Body and Time

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Bodily Rhythms and Social Synchronism in the Digital Media Society

Edited by

Bianca Maria Pirani and Thomas S. Smith

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This book is dedicated to the memory of Professor Ivan Varga

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PREFACE

ROBERTO CIPRIANI
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Body and time represent a binomial, a bond which is not easy to dissolve. Each body is collocated in a time and this means a continual resistance in terms of confrontation, challenge and struggle. When all is said and done, this temporal dimension must be recognised as having an advantage over the body precisely because of its non corporeity. The consumption of time has a character which is opposite to that of the body: the former is an uninterrupted sequence and therefore destined to last, at least as long as there is no need to measure it, make calculations or define the range of its limits expressed in units of seconds, minutes, hours, days, months, years, centuries, millenniums and so on. Besides, time *per se* is not capable of self-measurement, the Bergsonian conception of *durée*, of imagining its end, of comparing itself with other forms of temporality. This is not the case for the human body (including animals); it is fairly aware of its precariousness, the passing of time, the possibility of death and the relative risks there are to existence.

This asymmetrical rapport between body and time, however, allows the former to control the latter and not the contrary. At this point it is difficult to establish where the greater power lies. Clearly time outlives the body and not vice versa. In such a *concordia discors* all the fascination of *interplay* between the two variables is to be found, perennially in dialogue (from generation to generation).

The body shows signs of aging - the drying of the skin, wrinkles, lack of elasticity, and there are other indicators as well - or resistance to the 'insults' of time. The latter continues along its path 'imperturbable' without any substantial differences of note: the month of March, 2013 in Rome was not very different from the month of March, in 44 BC, the ides of March, when Julius Caesar met his death; or the mangled body of a dictator for life no longer exists today, but time continues to flow, 'indifferent' to the events and the many bodies that have passed through history for a brief moment and then vanished.

Even the group of academics who for many years have been working in the *International Sociological Association* following the same process designed by the double binary of the body and time factor: some of them have left their significant mark, but are no longer with us (above all the contribution of Ivan Varga, comes to mind - the promoter who, from the start, had a leading role in the *Working Group 03* '*The Body in the Social Sciences'* and then the *Research Committee 54* within the *International Sociological Association*). We continue to hold the flag while waiting to pass it on to others, in particular, to other subjects and other bodies who will carry on the corporeity struggle of academics aboard the trajectory of unstoppable time.

The body-time couple is part of a series of constant connections in informal language and in sociological analysis: length-width, heaven-earth, black-white, yes-no, man-woman, life-death, heart-mind, Christmas-Easter, night-day, near-far, zero-one and so on. It is a question of bijective relationships - two parts of a couple, each with its exclusive identity, directly in juxtaposition with the other to which it is connected.

One could also speak about a situation in which an inversely bidirectional parallelism reigns in that if the direction of the body trajectory goes in one sense the temporal variable goes in a diametrically opposite sense. And yet the two directions remain complementary to the human experience, one unique profile. In other words, if the body is destined to consummation, to become dust and, therefore, to annihilation, time does not undergo the same process; it follows its own trajectory in an uninterrupted sequence, always towards an indefinite future, if not, infinity. Such an ambivalent situation between body and time collocated within the same existential river-bed does not produce irreparable contradictions, but rather gives rise to compensation and recovery, to equilibrium and synergies, to convergences and co-optations.

To a hypothesis of this nature, the contrapuntal progression in *The Art of the Fugue* by Johann Sebastian Bach (1685-1750) appears emblematic and allusive – so much so that it continues even today to inspire and excite numerous social actors. It was the intention of the great eighteenth century composer to distance himself from contemporary fashion and to emphasize the ups-and-downs of the human character, its advances and its withdrawals, its accelerations and its slowing downs, its sharp and hard tones, but nonetheless, harmonious and pensive; all are well conveyed by the diverse movements of the two hands over the keyboard of the harpsichord or the organ (or the pianoforte of more recent times); a tight dialogue is woven between themes and contrapuntal, subject and context, leading instrument and instruments of accompaniment, exactly like the

rapport between body and time in which rule and imagination are stretched to their extreme consequences.

Recourse to *rectus* and *inversus*, (almost the two sides of the same coin), proves nothing more than the duplicity of human experience, balancing between joy and suffering, a sense of omnipotence and the realization of impotence, the experience of freedom and the conditioning of context. There is a certain mirror image, a symmetry between body and time, almost giving further evidence of the influence of mirror neurons producing exchanged glances of intentions and objectives to reach.

