INSTANTS, MOMENTS, MINUTES

Impressionism and the Industrialisation of Time

In April 1881, a certain "Mars" drew a caricature of two impressionist painters assessing the speeds of modern picture-making (fig. 1). They are out in Saint-Ouen, the caption reads, having ventured into this northern Parisian suburb that had already drawn the likes of Camille Pissarro and Georges Seurat to its industrial charms. There, the stricter and more standardized times of industrial labour intermingled with the two fictional painters' conception of pictorial time: "Is that enough, is it done? How many minutes?" asks the first; "One and a half; but to my mind it is still too over-elaborate!" replies the other, staring at his pocket-watch. Ninety seconds was too long for the creation of an Impressionist painting, Mars quipped, too much time elapsing between the impression and the completed picture. "Immediacy" had escaped painting once again, but the effort and the presence of the clock are what counted. The pressures of mechanical time—not the Salon submission deadline, nor a client's or dealer's demand to finish, nor the impending setting of the sun—had become the new temporal limit of artistic creation when painting out of doors. Equating impression and execution, vision and touch, Mars took the Impressionist credo of the potential equivalence between experience and representation to an ironic extreme. But even if overdrawn in this instance, by the 1880s at the latest, matters of industrial time had clearly infiltrated the core of "The New Painting": How and why, this essay asks, has such a seismic shift in painting's temporal priorities occurred and the stop-watch found its regular place alongside an easel?

As Mars so poignantly recognised, Impressionism sought to make represented time and the time of representation appear coterminous, to approximate the time of looking with the duration of its rendition in paint. The style's quick and unfinished touch seems to have provided the modern cultures of speed—exemplified by the velocities of railway travel and telegraphic communication—with their first appropriately modernist forms. In the gap between such an unachievable ideal of the instant picture and the actual time it took to create a viable painting (anywhere from "ninety seconds" to as much as months and years), Impressionism nourished the expansive concept of the "instant" as its ideological turf, an entity itself rather temporally imprecise, and perhaps a minute, a second, or even just a tenth of a second long, depending on context. By all accounts, Claude Monet himself was obsessed with "time" throughout his career, urging Frédéric Bazille to hasten to Chailly-en-Bière in order to model for his Luncheon on the Grass (p. 59, fig. 2) in 1865 or writing famously in 1890 that he was "getting so slow at my work it makes me despair, but the further I get, the more I see that a work of art has to be done in order to render what I'm looking for: 'instantaneity'." By placing the term in quotation marks, Monet accentuated the labour that went into securing both the look and the meaning of the "instant" for representation.

Concomitantly, Impressionism revealed an acute awareness of the particularly modern pressures of time in

FIG. 1. MARS: AN IMPRESSIONIST IN FRONT OF HIS PAINTING (Saint-Ouen). "Is that enough? How many minutes?" "One and a half; but to me it still seems far too laboured!"
Mars, UN IMPRESSIONISTE DEVANT LE TABLEAU A FAIRE (Saint-Ouen), "Est-ce assez ou? Combin d'minutes?" "Une et demie, mais à mon avis, c'est encore trop tourné!",
its techniques and themes as well as spectatoral expectations, which tended to confound the time of visual apprehension with that of aesthetic appreciation. Suggesting that the flux of visual experience could be condensed into forms befitting the standard Western easel format, it disclosed an intense urgency of execution, disrespecting the prevalent protocols of academic finish. By liberating the brush, it made every tangible stroke an index of the time it took to apply it; indeed each brushstroke now functioned both illusionistically (as the representation of a small aspect of the world beyond the picture) and procedurally (as a manifestation of the practices and times of painting). There were other formal and compositional means Impressionism developed to suggest momentariness within a static image. For instance, the style did not take enough time to compose properly, critics lamented one after the other, and pushed objects into the picture’s border zones where they barely emerged into view, as in so many of Degas’ paintings, *Orchestre Musicians of 1872* (cat. 74) included, in which heads and musical instruments push into the visual field from odd directions as if perpetually in motion. Degas also often layered (and replicated) figures in one painting so as to imply a potential progression of movement and time condensed into one visual frame.

