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ARTICLE

"TIME MATTERS": REFLECTIONS ON TIME, PHOTOGRAPHY, AND LABOUR

MARTA LABAD

Abstract

With regard to the early days of photography, Roland Barthes (1982) described cameras as "clocks for seeing". Taking this statement as the starting point, the following essay explores how the relationship between photography and time has been strongly shaped by capitalist modes of production since its inception. The essay addresses the work of several artists and photographers, from the early days of photography to the present, and places them in dialogue with texts on time, labour and photography. The essay is divided into three parts. The first part analyses time-motion studies conducted by Eadweard J. Muybridge, Étienne-Jules Marey and Frank and Lilian Gilbreth in the 1880s, focusing on how the aesthetics of these photographs were deeply entangled with notions of time and efficiency endorsed by industrial capitalism. The second part addresses the existing gap between human and mechanical time, by rereading Man Ray's Indestructible Object (1964) and Tehching Hsieh's Clock Piece (1980-1981) in relation to notions of discipline and chrononormativity (Foucault, 1969; Freeman, 2010). The third part of the essay introduces the work of artists, such as Erwin Wurm, Peter Fischli and David Weiss, or Hiroshi Sugimoto. I analyse the tactics they use for resisting and escaping the "tyranny of the clock" (Woodcock, 1944) and place them in relation to my own practice as a photographer. All in all, I argue that each photograph embodies a very particular way of understanding time that embraces, resists or escapes capitalist modes of producing value. By analysing specific aspects of photography, the text brings to the forefront the (often hidden) politics of time embedded in the photographic medium.

Keywords: Time, photography, clock, labour, value, escapement

Writing about the early days of photography, Roland Barthes described: cameras as being "clocks for seeing"[1]. This statement is a sharp reminder of how time and photography have been deeply entangled since the very outset. It is no secret that photography was conceived in a modern society increasingly obsessed with clock time. In fact, while daguerreotypes were causing "universal stupefaction,"[2] Poe wrote a short story called "The Devil in the Belfry" (1839) that brilliantly portrays this growing obsession. In Poe's tale, the inhabitants of a remote village, who can't take their eyes off the clock, had been radically transformed by its regular ticking. Day or night, the clock sets the tempo for their breathing, habits or gestures and the sixty houses of the village are distributed on a circle, just like the sixty minutes on a timepiece. Poe's tale may seem exaggerated, but it only amplified a radical shift in how to understand time along with labour, which continued to grow throughout the following century. In "The Tyranny of the Clock" (1944), George Woodcock observed that before modernity, "time was seen as a process of natural change, and men were not concerned in its exact measurement"[3]. But everything changed with industrial capitalism:

> The clock turns time from a process of nature into a commodity that can be measured and bought like soap or sultanas. And because, without some means of exact time keeping, industrial capitalism could never have developed and could not continue to exploit the workers, the clock represents an element of mechanical tyranny in the lives of modern men more potent than any individual exploiter or than any other machine[4].

E.P. Thompson has thoroughly analysed how the strands of time, discipline, and labour, are intimately intertwined. For Thompson, it is when labour is employed that time becomes money. At that moment, time ceases to be "passed" and begins to be "spent"[5]. Photography appeared on the scene and was welcomed as an extraordinary technology capable of stopping time. In short, photography became the perfect match for the clock.

The following essay explores how the relationship between photography and time has been strongly shaped by capitalist modes of production since its inception. I will present the photographic works from different moments in history by several artists whose approach endorses, questions or resists the rhythms and temporalities solicited by industrial capitalism. By analysing specific aspects of these photographs and by placing them in dialogue with relevant texts on time and labour, as well as with my own photographic practice, I aim to bring to the forefront the (often hidden) politics of time embedded in the photographic medium.