The non homogenous progression of body and time respond to current criteria that can, in effect, be surpassed and wiped out. In the end, however, it is time which remains in the game, guaranteeing the *continuum* in progress.

Today's executor of Bach's *Art of the Fugue* is none other than a trained and expert body that re-proposes the contents of a first class artistic experience after 250 years; a time lapse, therefore, with a substantial separation from the aims of the long-gone composer who signed the final fugue of the cycle with a fragment of the 239 beats, ending in B flat, A, C and B major, that is the notation in German corresponding to the letters B, A, C, H; the composer himself wanted to seal his existential artistic bow with a more than eloquent signature.

The Canadian, Angela Hewitt, today's most faithful and attentive interpreter of Bach, uses the essential corporeal elements – her hands – and above all, her mind, to organize and implement the development of the musical execution, bringing the art of Bach to life after centuries, thus breaking the diachronic barrier of temporal distance, and recreating atmosphere and messages of great efficacy.

It is worth remembering that Johann Sebastian Bach's infirm and confined body was no obstacle in leaving another trace of his musical message, particularly through the choral work 'Before Thy Throne Oh Lord I Stand' dictated to his son, also a composer; an extreme act of devotion from a body ready for death, but still capable of projecting itself in time, and beyond corporal survival. It is in this manner that the body is victorious over death, going beyond the limits of the final event. The body, in other words, after the predictable defeat bound to the end of existence takes its revenge over time.

INTRODUCTION

BIANCA MARIA PIRANI
AND THOMAS S. SMITH

In this age of information technology, distances collapse, worlds collide, and time is transcended. Or so goes the story of the evolving information revolution. Yet there is another way of observing this technological shift–a way that makes us wonder whether this shift might not be interfering with the inborn clocks – biological, physical, social and natural–with their own rhythms that manage our physiology. They respond to the unifying pressures of the information age in different ways. Circadian shifts, for example, have been wired by evolution into human physiology. The onset of night produces neurochemical changes in our brains that prepare us for sleep, and sunrise produces effects which awaken us and bring us to a state of alertness. Yet, these same inborn shifts are under pressure when night and day become irrelevant to the storage and processing of information. Pathologies of health and well-being have been observed in those who work by night and sleep during the day. Other effects appear in the fragmentation of families and communities.

For these and other reasons, there are strong pressures in our physiology and in our social life to synchronize bodily and social clocks. But how and when this happens are very complex questions. Some of this complexity is now better understood than it was until a few decades ago. One conclusion backed by research in the biological sciences is that a basic characteristic of all living matter is rhythm, and this is true for no matter what level of organism, tissue, or cell we focus on. Biological rhythms are marked by both continuous and periodic variation, and have evolved enabling the individual to better adapt to the environment.

The history of this, physiologically embodied adaptation, is an evolutionary record of the memory of the human species. Biorhythmic principles have a genetic base; it is assumed that they formed in human beings millions of years ago and have continued to develop through the evolutionary process. Genes, cerebral organization and culture all support

a very complex network, one that ultimately generated the brain of *Homo sapiens*.

Like all living organisms, the human body is organized according to a specific time structure, where all vital functions show a temporal variability which can be described by periodic functions ranging in the length of their cycle from milliseconds to months, years, or even decades. The importance of this time structure for normal functioning has been established in many branches of human physiology. A classic example is the dependence of a normal reproductive function on the pulsatile secretion of sexual hormones. Another is the rhythmic influence of sensory, motor, autonomic, and hormonal oscillations on normal sleep activity. More recent research has even begun to describe in detail how multiple oscillators work together to regulate blood pressure. Extensive mapping of the time structure of humans is presently underway as a preliminary step for the detection of the earliest changes associated with health and disease. In human bodies, biological clocks keep track of seconds, minutes, days, months, and years. The "timekeepers" involved are as different as stop-watches are from sundials. Some are accurate and inflexible, others less reliable, but subject to conscious control. Some are set by planetary cycles, others by molecular rhythms. In humans, as well as in less cognitively sophisticated organisms, many biological rhythms follow the frequencies of periodical environmental inputs, while others are determined by internal "timekeepers" independent of any known environmental counterparts. External influences are always present, however, they are not simply superimposed on the endogenous rhythms generated by our biological "timekeepers." Instead, these influences are modulated by them, a process which is essential to the most sophisticated tasks the brain and body perform.

The following chapters move beyond the time of clocks and calendars in order to study time as it is embedded in social interactions, social organisation, social practices and knowledge, in artefacts, in the body, and in the environment. They look at the many different ways in which time is experienced in relation to the various contexts and institutions of social life. Among the topics discussed are time in the areas of health, education, work, globalisation, and environmental change. We have approached this complicated subject not with answers but with questions:

First, can we understand the appearance of modern information technologies from the same perspectives that have been brought to bear on other technological changes?