On an iconographic level, Impressionism claimed to be able to fix in paint the very flux of visual experience itself. Therefore, it chronicled the constant changes in the times of day, as in all those meals or rising and setting suns it depicted, or the long shadows that Pissarro liked to dramatise when painting, for instance, the *Rue de Gisors, Pontoise, Winter Effect* in 1872 (cat. 50 and detail p. 36). It focused on the shifting conditions of the weather (like clouds and fog) and the seasons, such as Monet’s *The Cart, Snowy Road to Honfleur* of 1867 (cat. 31), which shows humankind trudging through the snow. Impressionism also glorified the new leisure time enabled by industrialisation – the “time off” from work – on occason even confronting the promenaders along the Seine with the river barges and workers they pretend not to see, as in Pissarro’s *Banks of the Seine at Bougival* also of 1872 (cat. 58). And it made industrial time its subject, as when Monet painted trains arriving at, or departing from, Gare Saint-Lazare (cat. 85–86). The style’s appeal, I hold, stemmed precisely from its uncanny ability to make all of these disparate temporal layers become one aesthetic whole.

Even though these complexities of Impressionism’s temporalities are well known, art history has rarely interrogated the actual cultural histories and technologies of time (and timekeeping) that, I argue, spurred the style’s innovations, or proposed a connection between the painter’s quickening brush and the period’s distinct industrialisation of time. This lacuna is particularly noteworthy because so many key scientific and technological advances in the measuring and quantifying of modern time intersected with the history of Impressionism, its rise in the mid-1860s and turn toward Post-Impressionism in the mid-1880s. Indeed, the twenty years of Impressionism’s zenith – and thus the arrival of the fleeting “moment” of experience at the centre of Western representation – also saw a remarkable expansion in the prominence of time management in modern life: from the popularisation of the concept of nervous “reaction time” in Europe from around 1865 on (first called “erreurs personnelles” or “la vitesse de la volonté” before the word Reaktionszeit, or reaction time was coined by Sigmund Exner in Vienna in the early 1870s), to the Parisian co-ordination of clocks and train schedules made possible by the telegraph and electricity during the 1870s, the beginnings of labour productivity management in 1880s’ Taylorism, and finally the agreement over globally standardised “universal time” in 1884. In short, Western painting made the “instant” and the “moment” its credo during the same period when those temporal categories became the measure perhaps not of the industrial revolution itself, but certainly of its increasing demand for efficiency and speed of transaction.

A language concerned with time can be found everywhere in Impressionist criticism as well. In 1891, Gustave Geffroy described Monet’s concern with fugitive change as “the differences of minutes.” And Marcel in Proust’s *In Search of Lost Time* described Albert’s paintings (which were inspired, at least in part, by Monet) as follows: “ […] the vast landscape […] is rendered, from the mountain-tops to the sea, with an exactitude which conveys the time of day not to the hour, but to the very minute, […]” More than that, Jules
Laforgue called Impressionism in 1883 painting in “fifteen minutes,” and according to Félix Fénéon it was “four o’clock” in Seurat’s A Sunday Afternoon on the Island of La Grande Jatte, even though there is no clock in the painting to compel such a precise chronometric designation.

The fact that such oddly precise temporal coordinates became crucial for pictorial exegesis reflects a culture in which the administration of time was a more public and tangible fact of everyday life than is it for us today. In late nineteenth-century Paris, for instance, “time” was marketed for the home as a coordinated and punctual system first through a pneumatic mechanism, such as the one offered by the Compagnie générale des horloges pneumatiques, which kept clocks precise through regular puffs of air administered by the “mother clock” in the basement of the Compagnie’s headquarters. Undulating air waves were used to connect distant clocks through an immense infrastructure of tubes stretching for miles below ground and behind walls where other tunnels and wires had already existed for some time. A short while later, through the same tubing, time was systematised electrically. In the streets of Paris and other large cities, gentlemen met at observatory clocks, and later other “time-checking machines”, to make sure their pocket-watches ran accurately (fig. 2). Thus assembled in public for the sole reason to set their time, these men participated in a culture of time that was above all a collective endeavour that required action on the user’s part, especially since accurate time did not necessarily come to the public as it does today through our cell phones and computers. To show how deeply this special culture of time reached into the aesthetic consciousness of the period, we need only consider the existence of a five-piece French silvered-bronze mantel-set consisting of a large clock accompanied by two candelabras and two candlesticks, completed by A. R. Guimet around 1880, that was made entirely of new machine parts including cogwheels, now turned inside out, making the very mechanics of time one of the uncovered ornamental features of the drawing room (fig. 3).