NO TIME TO LOSE

In 1883 Étienne-Jules Marey took a portrait of a man dressed in black from head

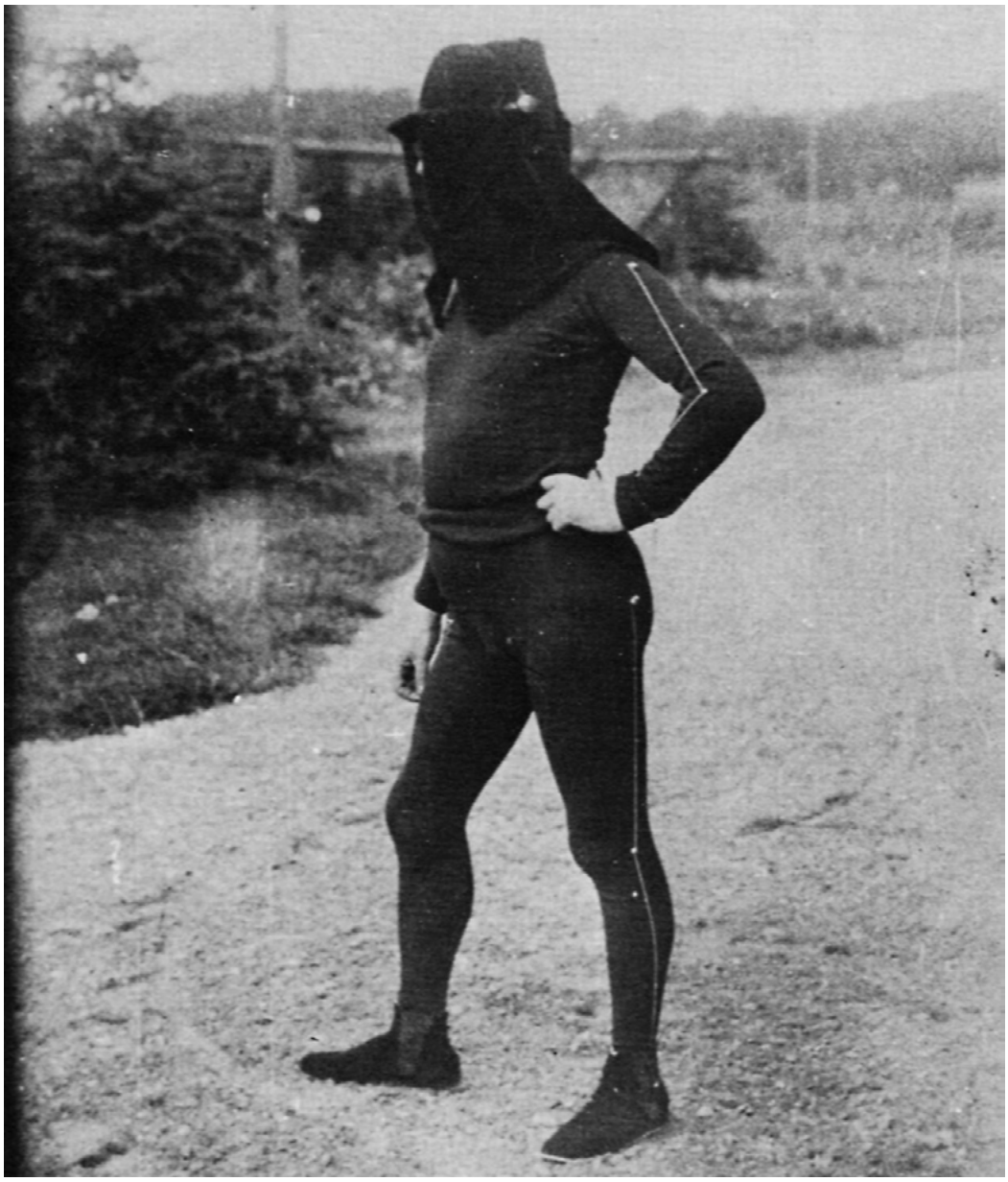


Figure 1.
Étienne-Jules Mary, 1883.
Retrieved from Wiki commons.

to toe (Figure 1). The outfit is as confusing as intriguing. His head is completely covered under a dark cloth. The pants and the shirt are perfectly fitted. A fine white line runs through the limbs and white dots appear on each of the articulations. The man is dressed like that, because he is about to participate in one of Marey's experiments.

For years, the French photographer and physiologist had been obsessed with time and motion. Marey used different methods and electrical devices for registering, monitoring and disclosing what Rabinbach calls "an interior chronology of the rhythms of the body"[6]. Influenced by Helmholtz[7], Marey examined and measured bodies in search of "time perdu" or "lost time", which could be understood as the gap or the lapse of time in which these bodies remained inactive after receiving an electrical stimulus. As Jimena Canales observes, this time lag was on the order of a "tenth of a second", which is precisely the temporality that best defines modernity[8]. All in all, a body without fatigue was the ultimate nineteenth

century utopia[9], and Marey's interest in time (and later in photography) must be understood in close relationship with this new "economy of the body"[10].

In 1878, Marey was so impressed by Eadweard J. Muybridge's famous pictures depicting the gallop of a horse that he invited him to Paris to find out more about his work. It turned out that Muybridge was not interested in efficiency at all, but in dissecting time and motion. Nevertheless, Muybridge's photographs marked a breaking point in how people saw things, telling the story of a man who conquered time with the help of a camera:

> It was as though he had grasped time himself, made it stand still, and then made it run again, over and over. Time was at his command as it had never been at anyone's before. A new world had opened for science, for art, for entertainment, for consciousness, and an old world had retreated farther[11].