Second, what methodological and conceptual challenges arise and how are contemporary theoretical frameworks useful in their analysis?

Third, what can be drawn from related questions raised in other disciplines? For example, modern non-equilibrium approaches to the complexity of physical systems (Prigogine 1980), along with modern network theory, may have a bearing on the analysis of the coupling and nesting of bodily and social clocks. What, if any, are their implications?

Fourth, what are the dysfunctional effects when the synchronisation of bodily and social clocks fails? How are these related to challenges posed by modern information technologies?

We see the first question as part of the general story of other technological changes over the course of human and social evolution, while the social use of biological rhythms is an underdeveloped subject in the understanding of modern temporality. It is this missing link in the research that has supported the widespread and commonly held notion that there is an inherent opposition between "cyclical time" and "linear time," between time as a "receptacle of events" and time as it is considered in modern scientific philosophical thought. "Cyclical time" expresses the regularity of biological cycles that social scientists have described as the "eternal return"—a notion that acknowledges the periodicity, recurrence, on-again-off-again, isochronal character of intersecting social worlds. Linear time, on the other hand, is about planning, about instrumentality. Hand in hand with it comes intentionality, an orientation towards the future and the pursuit of goals. Ultimately, the alliance between science and modern technologies has gaining power over nature as its objective. Relative to the massive shifts in social organisation brought about by settled agriculture and the appearance of written language, the effects of modern information technologies are still difficult to gauge. Nonetheless they are present. We know that every important advance in technology has been associated with significant changes in personal and social organsation, and some of these advances have been as much out of sync. with bodily and social clocks as are the current changes in the processing and storing of information.

In their deep evolutionary roots, social clocks and bodily clocks were first tuned to light and darkness. But over the centuries, this connection has weakened. Fire opened up the night, torches and candlelight shifted day from room to room, and electricity illuminated whole communities. In the following chapters, most of the contributors address this connection indirectly. Their work, for the most part, does not reach into the physiology of social life, but rather, focuses on the enumeration and description – sometimes with an explanation of the observable bodily and social rhythms ranging across a diverse empirical terrain – from dance, music, sports, calendar structures s and collective behaviour seen in

congregations and assemblies,. Not only the time structure of real world systems is considered, but also cultural systems in which the transcendence of time is of paramount importance – for example, in theatre, movies, literature, myth, and religious practices.

The social use of biological rhythms is an underdeveloped subject in the study of modern temporality. Science has typically been aligned with the linear conception of time. In the hands of modern technologies, it has had as its ultimate objective the conquest of power over nature.

The contributions in this publication have been organised into three sections. Part One challenges the argument that tradition performs a limiting function on bodily and social rhythms. But is it possible to ascertain how deeply tradition or culture can reach into evolutionarily conserved physiological rhythms? Illustrations of instances where physiology resists cultural controls are numerous, and a few will be considered here. Pertinent to the issues of this subject, for example, are arguments concerning bodily boundaries. For example, the reigning paradigm of development and growth in the social sciences has privileged the autonomous individual. Individual development is assumed to move towards increasing autonomy from parents and carers. Yet, there is remarkable variation among individuals in how much developmental growth they complete.

There are two important caveats to this school of thought. One reminds us of interindividual variability – some subjects remain at emotionally immature levels while others grow increasing in strength and capacity towards independence and self-support. The second caveat forces us to recognize a fact about human life that flies in the face of the argument that individual development occurs centripetally – that growth is always measured in units of differentiation and separation from other subjects. What is the most natural condition for human beings? It is not separation. Rather, it is attachment – that is, they function as part of a dyad, a family, or a small network. The extreme state of human separation is illustrated by the lives of hermits, ascetics, and saints, men who spend their lives in isolation without contact with others, without sociability, without significant personal relationships. Like the child whose mother has taught it that the real world is dangerous, alive with pathogens, with potential threats on all sides, such subjects eventually withdraw into a world of illusion and fantasy. Eternal solitude is the road to pathology, both emotional and intellectual.