Time itself is difficult to “behold” in any direct form or shape, which is perhaps why the history of art is filled with so many personifications of time, with images of Chronos and all those “Dances to the Music of Time”, or vanitas symbols of death and decay. Impressionism nonetheless became – as many scholars have claimed – the first style about time itself in non-allegorical terms. “Time as the essence of experience as it passed had entered European art,” wrote George Heard Hamilton in 1975. As a consequence, we have too often focused on other vectors of time in painting, such as the “instantaneity” Michael Fried saw operative in Manet when he characterised the painter’s ironic play with spectatorial expectations including the time of beholding, or the “outside of time” of so many Post-Impressionist and Symbolist paintings transporting the viewer into a seemingly transhistorical Arcadian realm. But perhaps we should take into account as well the deeply contextual histories of the regulation of the industrial “product” that is time and its aesthetic effects. So many impressionist paintings are punctuated after all by those elements in modern life most deeply affected by the changes in the temporal order: trains and train stations, or all those urban and suburban encounters constituted by, if anything, their split-second timing.

The administration of time had been a crucial component of the industrial revolution from its eighteenth-century origins, especially after scheduled trains started running in the 1820s, but never before had the demand for temporal precision been as pervasive a feature of modern culture as in the age of electricity and global wiring, travel and trade, which marked the second industrial revolution from the 1860s and 1870s onward. Impressionism’s artistic impersonation of the markets of modern time became possible only at that moment in the history of industrialisation when the precise management of time fully regulated commodity form, production and exchange. It might even be argued that Impressionism gained the wider cultural resonance it eventually did by the 1880s partly because its celebration of swiftness as a quantifiable and representational language responded so powerfully to the scientific and economic reach of modern global time.

The history of Impressionism and the history of modern time-keeping intersected in several ways heretofore unacknowledged. Around 1865, the moment when so many histories of Impressionism set the style’s chronological origins,

**FIG. 3 ANDRÉ ROMAIN GUIMET: Five Piece Clock Garniture, ca. 1880, Brooklyn Museum, New York**
is also the period when science corroborated the fact that sensation is non-instantaneous and that it takes our body a certain sub-perceivable amount of time - the famous "tenth of a second" studied by Jimena Canales\(^5\) - to react to nervous stimulation and execute a physical response. At the same time, Monet's first forays into large-scale ambitious modern-life painting - such as his unfinished *Luncheon on the Grass* of 1865/66 and his *Luncheon of 1868* - famously brought the "instant" of experience into large-scale painting through the expansive patches of light falling through trees or windows and the broad proto-abstract strokes of blue and grey that border the figures.

The ephemeral nature of light is paralleled in these paintings by the gestures of the figures. In the *Luncheon on the Grass*, a seated woman holds a plate in mid-air, never quite setting it down, another fixes her hat in perpetuity (fig. 4). Both of them address another person close by, or a companion addresses them, in a complex web of actions and reactions that ties together the composition. In the *Luncheon*, similarly oddly stopped actions structure the minimal amount of narrative the painting contains: the little boy is holding a spoon upright in his right hand, but surely not for long, while his mother leans over towards him, momentarily losing sight of her guest (detail p. 12). In a momentary gesture, the visitor at left seems to take off her right glove, and the maid in the background barely emerges from behind the door of the wall cabinet, arrested between inside and outside in both a spatial and temporal limit position. These details add up to a painting in which all activities have been halted at random and in mid-action, allowing for a vivid sense of motion and transition. Such compositional choices freeze uncomfortable fleeting positions into place, evacuating most narrative dimensions from representation.

