglia, himself, devoted most of his efforts to Cinema after World War I. However, a few artists tried to continue Futurists' concerns (*Post-Futurism*) both in Painting (e.g. **Fortunato Depero**; Fig. 3) and Photography (e.g. **Filippo Masoero**; Fig. 4).



**Fortunato Depero,
"Il Ciclista Attraversa la Città"**



**Filippo Masoero,
post-futurist photographer
who made long-exposure pictures
of cities hanging from airplanes**

Fig.s 3 and 4

2. Digital Photography in 2009

Let us now jump forward 100 years from 1909 to today, to the technology of Digital Photography. Digital cameras have a variety of new capabilities that make it possible for artists to pick up where the Futurists stopped. In addition Digital Photography can draw on the ideas, concepts and vision of the Futurists to bring this new imagery into being ([8],[9]).

2.1 The Art of Space and Time

The success of Cinema to capture movement was recognized. As **Dziga Vertov** wrote in 1923: "I'm an eye. A mechanical eye. I, the machine, show you a world the way only I can see it. I free myself for today and forever from human immobility. I'm in constant movement. I approach and pull away from objects...This is I, the machine, manoeuvring in the chaotic movements, recording one movement after another in the most complex combinations. Freed from the boundaries of time and space, I co-ordinate any and all points of the universe, wherever I want them to be. My way leads towards the creation of a fresh perception of the world. Thus I explain in a new way the world unknown to you."

However, Cinema gives only an *illusion* of movement, since it is only a series of still frozen shots (frames) in a succession. On the other hand, Photography, and Digital Photography in particular, is uniquely capable of recording a space/time image. One of us (RD) wrote in his book [9] to be published in 2010 "Photography may be the visual Art best suited to creating still images of subjects in time. This is because a photograph is made by recording an object (via the lens) over time (by opening the shutter for a specific duration). Therefore, a photographic exposure is a combination of space and time, a recording of space and time."

Yet to photograph a space/time image is quite complex. For example, the correct shutter speed to depict motion varies considerably depending on the motion of the subject and the artistic intentions of the photographer. In addition there are many other variables to movement. And to record this kind of imagery successfully, the photographer must have a tool that allows instant display of the imagery just taken so that adjustments can be made based on that feedback - which is the very powerful capability provided by Digital Photography.

2.2 The Quest for an "Algebra of Movement" and Generative Art

The Futurist Anton Giulio Bragaglia had said that he wanted to construct an "algebra of movement." The Futurist painters had begun work on this idea, for example, with their concept of "absolute" and "relative" motion. "Absolute" movement was the general overall direction that a subject was moving toward and "relative" movement was the internal movement of the subject such as the turning wheels of a car or the swinging arms of a person walking - movement that was independent of the absolute movement. The starting point could have been the same "reality", from which they generated different artworks (Generative Art...?).



Fig. 5 The "Relative Movement of the Wheels" is clear in this shot, photo by Rick Doble



Fig. 6 Left: *Passage in SpaceTime*; right: *Photodynamism of a Limo in Niagara Falls*; photo by Marcella G. Lorenzi

The term Generative Art does not describe any art-movement or ideology [10]. It is a method of making Art. The term refers to how the Art is made, and does not take into account why it was made or what the content of the artwork is. Artworks, in Generative Art, can be identified in the creative processes and not only in the results. Also because the results of each generative process are endless variations belonging to the same idea. Generative Art creates an artificial DNA able to generate individuals of the same species. The results are “*unique ad continuum*” ([11], [12]). “Painting with Light” is in fact a Generative Art process (as first claimed in [13]).

3. Digital Photography and Futurism

3.1 Subject Movement

Digital photographers who are interested in the depiction of movement have tried to add to the Futurist idea of an “algebra of movement”. The craft of Photography defines two fundamental kinds of movement: “*subject movement*” and “*camera movement*”. It also adds a third kind of movement which is the combination of subject and camera movement such as panning a camera with a moving subject. The Futurist’s notion of absolute and relative movement is part of subject movement and works very nicely with other photographic considerations when it comes to taking pictures of a subject in motion.

Some digital photographers have added other aspects of subject movement to their ideas. For example, one of us (RD) in [9] defined these different types of subject movement:

Regular movement: Some movement is unchanging, like that of a train; it moves at a fairly steady pace in a predetermined direction. A car’s movement is also regular but with some variables, such as swerving a bit to the left or right and slowing down or speeding up.

Predictable movement: Less precise than regular movement is predictable movement. A car heading down the road will continue to head in that direction; a car with its right turn signal blinking will turn right. A dancer doing a traditional dance will repeat the same steps but not in exactly the same spot.