The default state for humans is always the dyad. Raise a person's anxiety, and they will look for parenting; this is normally unconscious. Moreover it occurs at rates that are inversely related to a person's

emotional and intellectual maturity. The paradigm for this default state is, of course, the infan-carer dyad – the first relationship in every person's life. How this first relationship functions – whether as a matter of secure attachment or as one marked by anxieties and avoidance – sets the emotional level of all subsequent relationships in a person's life. Persons are all "prisoners of their childhood," to borrow a phrase from the clinical lexicon. We reproduce patterns in our adult interactions that were present in our infant-carer relationships. In classic psychotherapy, this repetition is called the 'transference' a term originally used in the early work of Freud and subsequently undergone various kinds of generalizations. Perhaps the most important of these is that many clinicians now speak of transference as an ubiquitous phenomenon in everyday interactions, choices, and attachments. In addition to unconsciously attaching ourselves to others who are reminiscent of significant others in our past – a parent, a teacher, a mentor, a coach – we find ourselves in relationships with others who are of comparable functional levels to our own; that is, they are similarly separated or differentiated from their parents as we are from ours. The explanation for this is given in the principle of 'assortative mating,' a concept developed on the basis of clinical evidence in family therapy, particularly family systems theory (see Bowen 1966, Kerr and Bowen 1977). Attachment to someone who is far less mature makes us a parent and is burdensome. And, vice versa. Attachments to others who are far more mature makes us the child, the dependent, the burden. Seldom can separation from others be sustained over long periods without giving rise to anxieties and crippling fears. The worst of these is the fear of abandonment, the fear that one is left behind, outside of the family circle, in an unfamiliar place, vulnerable to injury and suffering. In some subjects, this fear alternates with another fear, that of 'engulfment.' Engulfment is the sense that our own boundaries are breaking down, that we are experiencing what Erikson called identity diffusion. Among subjects diagnosed with "borderline personality disorder," this can become a cyclic switchover, one fear dominating only to be displaced by an other, and for this rhythmic cycle to recur again and again ad infinitum .

Part Two opens a cross-cultural perspective on the social construction of bodily rhythms. For example, rhythmic patterns associated with sexuality and age-grading have been widely described in the literature of the social sciences. Part Three focuses on synchronisation as a powerful means of ruling time. Strong illustrations of this are found in the ritual practices of social life including the movement from memory to action — from previous experiences stored in memory to the execution of action. Furthermore, we also take up the implications of the synchronisation of

subjects in social interaction for the purpose of understanding social integration which requires us to analyse the temporal features of infant–carer interaction. Synchronising the interaction and attachment of parents and newborns ultimately has the effect of raising the comfort level of families and of others linked to them in social networks. The same comfort enhancement occurs in whole communities when synchronisation has been successful.

Perhaps readers will find our book academic in style, nonetheless it makes a sizeable body of scientific literature available to the non-scientific audience. Empirical illustrations range from studies of working memory in problem solving to attention deficit disorder; from sensory inscribed vs. rhythmic body to innate mechanisms in synchronization and interaction. It is through focusing on the complexities of social time that we explore ways of keeping together what social science traditions have taken apart, namely, time with reference to the personal/public sphere, to local–global diversities, and to natural–cultural dimensions of social life. This time-based approach engages with, yet differs sharply from, postmodernist writings. It suggests ways of not merely deconstructing but also reconstructing both commonsense and the comprehension of the social sciences. The time-structure of our bodies is, after all, only partly within our skins, for we are open systems, unable to detach ourselves from the beats of this nature of which we are part.

It is a book that will attract wide interest especially students, researchers and academics in the social sciences, neurosociology, digital studies and further afield, for example, in health, philosophy, education, and anthropology.

PART I

METHODOLOGICAL ISSUES, BODIES, AND THE COURSE OF TIME

CHAPTER ONE

BODIES OF DISTRACTION

PETRA LÖFFLER

Abstract

With the rise of the modern industrial society, distraction was no longer considered as a disability in opposition to the mental faculty of attention. According to the philosopher Immanuel Kant, distraction became a necessity, and indeed even an art of living, as regards the body's need for regeneration. Life sciences have investigated how a balance between work and leisure, stress and relaxation is to be reached. The article reconstructs a genealogy of distraction, focuses on its importance especially for what Michel Foucault has called taking care of oneself, and in this manner shows how distraction has become normalized.

Keywords: Distraction; Leisure; Stress

Problems with distraction

> Wherever we are, what we hear is mostly noise. When we ignore it, it disturbs us. When we listen to it, we find it fascinating.
>
> (John Cage: The Future of Music: Credo, 1937)

Distraction is a state of mind in which we resonate with and respond to a variety of external and internal stimuli that affect the body at the same time. In philosophy, distraction was regarded for a long time as the opposite of attention and concentration. Signified as inattention, dissipation, or diversion, distraction was also considered as a major force of subjectification in response to what Michel Foucault has called taking care of oneself. As early as the sixteenth century, the French philosopher Michel de Montaigne, in his famous *Essais*, recommended *diversion* as a

comfort against sufferings of the soul (1998). Thus, the disregard of distraction in the philosophical tradition is grounded on a rejection of the body and its needs. Yet in modern times, where an increasing number of sensual stimuli assail human beings simultaneously, the distribution of attention—which means to be distracted—has become a necessity.