Monet created these pictorial strategies not simply in reaction to Manet's more formal and stylised version of modern being in painting, but also in response to scientists like Hermann von Helmholtz and Francis Cornelis Donders, who insisted on the importance of our reaction time to sensory apprehension and showed that nerves had a rather slow speed of conduction, setting on roughly 26 metres per second.\(^1\) This knowledge was quickly popularised, in France especially by Rodolphe Radaux's widely reprinted essay "La Vitesse de la volonté" of 1867.\(^2\) In it, Radoux described the sensory apprehension as a process of perpetually relayed and translated physical image-information, including the brief delays inherent in sending signals caused by the material resistance of nerve fibres, a course of brief and sub-perceptible events constitutive of both experience and reaction (and thus not unlike the telegraphic system itself). Monet's renderings of the sensory instant - in paintings filled with stopped actions and reactions that captured a moment in vision only as a set of large approximate and semi-abstract brushstrokes - occurred therefore at that moment in the history of psychophysiology when the senses' own representational aptitude was first widely understood.

To this end, the invention of scientific instruments like myographs and kymographs, which traced the regular times of the pulse or a muscle's contraction on a rotating cylinder, were crucial as well (fig. 5). In the 1840s and 1850s, these self-registering devices proved for the first time that our sensory and physical temporal rhythms could be rendered in graphic form, offering the first indexical traces of our physical life.\(^3\) The rise of Impressionism in the mid-1860s, including its nascent abstractions and ephemeral actions, thus occurred shortly after "sensations" had earned their own representational physical language and, with the help of scientific recording instruments, had appeared for the first time as a visual index as well. Understood as the natural temporal delays of our body and manifest in the elegant curves drawn on the myograph's and kymograph's rotating drums, such sensations-as-representations were more amenable to the forms and times of picture-making than sensory experience had ever been before these discoveries.

As a second example, take the predominance of steam and trains (and the cultures of perpetual transition they embodied) within Monet's imagination of the mid-
1870s. In 1876, just a year before Monet placed several of his Gare Saint-Lazare paintings in the third Impressionist exhibition, Arthur Baignères called Impressionism "a kind of telegraphic mechanism" that fixed impressions like "the letters of a dispatch on azure-colored paper", equating the style's account of the world as endlessly subdivided into small and equal units of single-brushstroke-information with a new technology's analogous dots of transmitting meaning through space and time. Even though the telegraphic metaphor hardly seems to match our current understanding of Impressionism's artistic merits, we can see what Baignères meant. When one looks around in the Gare Saint-Lazare paintings, the smoke is our clearest indicator of a modern temporality figured through perpetual atmospheric change. But the smoke always brushes up against the presence of modern infrastructure and dances over the regularity it imposes within the urban fabric. The locomotives are surrounded in every picture by the material traces of a burgeoning system of communication that enables the entire train system to run with efficiency, like the networks of cables, lamps and signals which punctuate the smoke.

The Gare Saint-Lazare paintings are filled – in ways that have often escaped our notice – with the emblems of the infrastructure of modern connectivity that fed into the standardisation of time. In the painting today in Hannover, as Henina Santos also emphasises in this catalogue, Monet's central pictorial concern is principally one of space (cat. 86). Moreover, in the versions today at the Fogg Art Museum and the Art Institute in Chicago (p. 195, fig. 3 and cat. 85), he overlaid the various features of infrastructure with a remarkable complexity: tracks give way to prefabricated iron walls and columns that support roofs below which are stretched nets of cables, which Monet has pulled parallel to the picture plane. Like the curling smoke billowing toward the viewer, these grids of wires undermine the images' illusion of depth. Monet's paintings were of course assembled in ways that looked like anything but a message sent through a telegraphic cable, but both envisioned nonetheless a world in the grip of pixelated information, in which each unit (one letter or one stroke of the brush) remained manifest. Impressionism's achievement was its unique way of engineering a direct relationship between these two registers, the micro and the macro, and of entertaining the notion of wholeness only as an agglomeration of little pieces of data. "The New Painting" is therefore "a kind of telegraphic mechanism" precisely because in both one incident or element and the larger system in which it rests are on a par.