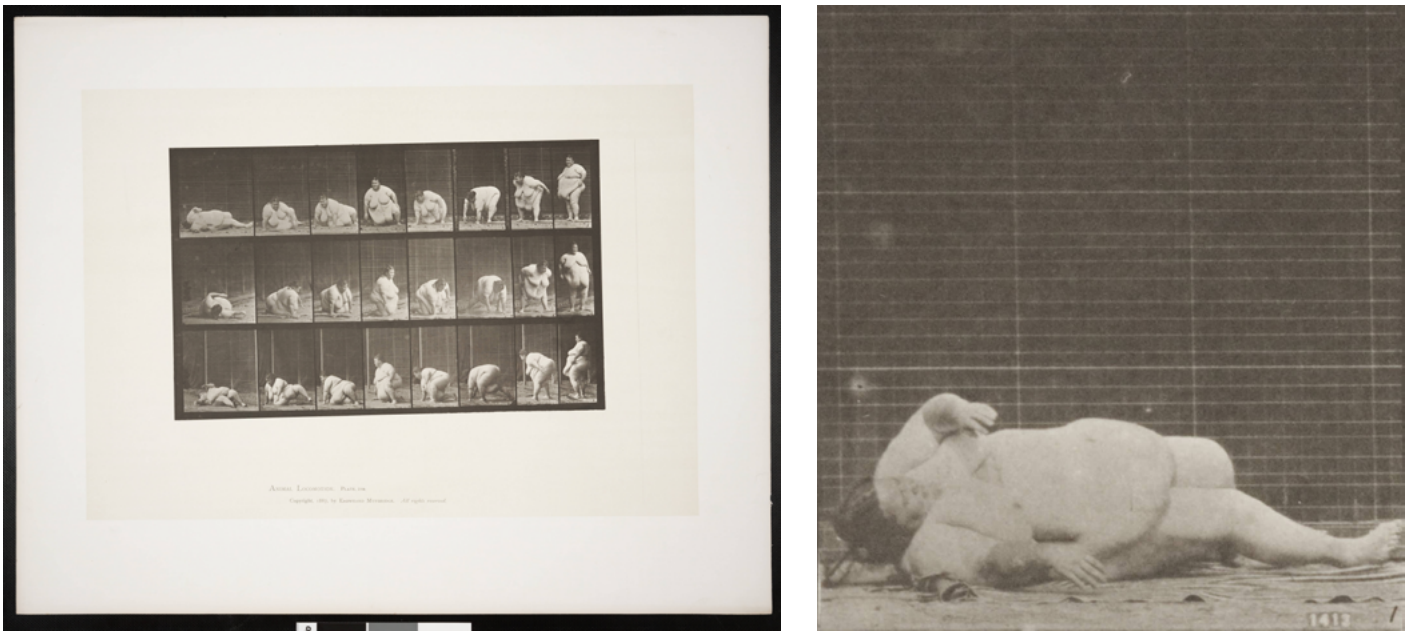
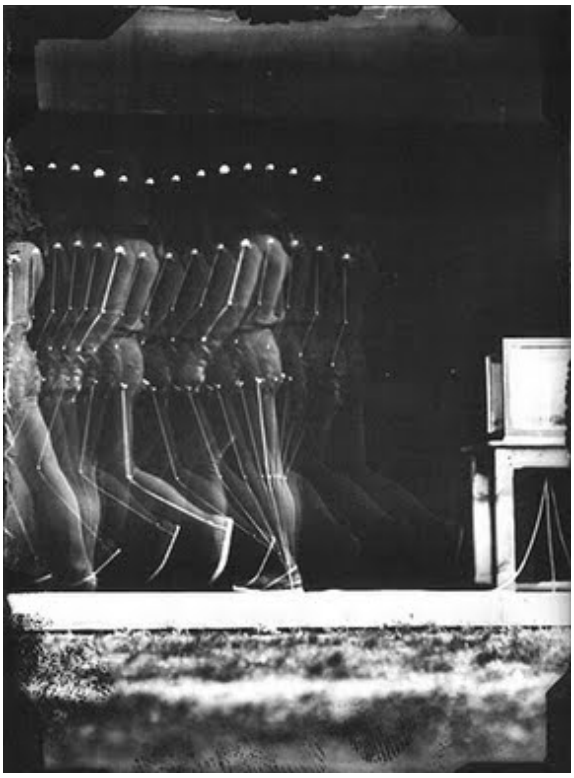


Figure 2.
Eadweard Muybridge. Plate 268, captioned "Arising from the ground", 1883. Retrieved from Wiki commons.

Until then, nobody had been able to see the gallop of the horse[12] with exactitude and photographers had been only dreaming of the "tenth of a second". Muybridge turned his camera into an optimised version of the eye: faster and far more reliable. In the following years he went on to photograph hundreds of animals, as well as naked men and women, doing all sorts of things: shooting, scrubbing the floor, walking, tripping, or smoking. Even the most mundane activity was scrutinised and broken down into pieces, just to be mentally reconstructed again through the sequences. Among his pictures, we discover surprising studies, such as the sequence of an overweight nude woman trying to stand up (Figure 2). Indeed, Muybridge spent some time photographing people who were considered abnormal, such as a contortionist, a man with amputated limbs or a child with paralysis[13], or women in provoking attitudes given the times, such as a woman smoking in a state of ecstasy[14].



[Left] Figure 3. Étienne-Jules Marey, 1891. Retrieved from Wiki commons.

[Right] Figure 4. Frank Gilbreth, *Motion Efficiency Study*, c. 1914. National Museum of American History, Behring Center, Division of Work and Industry Collection.