"The human sciences have left distraction unthought," Paul North has claimed in his recent study *The Problem of Distraction* (2012, 9).[1] This can be only true if one subordinates distraction under the categories of thought and its history especially in philosophy. Thinking distraction in the way North does only reveals the paradoxes of thinking the unthought. But, as I will argue, distraction is rather a changing bodily state, or better, a phase, a stadium of the body. Now it is also a subject of the discourses and disciplines that have investigated the human body. And it is in the realm of these discourses and disciplines that distraction has its own genealogy. To highlight the manifold traits of this genealogy I will speak of bodies of distraction.

Evidence for this can be found in the multitude of writings on the problems of distraction, inattention, or absentmindedness in discourses such as medicine, anthropology, pedagogy, physiology, and cultural theory, since the eighteenth century. Even in the writings of the Swiss philosopher and mathematician Jean Pierre Crousaz, distraction had become a worthy subject for scientific consideration. For instance, he claimed in his *Logique*, published in 1720 (1:425): "La distraction est une espèce particulière d'obstacle à l'attention."[2] But obstacles have to be met and overcome—and not only in the realm of mathematical logic. Thus, Crousaz had to face a shift in scientific attention towards distraction. Finally, in the late eighteenth century, a debate on distraction arose that questioned the pros and cons of several modes of distraction— absentmindedness on the one hand, diversion on the other. Distraction was no longer only regarded as a destructive and dangerous mental force that cannot be controlled, but also as a necessary activity of the human body.

At that time, and for the first time in the history of thought, the term gained an accepted positive meaning, because bodily diversions such as promenading, horse riding, or ball games were recommended as a helpful medicine against mental stress or breakup. In his book on the insanities of scholars, published in 1768, the Swiss physician and pharmacist Samuel Tissot explained why such bodily activities are useful to restore mental health (see Tissot [1768] 1976, 58). In his approach, distraction is closely

[1] North traces back his notion of a primal distraction, which is not diversion, to the thinking of Aristotle and his disturbing considerations of "not-always-thinking."
[2] "Distraction is a particular kind of obstacle to the attention."

related to the necessity of being aware and taking care of oneself. Regarding its importance for a balance between work and leisure, exhaustion, and regeneration, voluntary distraction had become, without a doubt, a technology of the self in Foucault's sense (see Foucault 1988).

At the beginning of the nineteenth century, the former opposition between attention and distraction was reformulated in human sciences as a problem of time. The question was now: Can one be attentive to different things at the same moment of time? The answer offered by the German ophthalmologist Carl Heinrich Dzondi was "Yes," because the human mind is able to switch between different objects very quickly, in an unnoticeable fraction of a second:

> Daher kann ein lebhafter Geist auf *mehrere und verschiedene Gegenstände zugleich* seine Aufmerksamkeit richten, weil er jedem *nur einen sehr kleinen Theil der Zeit* widmet …(Dzondi 1816, 530; emphasis added)[3]

Dzondi had discovered that attention is attributed to time and is able to split, to dissociate itself between several objects. This distributed or dissociated attention is used as a synonym for distraction. This means that attention and distraction cannot any longer be regarded as distinguishable mental states, and hence their assumed opposition collapses. At the same time this argument indicates a new spirit of investigating the faculties of the human senses as well as the capacities of the human mind. Mental states were more and more considered as embedded in corporeal processes that can persist only for a certain quantum of time, irrespective of how small or big this quantum may be. This general temporalization implies a notion of the human body committed to fatigue and exhaustion—a body with only limited resources that have to be renewed frequently.[4] Along with the rise of modern industrialized societies the rhythms of the human body, and the alteration between work and leisure, stress and relaxation, have become an important subject in modern life sciences. Most physiologists of that age were convinced that corporeal as well as mental processes lasting in time could be measured. And that is exactly what experimental physiology proceeded to do in the second half of the nineteenth century—with strong and almost inexhaustible effort.[5]

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[3] "Therefore an agile mind is able to direct its attention to several and different subjects simultaneously by applying only a very little part of time to each of them…."

[4] This notion of an exhaustible human body is analyzed by Anson Rabinbach in *The Human Motor: Energy, Fatigue, and the Origins of Modernity* (1990).

[5] Research in life sciences includes for instance studies on fatigue (Angelo Mosso), on nervous exhaustion (George M. Beard) or on work rhythm (Emil Kraepelin).