As the impressionists started to agree on these formal and conceptual properties of the modern picture in the 1870s, a revolution in the coordination and infrastructure of time occurred all around them. Urbain Le Verrier, then director of the Paris Observatory, for instance, attempted to standardize Parisian time by coordinating electrically several prominent Parisian clocks at stations and elsewhere. Thus synchronized, they could offer an unparalleled temporal precision for modern urban life. A commission was formed that included Eugène Viollet-le-Duc, and by the late 1870s, a mother clock in the Observatory was meant to control a dozen subsidiary clocks around town. These clocks, in turn, were meant to coordinate further public clocks in their vicinity – if the system worked properly, which it apparently never did or not for long (ice was often to blame). What this experiment showed was that the "temporal chaos" of modern life needed standardisation. The same was true for the various railway times and train schedules that frustrated so many travellers before time was fully coordinated. The train schedule for the trip between Paris and Lyon, designed in the 1870s by the French engineer Iby (according to Étienne-Jules Marey), exemplified various means of indexing train speeds and station overlays graphically (fig. 6): the more vertical a line, the faster the train; the wider the gap in a line, the longer the wait for the connecting train. A world of the visual display of quantitative information and coordinated clocks shares many features with an Impressionist picture, as Baignères had understood as well, not least the desire to turn the flux of modern time into one material, graphic and visual whole: to make unit and system cohere, and to allow one second and one brushstroke their preordained import within the larger orders to which they belonged.

Thirdly, take Neo-Impressionism as the final dream of the temporally expressive and coordinated brushstroke. Georges Seurat's A Sunday Afternoon on the Island of La Grande Jatte (1884) has often been called "timeless", since the painting first appeared in public in the final Impressionist exhibition of 1886, especially by Seurat's early symbolist supporter (fig. 7). They defined the painting's shift away from Impressionism's celebration of momentariness toward greater regulation of paint application and an extended sense of time, both in its "pointillist" paint application and the seemingly stopped actions of its figures. Still, the critic Félix Fénéon summed up the content of the painting as follows: "The subject: beneath a canicular sky, at four o'clock, the island, boats flowing by its side, swarming with a domical and casual population enjoying the fresh air among the trees..." Trivial information per se perhaps, "four o'clock", but therefore all the more reason to question why the critic thought it was necessary to add such a precise chronometric designation even though it is difficult to verify with such exactitude by any information supplied within the image.

It has escaped notice that avant-garde painting gave up its focus on the haphazard moment and the fleeting sensation for Neo-Impressionism's more "standardised" dots - despite how layered and irregular they turned out to be on
close inspection—during the period in which "universal time" was established. This modernised time hastened the slow extinction of the previously unsynchronised "local" times that had made increased global railroad and ocean commerce difficult to manage, as "four o'clock" amounted to a range of "actual" times in different (at times proximate) locations that had no direct correlation. This crucial development in nineteenth-century time-keeping occurred only months before Seurat's implementation of Pointillism, which occurred over the summer and fall of 1885 when he returned to the Grande Jatte after a break of several months to finish the picture for what would be the last Impressionist exhibition. In the middle of the first phase of work between May 1884 and the spring of 1885, the International Meridian Conference was held in October 1884 in Washington, D. C., to determine the prime meridian of the world. Even though fixing the meridian at Greenwich was passed, it would take decades for global time to become a real lived fact throughout the world. The French, for one, did not adopt the Greenwich meridian for some time, but established "Paris Mean Time", or PM, which was Greenwich Mean Time diminished by 9 minutes and 21 seconds, thus amounting to GMT supplemented by a French name. But what counted is the fact that this concerted effort at full global time-standardisation was well underway by the mid-1880s.