Fig.s 7 & 8 Left: “*Le mani del Violinista*”, by G. Balla; right: “*Violinist*”, subject movement, photo by Rick Doble

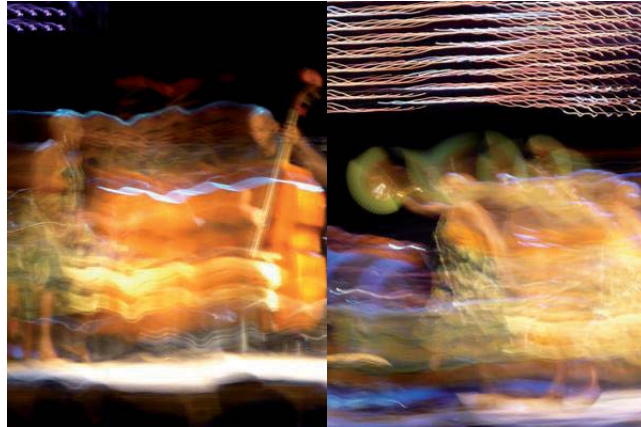


Fig.s 9 & 10 Left/right: Photodynamic portraits of Dee Dee Bridgewater singing and dancing with a green fan during a Jazz concert. Photos by M.G. Lorenzi

Irregular movement: Some movement repeats but in an irregular fashion, such as a dancer who moves in a free-form manner. Nevertheless, this dancer will repeat many of the same motions and, after a while, a photographer might gain a sense of how that particular dancer is likely to move.

Erratic movement: The movement of a singer on a stage or a child playing with a dog can be hard to predict, however, scenes such as these can yield exciting and unusual imagery.

Camera Movement

Camera movement, by itself, depicts motion from the photographer's point-of-view. This type of imagery has been called "*Painting with Light*" and also "camera painting". It is essentially a new Art form that has only been made practical with the advent of Digital Photography and leads to dynamic abstract imagery much like the abstract work of the Futurists. **NOTE:** while this imagery was technically possible with film photography, not much work was done in this area due to the high cost and large amount of effort that was required.



Fig. 11 "Shot Through Windshield in Rain", camera movement, photo by Rick Doble

In addition camera and subject movement together add powerful techniques in the depiction of movement as well as providing considerable individual artistic control. Combined camera and subject movement can record the most dynamic imagery where the world seems to be rushing to fill the picture.



**Fig. 12 “My Wife Driving”, subject and camera movement combined,
photo by Rick Doble**

3.2 The New Digital Photographic Capabilities

The capabilities of Digital Photography can make use of all of these ideas about movement in a fashion that the Futurists could only dream about.

LCD Monitor: To begin, digital photographers can see a rapid thumbnail photograph immediately after taking a photograph. The instant image on the LCD monitor gives digital photographers the essential tool they need - since photographing motion is so complex and requires a good deal of trial and error. Yet the LCD monitor allows the accomplished photographer to hone his or her imagery in real time and to take pictures both in the studio and in the streets to record the vital pulse of Life.

Low Cost: In addition the prohibitive cost of film and processing that photography required before the advent of digital, is now a thing of the past. Taking pictures of movement, by necessity, requires a lot of test shots and shots that are not the best. Digital photographers can now shoot hundreds of pictures without worrying about the cost.

Stabilizing Control: The new stabilizing feature on most digital cameras allows photographers to handhold shots at very low shutter speed such as 1/2 second with no camera shake. This means that photographs of subject movement by itself, for example, can be accurately shot without any camera shake or with minimal camera shake. And this is a new feature only now available with digital technology.

EXIF Data: Also important is the EXIF exposures data that is recorded by most digital cameras and embedded in the photographic image. This invaluable new digital tool lets a photographer go back and review the settings, such as shutter speed, that were used with different photographs and then allows the photographer to learn from and to build on that information.

Expressive Control: And while Digital Photography is a technical craft, it is also an expressive medium. Different photographers can make very different images that reflect their personalities and their artistic visions. As a result the world in motion can be both accurately recorded and also depicted in an expressive and individual manner.

4. Conclusion

The torch has been passed from the Futurists to a new generation of artists in the XXI Century armed with the technology of Digital Photography. With this tool, the quest for true images of continuous motion can begin again.

As one of us (RD) wrote in [9]: *“The world is always in motion. Children, traffic, airplanes, football players, dogs in the park, the family at the dinner table, dancers, people who gesture when they talk, trees in the wind, and thousands of other things move. In fact, the real world is in motion all of the time. As a doctor once explained, if a person is alive, they are moving and - he added - a complete lack of movement is a sign of death! So, a photograph that can capture and convey a sense of this movement can be powerful. People and objects (such as cars or trains) in motion can create a dramatic streaking effect not unlike a painter’s brush that is swept across a canvas. With bright colors, the effect can be quite painterly.”*

So with these new capabilities of Digital Photography and an understanding of the “Algebra of Movement”, the vision of the Futurists can now be realized one hundred years after the founding of Futurism, as shown in our Installation at GA 2009.



Fig.s 13 & 14 Left: Painting “Dynamism of a Car”, by Russolo; right: “Photograph Inspired by Futurist Imagery”, photo by Rick Doble

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