Distraction as distributed attention

Immanuel Kant was probably the first philosopher to develop a positive notion of distraction as distributed attention. As early as in his *Kritik der reinen Vernunft* (Critique of Pure Reason) from 1781, he identified empirical consciousness, which organizes perception without touching understanding or reason, as "an sich zerstreut," that is as distracted per se (Kant 1974, 1:137). In his later treatise *Anthropologie in pragmatischer Hinsicht* (Anthropology from a Pragmatic Point of View), published in 1798, he defines distraction as distributed attention and distinguishes between two modes: voluntary (*dissipatio*) and involuntary distraction (*absentia*):

> Zerstreuung (distractio) ist der Zustand einer Abkehrung der Aufmerksamkeit (abstractio) von gewissen herrschen-den Vorstellungen, *durch Verteilung derselben auf andere*, ungleichartige. Ist sie vorsätzlich, so heißt sie Dissipation; die unwillkürliche aber ist Abwesenheit (absentia) von sich selbst. (Kant 1968, §44:518, emphasis added)[6]

According to Kant, distraction is an art of living that has to be exercised and performed to achieve a balance between stress and relaxation. That is why he denounces absentmindedness, which is unsocial, and welcomes all kinds of sociable entertainments—to be distracted for Kant means first of all to be entertained in a community.

With the strict division between labour and leisure established in the nineteenth century, the need for distraction was increasingly recognized among scientists, teachers, and physicians. The Swiss reformist educator Johann Heinrich Pestalozzi had already assigned a value to distraction as a pedagogical tool. He recommended giving pupils two tasks simultaneously so that they have to distribute their attention. With this advice he considered possibilities for a training of involuntary distraction. According to Pestalozzi, distributed attention helps to automatize body techniques such as writing or drawing. In his *Handbuch der physiologischen Optik* (Treatise on Physiological Optics), Hermann von Helmholtz, one of the leading figures of experimental physiology in the nineteenth century, had declared that switching attention was normal: "It is natural for the attention to be distracted from one thing to another" (1962, 3:498). As Jonathan Crary has claimed in his study on modern regimes of perception

[6] "*Distraction* (*distractio*) is the state of diverting attention (*abstraction*) away from certain ruling ideas by dispersing it among other, dissimilar ones. If the distraction is intentional, it is called *dissipation*; but if it is involuntary it is *absent-mindedness* (*absentia*)" (Louden 2006, 100f).

"switching our attention rapidly from one thing to another" was, in the cultural logic of capitalism, accepted as natural behaviour (1999, 29f).

In physiology, experiments revealed the temporality of mental processes, especially their temporal limits. The duration of a single act of attention and the dispersive effects of simultaneous stimuli were of special interest. In many experiments the reaction time of subjects in relation to expected or unexpected stimuli played an important part. Among others, the German physiologist Wilhelm Wundt—who in 1879 established the world's first psychology laboratory, at the University of Leipzig—discovered reaction time would be much shorter when subjects knew which kind of stimulus they had to anticipate. Other experiments had shown that the human senses could be trained to react automatically, especially in anticipated situations, and therefore would no longer need special attention.[7] In this context, distributed attention had become an important source for anticipation. What was surprising for most of the experimenters, however, was the fact that they weren't able to single out or to isolate attention. All they found was distraction.

It was the French psychologist Théodule Ribot who linked this omnipresence of distraction to a general condition of psychic life, namely change. In his 1889 book *Psychologie de l'attention* he also distinguished between two types of attention, involuntary and voluntary. Whereas the former does not require any effort, Ribot argued, the latter can be trained and is therefore a social product of education and exercise. That is why he claimed that attention is an artificial and even abnormal state of mind, which can persist only for a very short time—hence distraction is normal:

> L'attention, sous le deux formes, est un état exceptionell, qui ne peut durer longtemps, parce qu'il est en contradiction avec la condition fondamentale de la vie psychique: le changement. (1889, 4)

A consequence of this notion was that attention, if it persisted too long, would cause serious mental diseases. According to Ribot it led to intellectual emptiness accompanied by dizziness—this is what Kant rejected as absorption or absentmindedness. These forms of voluntary attention or internal distraction were regarded as pathological mental states that had to be banished from psychic life because they contradicted its need for change.

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[7] At the beginning of the twentieth century Hugo Müsterberg has testified the roadworthiness by using projected film simulating the gaze of drivers in big city traffic. Walther Moede, like Münsterberg a German psychotechnologist, has also conducted such tests by using a tachistoscope.