What emerged was a world of complete synchronisation of all units of experience and their manifestations, not unlike the world dreamt up by Neo-Impressionism's regularised application of paint. Seurat's Grande Jatte can even be seen as registering the emergence of a new all-encompassing web of regulated time by translating it into its own meticulous facture and the temporal procedures and expectations it generated. The "regularity" of the dot-as-stroke now depended in no small measure on the fraught regulation of the second it took to paint it. In 1886, the painting's first critics seem to have agreed: "M. Seurat paints in small strokes, measured ones, and the result is a uniformity in full harmony with his means of drawing, ... a unification [is achieved], in both drawing and color, by the principle similitude of all figures, and things, differing only in detail", or "monotone and patient iacute;quette," or "the train-train of this banal promenade ..., the same slow, banal, always the same movement". Time is crucial in these accounts, like an emphasis on slowness and monotony, employing the rhetoric of uniformity that, around 1886, came loaded with meanings culled from the discourses attending the regulation of global time. Paul Signac's contributions in 1886 are relevant here as well, such as his The Railway Station at Bois-Colombes (one of several he painted), which detected the utter regularity imposed by the train on its surroundings in ways Monet had not in the 1870s (fig. 8). The site Signac chose is an unusual one: a railway junction outside Paris, the very place of the regulation of train traffic that led to the standardisation of time to begin with. It was coordinated form and content in ways that demonstrate an understanding of the pointillist dot as a potential symbol of synchronised time.

Each of the paintings discussed above (Monet's as much as Seurat's) is composed of small tangible units of paint, testifying to the one brief experiential incident when brush touched canvas. Taken together, those individual units of pictorial information constitute a world whose oneness exists only as the complex puzzle of small particles—materially, spatially and temporally—from which it is assembled. Every concrete Impressionist brushstroke symbolised a variety of things: taking its place in an army of many, it was one sensation and one flicker of light, but it also calculated the time it took to apply it to the canvas. But while Impressionism saw each stroke as capturing one unique "instant"—and thus as singular—within a picture asked to render "instantaneity" tout court, Neo-Impressionism understood its strokes as inherently plural.
and multipliable, an endless phalanx of repetitions that gathered to form a painting whose temporality turned cut to be much less presentist than Impressionism’s.

That Monet started to paint in series in the mid to late 1880s is thus hardly surprising, when he began to fuse his single brushstrokes increasingly into a continuous and hazy atmospheric veil that covered the canvas all-over (applying paint at times in long curvilinear arabesques, then in stumpy dabs assembled into patches). Many of the water lily paintings, the works in the Rouen Cathedral series (cat. 92–95) and his scenes of London (cat. 98–100) embody a more symbolist understanding of time’s ultimate continuum and layering, not its partition into units a clock can claim to measure. Monet made these revisions to his practice on the heels of Neo-Impressionism’s interpretation of Impressionism – an interpretation which took to a logical extreme the temporally regulated terms which the Impressionist brushstroke had always carried within itself. As Neo-Impressionism continued, but also rework, the temporal parameters of Monet’s brushwork, drawing out its independence on technological and scientific developments in modern time-management, Monet began to switch the temporali of his art yet again. He did so, for one, by painting several paintings of one series at once, adding a few strokes to this canvas, then that one, stepping from one easel over to the next, then reversing direction, thus constantly painting forward and backward in time. Even though each canvas in the series represented the same motif at different brief times of the day, the repetitions inherent in the process of painting serenely utterly confounded the claims each canvas could stake to instantaneousness.

Among the many themes Impressionism and Neo-Impressionism tackled, then, we have to list “time” itself as perhaps one of the most crucial. As Impressionism emptied the modern picture of narrative, history, and eventually even things and figures – broadly speaking its pronounced if not complete evacuation of “content” from art towards more purified expressions of form and phenomenological experience – it made room for another semantic referent: modern time. I hope to have shown the degree to which Impressionism’s and Neo-Impressionism’s high-keyed temporal anxiety – its blending of represented time, experienced time and the time of representation – is one of the period’s most sensitive artistic registrations of industrial time’s regulatory power. Indeed, we can only begin to understand all the specific times Impressionism managed to invoke – the times of the day and the seasons, fleeting gestures and gazes, vision in perpetual flux, senal rendicion, and so on – through reference to the process of time’s standardisation which underwrote them, shifted their meanings and implications for modern life, and made them appear precisely as “of their moment” and “of their time.”
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1. RUTH BRIDGTON (ed.), The West Indies: Impressionism 1847-1896. An exhib. cat., San Francisco 1996, vol. 1, p. 127. This is one of the titles that I have chosen to discuss in some detail in the essay.


MONET

and the Birth of Impressionism

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