Marey acknowledged that Muybridge's pictures were freezing motion much more successfully than his graphic notations, although he believed that the dimension of time was not being sufficiently considered. After the meeting, Marey took Muybridge's experiments one step further: he began using photography and introduced the time component by placing a chronometer on the front part of the camera. In 1883, he began to photograph people dressed like the man in the photograph (Figure 1), who were lit and shot against a dark background. I have chosen a photograph that shows a person walking, who is leaving multiple figures in its wake. We may see how the flesh of the body begins to disappear, while the bright lines allow us to diagram and trace back the path followed by the model (Figure 3).

Michel Foucault notes that this concern with time and efficiency and the desire to optimise bodies had been a long time running in disciplinary societies[15]. As the philosopher puts it, through the seventeenth and eighteenth centuries, bodies became more docile, and lost political power, as their gestures and tempos were recalibrated towards maximum efficiency. At the end of the nineteenth century, photography was strongly linked to this notion of time and efficiency. It is true that Marey was more interested in the idea of lost time and Muybridge more in dissecting motion visually. But either way, both photographers influenced artists and engineers such as Marcel Duchamp[16] or Frank and Lilian Gilbreth. In the subsequent decades, time and efficiency began to weave themselves into the fabric of everyday life.

Around 1914, the Gilbreths photographed this woman working behind a counter. This image is not meant to be a portrait, but a motion study. The photograph

offers the viewer very little information about the person who is conducting the task, about her face or her gestures. The female worker is turned into a ghost, a blurred figure with bright fingers, who draws bright lines in the air. Nevertheless, she is a stationary worker: the sharp boots below the counter indicate that she has kept her feet still and affixed to the ground during the whole routine. She has been asked to perform in front of the camera, at top speed, because she is just about to be optimised by a special group of engineers who will find a much easier way to get more done in less time.

Attuned with Frederick Taylor's ideas[17], the Gilbreths made every effort to register, study and improve the worker's movements at work. They attached tiny lightbulbs to the worker's fingers and the camera's shutter was let open, time enough to record several sequences of movements[18]. The bright lines on the photograph, which the Gilbreths called "cyclegraphs"[19], indicated the exact path followed by the worker's hand. These were then translated into three-dimensional abstract models made of wire, which were photographed again.

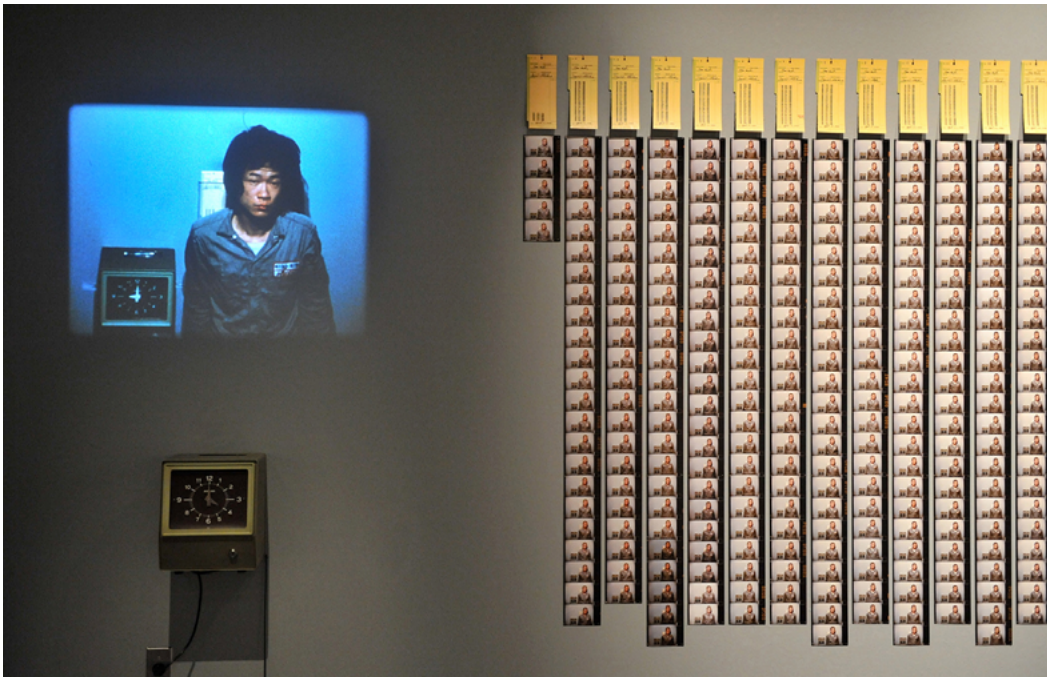


Figure 5.
Tehching Hsieh, *One Year Performance 1980-1981*. Installation View ©1981 Tehching Hsieh. Courtesy the artist.

In a way, these pictures look like photo-sculptures, born of a long-lived desire to be in control of time[20], and particularly, of bodies in relation to time. Once these three-dimensional paths were studied and optimised, the workers could be trained and asked to recalibrate their spontaneous movements to avoid unproductive movements and delays. As Grégoire Chamayou explains: "The worker's gesture, reconstructed in the laboratory, re-enters the workshop in modified form, this time as a thread by which to conduct productive bodies to conform their dance"[21].