In the same year, the psychiatrist Pierre Janet published his *L'Automatisme psychologique: Essai de psychologie expérimentale sur les formes inférieures de l'activité humaine*, in which he presented his experiments on psychic automatisms. Janet worked as an assistant to Jean-Martin Charcot at the Salpêtrière, where he analyzed subjects suffering from hysteria. There, Janet discovered that a certain division of consciousness, which he called *désagrégation psychologique*, is the normal state of mind. And it is this division of consciousness that protects human beings from overwhelming sensual stimuli such as pain—by the simple measure of paying no attention to them (see Janet 1889).[8] In this regard, distraction has become a protective shield, a way to anaesthetize the human senses in critical situations. Janet's psychopathological model of a dissociative consciousness deals with a body that acts autonomously against what is hurting it. At the same time, in his *Analyse der Empfindungen* (Analysis of Sensations), the physiologist-philosopher Ernst Mach cast his vote in favour of a dissociate subjectivity (Mach 1906, 3).

Sites of distraction

The nineteenth century witnessed the rise and establishment of the entertainment industry—starting with the panorama and its many variations, such as the moving panorama or the mareorama. This first "optical mass media in a strict sense" (Oettermann 1980, 9) offered a spectacle for the human senses, which means it frequently provoked bodily reactions like dizziness or even sickness—supposedly especially among female visitors. For contemporary physiologists such as Jan Purkinje those reactions resulted from a disorientation of the nervous system caused by conflicting signals. Many scientists of the nineteenth century had analyzed distraction as a mode of bodily excitement caused by stimuli that frequently overwhelm the senses. Stephan Oettermann linked those physical experiences to the thrill of carousel riders—thrills that were wanted not only by children and were at once criticized by the moralists of the day (ibid., 13).

In the modern metropolis signs of modernization occured with growing speed: industrialization demanded mobilization of an increasing part of the population, which came more and more to live in great cities where traffic grew, as well as attacks on the senses. Characterizing the severe effects of modernization in industrialized societies at the beginning of the twentieth

[8] In later publications Janet prefers the term dissociation to characterize this state of mind. Sigmund Freud has refused Janet's notion of dissociation as a collapse of mental synthesis.

century, in a study on the increasing population in New York City, Michael Davis uses the notion of "hyperstimulus." Davis gathers under this term all attacks on the senses to which big-city dwellers are exposed. Ben Singer has adopted Davis's term to highlight the fears of modernization, especially the anxiety over the "terrors of big-city traffic" intensified by sensational newspaper reports, for instance on car crashes and the accidents suffered by passers-by (Singer 1995, 79). These reports not only fuel the fears of city dwellers but also activate their drive toward the thrills of sensation. In this regard, Singer has argued, the arrival of cinema at the horizon of mass culture marks a climax: "The rise of cinema culminated the trend toward vivid, powerful sensation" (ibid., 90). And Tom Gunning (1995) speaks of an "aesthetic of astonishment" as the mode of reception of early cinema and other popular forms of mass entertainment where the public is thrilled by sensations. To summarize this argument, modernity's demand for mobility creates new bodies of distraction: the search for entertainment goes hand in hand with a desire to alter the body's normal state. Deliberate bodily effects like dizziness or astonishment express this desire the best. And with the rise of the cinema a new regime of distraction was established.

In 1895 the first public presentations of the new mass medium took place and the New York amusement park on Coney Island opened. In the same year, Georg Hirth, a German art physiologist, published a short essay entitled *Warum sind wir zerstreut?* (Why Are We Distracted?). According to Hirth, the human mind is active simultaneously in several sections of the brain where different streams of attention, conscious as well as unconscious, move in different directions (1895, 64): "gleichzeitig *verschieden* gerichtete Ströme von Aufmerksamkeit mit und ohne Bewusstsein." Once more, this distributed attention—voluntary as well as involuntary—is a synonym for distraction. Evidence for a distributed attention can be found in everyday life, for instance when one notices surrounding noises or changing lights while reading a book. For Hirth the root cause of this was clear: We are distracted because the synthesis of our mental activities is never complete, on the contrary it consists, like a kaleidoscope, of many separate mental acts, which are combined in a changing manner. In a broader sense, distraction is also a necessity for sanity. Hirth refers to the common notion that mental activities, especially those requiring a huge amount of concentration, have to be disrupted from time to time. It is also widely accepted by psychotherapists that distractive bodily movements such as drumming with fingers helps the human organism to recover from stress. Hirth pays much attention to those little

diversions caused by muscular movements. So, one has to conclude, body activities have always played a crucial role for regimes of distraction.