PLAYING WITH TIME

All these stories about the modern obsession with time seemed far away in 1980, when the Taiwanese artist Tehching Hsieh decided to start a performance in New York that would stick to the following premise: to punch a time clock in his studio every hour on the hour, day or night, for a year[22]. The statement did not reference in any way the photographic medium. Nevertheless, Hsieh took a picture of himself each time he entered the room to punch the clock. The installation of the piece shows more than six thousand pictures of him, dressed in a blue-collar worker uniform (Figure 5). The use of the camera has to do with scepticism: Hsieh had to demonstrate that it was him who was punching the clock every time, and not anybody else. As Joan Fontcuberta has observed, "photography appears as a technology at the service of truth. The camera witnesses that which has happened;

Figure 6.
Man Ray, *Indestructible Object*, 1965, wood, fiber, metal, and paper on cardboard. Courtesy Smithsonian American Art Museum, Gift of Samuel M. Greenbaum and Helen Mark families in memory of Helen Mark Greenbaum, 1993.

photosensitive film is destined to be a support for evidence"[23]. When Hsieh did this performance, long before the post-truth era, the photograph was still accepted as the ultimate proof of existence. Nevertheless, the use of the photographic medium raises many other questions in relation to time. Although timecards seem an efficient tool for registering the exact time and date in which a worker (in this case, the artist) is present, they do not tell anything about their appearance or their emotional or physical distress. By taking a self-portrait every hour and presenting thousands of them altogether, Hsieh is pointing directly at the passage of time.

Somehow, Hsieh is inviting the spectator to think about time through his body. The extended self-portrait of more than six thousand pictures builds on the same linear and regular understanding of time endorsed by industrial capitalism. Nevertheless, the artist focuses on a crucial fact: clocks and bodies measure time in radically different ways. Centuries ago, Saint Augustin spoke about time, highlighting its ungraspable nature:

> What then is time? Is there any short and easy answer to that? Who can put the answer into words or even see it in his mind? Yet what commoner or more familiar word do we use in speech than time? Obviously when we use it, we know what we mean, just as when we hear another use it, we know what he means? [24]

For humans, the experience of time seems more uncertain and shifting than for time-keeping machines. As George Kubler has pointed out: "Time, like mind, it not knowable as such. We know time only indirectly by what happens in it, by observing change and permanence"[25]. In Hsieh's installation, the spectator may grasp a sense of time only through the subtle shifts of the expression, the skin, the hair, or the remarkable signs of fatigue. It is through sequence and repetition that we recall that human time is full of shades and affects.

But beyond that, Hsieh is presenting an expanded self-portrait which defies the logic of the clock: one of the most striking aspects about this performance is the fact that, for a year, Hsieh has not been able to get a good night's sleep. In this regard, the pictures also portray an insomniac worker (of time) whose job consists of punching the clock every hour on the hour, day or night, casting aside personal needs, affects or rhythms. With such temporal restriction, Hsieh's life is reduced, interrupted, and compromised, surrendered to the relentless call of the clock (and the camera) for an entire year.

Other artists have reflected on how regular temporalities, endorsed by capitalist modes of production, get to shape intimate movements. In 1923, Man Ray attached a cut out photograph of an eye to a metronome[26] with a paperclip (Figure 6) and began to paint following a regular tempo. The artist explained that he used this device for painting in his studio for a while:

> I had a metronome in my place which I set going when I painted - like the pianist sets it going when he starts playing - its ticking noise regulated the frequency

> and number of my brushstrokes. The faster it went, the faster I painted; and if the metronome stopped then I knew I had painted too long, I was repeating myself, my painting was no good and I would destroy it. A painter needs an audience, so I also clipped a photo of an eye to the metronome's swinging arm to create the illusion of being watched as I painted. One day I did not accept the metronome's verdict, the silence was unbearable and since I had called it, with a certain premonition, Object of Destruction, I smashed it to pieces[27].

This paragraph accounts for a double desire: on the one hand, to regulate brushstrokes, and on the other, to paint in front of an audience. In attuning his activity to the metronome, Man Ray is carrying out an exercise of chrononormativity, a term that Elizabeth Freeman uses to describe the processes of "re temporalization of bodies" in the name of productivity:

> Chrononormativity is a mode of implantation, a technique by which institutional forces come to seem like somatic facts. Schedules, calendars, time zones, and even wristwatches inculcate what the sociologist Evitar Zerubavel calls "hidden rhythms", forms of temporal experience that seem natural to those whom they privilege. Manipulations of time convert historically specific regimes of asymmetrical power into seemingly ordinary tempos and routines, which in turn organize the value and meaning of time. The advent of wage work, for example, entailed a violent retemporalization of bodies once tuned to the seasonal

[Left] Figure 7.
Peter Fischli and David Weiss. *Equilibres (A Quiet Afternoon)*, 1984-1986.

[Right] Figure 8.
Erwin Wurm, *Instructions for idleness*, 2001. Courtesy of Erwin Wurm.

> rhythms of agricultural labor[28].

Man Ray was playing with the idea of painting like a musician, following a regular tempo, trying to provide a temporal structure for his artistic practice. However, it is difficult not to think of how this regular beat relates to other regular tempos that were structuring life and labour in this same moment. The artist created *Object to be Destroyed*[29] in 1923, right after one of the most renowned debates about time, between Henri Bergson and Albert Einstein, both of whom had radical different ways of understanding time. While the philosopher insisted of thinking about the relationship between consciousness and individuals, Einstein understood time as "independent from individuals". Following Jimena Canales, the debate fell on the side of Einstein and rationality, rather than Bergson and intuition[30].

I would not like to overlook the fact that, by painting in this regular and mechanical manner, Man Ray is performing his artistic activity as if he were in a factory. Spontaneous movements are suppressed, and the hand comes to resemble a painting machine[31]. The hand and the eye (which symbolises the pretended audience) swing back and forth in full synchrony. And I believe that this playful artefact centres on one of the major shifts during these periods: the hand and the gaze have a new tempo. People's ways of working and looking become more attuned to the conveyor belt, in the factory, in the cinemas or through photography. By the time Man Ray was playing with this artefact, photography was becoming very popular, as Walter Benjamin observed:

> Today, people have a passionate inclination to bring things close to themselves or even more to the masses, as to overcome uniqueness in every situation by reproducing it. Every day the need grows more urgent to possess an object in the closest proximity, through a picture or, better, a reproduction[32].

Indeed, Benjamin's thoughts could be perfectly describing today's snapshot economy, which demands constant attention, consumption, and production of images from every corner of the planet. Man Ray acknowledges a desire to be watched by an audience while performing. This attitude connects with today's widespread desire of sharing every bit of our lives through social media. To see and to be seen has become a new labour. I would add that the "passionate inclination" described by Benjamin is shaded by an urgent need of bringing not only things, but oneself close to the masses, anytime, everywhere, through the internet. Instantaneity and immediacy have become other dominant temporalities on a global ecosystem of connected screens, which blur the boundaries between day and night, work and leisure, privacy and publicity. Instagrammers and tiktokers make a living by picturing themselves in front of the camera, moving, dancing, and mouthing. And although bright lines have disappeared from the picture and efficiency seems out of the question, productivity continues to be measured and quantified, not against the clock, but in the form of likes, views and followers who

watch from individual remote screens and who follow a much less regular tempo. Today, photography continues to be intertwined with productivity, time, and labour. However, as Ben Burbridge recently noted, we should not forget that all these new forms of immaterial labour (posting, sharing, viewing, liking) are deeply connected with material labour:

> (...) contemporary photography- including that made by "photographers"- is reliant on the labour of many people who do not "take" photographs at all. Camera manufacturers, satellite transportation crews, Street View car drivers, content moderators would certainly not describe themselves as photographers, or even as "camera operators".
>
> We may possess some vague awareness that our camera phones were made in factories off shores, using minerals that must have come from somewhere; that the absence of pornographic content on Instagram involves someone else's labour; that Street View cars are driven by someone[33].

Therefore, we must acknowledge that all these new forms of immaterial labour are, in fact, not so immaterial as we thought. Material and immaterial labour are deeply connected and quite often overlap. As Ben Burbridge observes, every snapshot relies on different sorts of manual labour and, at the same time, generates value for corporations: "Google monitors our service use in order to identify the kind of behavioural patterns that allow paid advertising to be targeted with new levels of efficiency"[34]. The boundaries between work and leisure in this global economy become fuzzier than ever, and our spare time and bodies continue to be oriented towards productivity.

ESCAPEMENT

The mechanism that allows the clock to advance at regular intervals is known as *escapement*. Nevertheless, this word also refers to the act of escaping, fleeing, or breaking free. I would like to conclude this essay by offering a glimpse of my own practice and by placing it in relation to some artists whose work resists or escapes the modern obsession with time and efficiency that I have explored so far.

Unlike Marey or Gilbreth, contemporary artist Erwin Wurm seems to dream of inefficient bodies. For decades, Wurm has developed what I would call a "poetics of uselessness". Wurm's photographs depict people (often himself) in a variety of situations: engaged in nonsense and humorous activities, or completely disengaged (lying down, tired, knocked out, exhausted) (Figure 8). In Wurm's performative pictures, people no longer perform against the clock and the experiences of time cease to be oriented towards value and productivity. His work builds on exhausted, dysfunctional human beings who invest their time in doing absurd things, such as holding objects with their head against the wall or finding

temporary equilibrium in the encounter with spaces and objects. Either way, Wurm is cutting bodies off from production. In his pictures, they are allowed to make time for doing nothing, and they seem to enjoy it. Photography is used here as a technology for freezing a moment of idleness, an active passivity or futility. In fact, when I look at his comprehensive work, I get the sense that he has been using the camera as a way of creating a vast catalogue of possibilities for escaping any syndrome of productivity.