When, at the end of the nineteenth century, cinema entered the realm of mass entertainment, the public was once more thrilled by the wonders of a new medium. Many myths have been told about the first appearances of the Kinetoscope, the Cinématographe, the Animatograph, or the Bioskop, but what is most interesting here is the forming of a metropolitan mass audience searching for the thrills of distraction. In the 1920s the German sociologist and architect Siegfried Kracauer reformulated the concept of distraction with regard to the growing cinema culture.[9] In his essay "Kult der Zerstreuung" (Cult of Distraction), first published in 1926 in the *Frankfurter Zeitung*, he analyzed the rise of giant cinema theatres with a capacity of more than 1,000 spectators as an apparatus of mass distraction. Kracauer believed that in these cinema theatres, as well as in other popular sites of mass entertainment like amusement parks, distraction comes to a climax because there, addicted to a multitude of distracting sensual stimuli, the audience is able to unveil and in this way to overcome the economy of capitalist society.

In Kracauer's dialectical thinking it is absolutely necessary to intensify and increase the potentials of distraction by disorientating the senses. This dizzying disorientation of the senses is, for him, also a source of happiness—a kind of happiness that can of course only last a few moments. In these moments the disorientated human body is liberated from the forces of capitalist economy, and distraction is the name of this liberation.[10] Once more it is the human body's power of altering that shapes itself as a body of distraction. Kracauer's sociopolitical utopia of distraction was influenced by Hegelian dialectics as well as by the Marxist philosophy of history, which is sometimes criticized as naïve. Nevertheless, it resonates in Max Horkheimer's and Theodor W. Adorno's epoch-making *Dialektik der Aufklärung* (The Dialectic of Enlightenment), where the authors remind us of the fact that a total excess of distraction comes, in its extremes, close to art.[11]

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[9] According to Sabine Hake Kracauer was the first who has developed a media-theoretical notion of distraction; see her article "Girls and Crisis—The Other Side of Diversion" (1987). In his earlier philosophical essay *Die Wartenden* from 1922 Kracuaer still has considered distraction in a more negative way—as anaesthetizing diversion.

[10] This thought is developed in extension in Kracauer's essay *Berg- und Talbahn* (see Kracauer 1990).

[11] See Horkheimer and Adorno (1996, 150): "Amusement, ganz entfesselt, wäre nicht bloß der Gegensatz zur Kunst, sondern auch das Extrem, das sie berührt."

Kracauer's questioning of distraction was answered in the mid-1930s by Walter Benjamin's famous essay "Das Kunstwerk im Zeitalter seiner technischen Reproduzierbarkeit" (The Work of Art in the Age of Mechanical Reproducibility), wherein he analyzed distraction as a specific mode of cinematic perception: "Rezeption in der Zerstreuung" (reception in distraction). Using this term he explains how a mass audience in a movie theatre perceives and reacts to the ever-changing chain of shocking moments of which film consists. Benjamin states that shock is the signature of perception in modernity. That is why film is the right medium for a perception that has to anticipate, perceive, and react to changing sensual stimuli and, insofar as it does this, is always distracted. In an unpublished note on his essay, Benjamin described distraction as a physiological phenomenon akin to catharsis.[12] It is film's ability to physically stimulate human bodies in a crowd that most interests Benjamin.

A main question of his essay concerned how a technology can become revolutionary. How, he wondered, could bodily effects on individuals, caused by technical media, produce a mass reception that is open to radical change not primarily in thinking, but first and foremost in practice and in action. Thus Benjamin compared reception in distraction with the tactile perception of architecture as a way bringing things near to the observer. Tactility is the reaction of the collapse of distances in the age of reproducibility; and that is why contemplation, according to Benjamin, which requires a distance from the artwork, can't be an option for a mass audience which is, as a mass in the cinema theatre, distracted per se. In the first version of his artwork essay he even explicitly labeled contemplation, in contrast to diversion, as an asocial behaviour (see Benjamin 1991, I/2: 463).

It is easy to understand why Benjamin, in his explanations of distraction, highlights the role of exercise and habituation. The reception of distraction has to be exercised, has to become a habit, because automated processes don't require much effort—that is, they don't need the assistance of a consciousness. From this perspective, to look at a film means to train the senses for the reception of distraction, which is necessary in modern environments which are full of different visual, aural, and tactile stimulations like traffic signals, noises, or passers-by in a crowded street. That insight leads to the question of what body or bodies of distraction we are inhabiting today, now that the information society has taken command.

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[12] See Benjamin (1991, VII/2:678): "Zerstreuung und Katharsis sind als physiologische Phänomene zu beschreiben."