Wurm is not the only artist who has found a humorous, playful, and unexpected way of facing value through the photographic medium. In the 1980s, Swiss artists Peter Fischli and David Weiss created a series of still-life photographs that portrayed everyday objects finding balance on the verge of collapse (Figure 7). The images depict household objects that would appear in any domestic still-life setting, such as bottles, carrots, saucepans, graters, or ladles. However, the objects are not lying on the table. Instead, they have been used to create a precarious vertical structure which defies the laws of gravity. Fischli and Weiss are celebrating dysfunctionality, as well as a radical misuse of time. On the one hand, they are playing with utensils and displaying them as useless objects. On the other hand , they are proud to say (as implied through the title) that they have spent a whole afternoon attempting to create a pointless artefact which will collapse in any second. These images bring back to my mind Charlie Chaplin's feeding machine[35] or Buster Keaton's fully automated house[36]. In both cases, the artists reflected (in slapstick style) on how the modern obsession with time was producing unnecessary technological devices for avoiding any expenditure of human energy.

I would like to continue by addressing how the work of these artists, which combines sculpture and photography, connects to my own practice as a photographer. A few years ago, I made a series of photographs depicting some everyday objects that I had previously manipulated. One of the photographs shows a fork that has been carefully wrapped up with a pinkish red rope until it becomes invisible and unusable. Another picture shows an orange, peeled, emptied, and turned upside down (Figure 10). The pieces have been sewn back together in an attempt to keep its original spherical form. A few years before taking these

Figure 9.
Marta Labad Arias. From Left to right: *Irreversible*, 2014. Fork, 2017.

Figure 10.
Hiroshi Sugimoto. U.A. *Playhouse, Great Neck*, New York, 1978. Gelatin silver print, 16 5/8 in. × 21 7/16 in. (42.23 cm × 54.45 cm). Courtesy of SFMOMA. Mrs. Ferdinand C. Smith Fund purchase. © Hiroshi Sugimoto.

pictures, I had spent a fair amount of time wrapping up the space I lived in, until it was completely covered in packaging paper, just to take a few photographs that I would print in a small size (Figure 9). These works responded, among other things, to a desire to make time to play with everyday objects and transform them, up to the point of becoming excessive or useless but beautiful. The objects you can see in these photographs required some labour understood here as physical and mental effort or investment, which will not result in any useful or functional goods or utensils. Nevertheless, this labour is a complete waste of time in terms of value (as understood in capitalist societies). They lack any desire for productivity or efficiency. The action has not served any purpose other than playing or looking at things in a different way. Instead of freezing a decisive instant, the photograph is pointing towards an enjoyment of the "time *perdu*".

Hiroshi Sugimoto used quite a different tactic for escaping the tyranny of the clock. In the 1990s, he photographed empty movie theatres, by leaving the shutter of the camera wide open during the complete duration of the film. Thus, the photosensitive emulsion recorded twenty-four frames per second, which were overlapping for the whole duration of the film. The resulting image (Figure 10) shows a white radiating screen, which illuminates the space. Sugimoto is not dreaming of the tenth of the second and he is not interested at all in the instant. Instead, he uses the medium for registering a time in between. In short, Sugimoto creates this image by putting thousands of fractions of seconds back together to remind us that time continues to be something unspeakable and ungraspable.

Almost two centuries after its invention, the camera and the image interplay with the reels of consumption and production, which continue to blur the boundaries

between work and leisure. Time continues to seem scarce. Although photography is always inherently connected to time, these artists are making a clear statement about how they understand time. They use the camera as a tool for engaging, reporting, or resisting inherited temporalities. These artists focus on the need to redefine the relationship between time and value. They invite us to explore ways of leaving the pressure of the clock suspended. The photographs highlight the need to strike a new balance between their own time and the time of the world. All in all, the selected photographs reveal that time is political, and that there is a politics of time embedded in most photographic practices.

REFERENCES

BARTHES, Roland. *Camera Lucida*, Hilla and Wang, New York, 1982.

BENJAMIN, Walter. *On Photography*, London, Reaktion Books, 2015.

BURBRIDGE, Ben. *Photography After Capitalism*, Goldsmith Press, London, 2020.

CANALES, Jimena. *A Tenth of a Second. A History*. The University of Chicago Press, Chicago, 2009.

CHAMAYOU, Grégoire. "Patterns of life", in: *Nervous Systems*, (Ed.) Anselm Franke, Stephanie Hankey and Marek Tuszyinski, Spector Books, Leipzig, 2016.

FREEMAN, Elizabeth. *Time binds: queer temporalities, queer histories*, Duke University Press, Durham, 2010.

FOUCAULT, Michel. Discipline and Punish, 154. New York, Vintage Books, 1979.

FONTCUBERTA, Joan. El beso de Judas. Fotografía y verdad. Editorial Gustavo Gili, Barcelona, 2015.

GILBRETH, Frank and Lilian. *Applied Motion Study*, Sturgis&Waton Company, New York, 1917.

GORDON, Sarah. *Indecent Exposures*. Edweard Muybridge's Animal Locomotion Nudes.

GROOM, Amelia. *Time. Documents of Contemporary Art*. The Whitechapel Gallery, London, 2013.

HALWES, Shannon. "Man Ray, objects 1916-1921: the role of aesthetics in the art of idea." MFA Thesis, Houston, Rice University, 1990. https://hdl.handle.net/1911/103398.

NADAR. *Memorias de un fotógrafo*. Casimiro Libros, Madrid, 2019.

RABINBACH, Anson. *The Human Motor: Energy, Fatigue, and the Origins of Modernity*, California, University of California Press, 1992.

SAINT AGUSTINE, *The Confessions of Saing Agustine*, Sheed&Ward, New York, 1959.

SCHWARZ, Arturo. *Man Ray: The Rigour of Imagination*. Thames and Hudson, London, 1977.

SOLNIT, Rebecca. *River of Shadows*. *Eadweard Muybridge and the Technological Wild West*. Peguin books, New York, 2004.

THOMPSON, E. P. "Time,work-discipline, and industrial capitalism", *Past and Present*, no.1, vol. 38, (dec. 1967): 56-97.

WINSLOW Taylor, Francis. *The Principles of Scientific Management*, Harper&Brothers Publishers, New York, and London, 1919.

FILMOGRAPHY

CHARLES CHAPLIN, *Modern Times* (1936).
BUSTER KEATON, *Electric House* (1922).

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1 Barthes 1982, 25.
2 Nadar 2019, 7.
3 Woodcock, 2013, 65.
4 Ibid., 65.
5 Thompson 1967.
6 Rabinbach 1992, 94.
7 Ibid., 92.
8 Canales 2009, 6.
9 See Anson Rabinbach, op.cit.
10 Ibid.
11 Solnit 2004, 3.
12 When Muybridge took this picture, horse racing was very popular, and the gallop of the horse was the topic of much debate. Some people thought that horses, when galloping, always had a leg on the ground, while others believed that all four legs were in the air at some point. Painters were unsure about how to depict a horse in motion.
13 See Sarah Gordon. *Indecent Exposures: Eadweard Muybridge's Animal Locomotion Nudes*. Yale University Press, New Haven, 2015.
14 Ibid.
15 Disciplinary control does not consist simply in teaching or imposing a series of particular gestures; it imposes the best relation between a gesture and the overall position of the body, which is its condition of efficiency and speed. In the correct use of the body, which makes possible a correct use of time, nothing must remain idle or useless (...) Discipline, on the other hand, arranges a positive economy; it poses the principle of a theoretically ever-growing use of time: exhaustion rather than use; it is a question of extracting, from time, ever more available moments and, from each moment, ever more useful forces". In Michel Foucault. Discipline and Punish. New York, Vintage Books, 1979, 152-154.
16 I am referring here to *Nude Descending a Staircase* (1912), which was influenced by the work of Muybridge and Marey.
17 Aligned with US President Roosevelt, Taylor believed that natural resources (forests, water, soil, coal, or iron) were scarce, while human energy was unlimited, but wasted through inefficient movements. In Taylor 1919, 5.
18 The couple also produced a fair number of films in which workers were recorded against a chronometer.
19 Frank and Lilian Gilbreth 1917, 85.
20 I am referring here to Foucault's studies on disciplinary societies, in which he analyses how time, bodies, power and efficiency have been deeply enmeshed in disciplinary societies. Foucault highlights a desire of "extracting, from time, ever more available moments and, from each moment, ever more useful forces. This means that one must seek to intensify the use of the slightest moment, as if time, in its very fragmentation, were inexhaustible or as if, at least by an ever more detailed internal arrangement, one could tend towards an ideal point at which one maintained maximum speed and maximum efficiency". In FOUCAULT, Michel. *Discipline and Punish*, 154. New York, Vintage Books, 1979.
21 Chamayou 2016.
22 The full statement said: "I, Sam Hsieh, plan to do a one-year performance piece. I

shall punch a Time Clock in my studio every hour on the hour for one year. I shall immediately leave my Time Clock room, each time after I punch the Time Clock. The performance shall begin on April 11, 1980 at P.M. and continue until April 11, 1981 at 6 P.M."

23 Fontcuberta 2015. [Translated by the author].

24 In Saint Augustine. *The Confessions of Saint Augustine*. 1959, 271.

25 George Kubler, "The Shape of Time" (1962), *In Time. Documents of Contemporary Art*, edited by Amelia Groom. Whitechapel Gallery, London, 2013, 29.

26 The metronome, which was invented in 1816, aimed at providing a regular tempo for musicians.

27 Schwarz 1977, 206.

28 Freeman 2010, 3.

29 The piece ended up being shot and destroyed by students in 1957, during a retrospective dada exhibition. See Shannon Halwes "Man Ray, objects 1916-1921: the role of aesthetics in the art of idea." MFA Thesis, Houston, Rice University, 1990. https://hdl.handlenet/1911/103398.

30 Canales 2009, 181.

31 The piece ended being shot and destroyed by students in 1957, during a retrospective dada exhibition. See Shannon Halwes "Man Ray, objects 1916-1921: the role of aesthetics in the art of idea." MFA thesis, Rice University, Houston, 1990. https://hdl.handle.net/1911/103398.

32 Benjamin 2015.

33 Burbridge 2020, 13.

34 Ibid., 10.

35 In one of the most famous scenes in the film "Modern Times" (1936), a worker, played by Chaplin, is fed by an automatic machine.

36 I am referring to Buster Keaton's film, *Electric House* (1922).